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VISUAL STRUCTURAL INSPECTION

OF

**SCALEGILL HALL FARM HOUSE
MOOR ROW
CUMBRIA**



FOR

THOMPSEN ESTATES

Reference - WDS/05/7017/REP01
Date - 24/04/2021

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1.0 BRIEF

- 1.1** WDS Limited were instructed by Thompsen Estates to carry out a visual structural inspection of Scalegill Hall Farmhouse, Moor Row. The survey was limited to a non-disruptive visual structural inspection of the property where access allowed.
- 1.2** The property comprises a detached two storey former farm house constructed from rendered random stone masonry walls which support a traditional rafter/purlin/truss roof structure and timber joisted floors. The ground floor comprises a combination of concrete ground bearing slabS and joisted areas. There are several extensions to the main building off the gable and rear elevation which are of similar construction to the main house.
- 1.3** The inspection was carried out on the 15th April 2021. On the day of the inspection the weather was clear and dry.
- 1.5** It should be noted that there may be faults with the property which are masked or hidden by finishes that are not normally identified during a non-disruptive visual structural inspection. The property is well over 100 years old
- 1.6** The building foundations were not exposed at the time of this inspection therefore no comment could be made as to their condition.
- 1.7** For the purpose of this inspection report all locations will be referenced as if looking at the front elevation, that is the elevation furthest from the main road..

2.0 OBSERVATIONS

- 2.1** The front elevation of the property has a significant outward bulge centred at first floor level to the right of the front door, cracking is also apparent in the render at the bulge location. Internally the wall has pulled away from the internal fire place wall which has disturbed the archway masonry over the fire place area. There is a conifer tree located within 2.0m of the wall, this may have affected the wall footing locally which may have contributed to the wall movement noted. Photograph 01 in the appendix shows a typical view on the internal wall interface with the front wall.
- 2.2** A significant crack is apparent on the left hand gable wall and also to the rear elevation of the extension (See photographs 02 and 03 attached). The cracks propagate from ground level up to eaves level. A crack is also apparent on the rear elevation of the main building adjacent to the extension. There is also a significant outward bulge to the rear wall of the left hand extension. The

location and orientation of the cracks suggests that the rear left hand corner of the property has suffered structural movement. It should be noted that the rear garden area is raised above the rear main road level with a retaining wall supporting the garden. It is likely that the ground behind the retaining wall may have settled and this movement has lead to movement of the properties foundations.

- 2.3 There is a vertical crack to the rear elevation which propagates vertically from ground level to eaves adjacent to the rear extension noted above. The crack has been caused by foundation movement as noted above. See photograph 04 attached.
- 2.4 The roof structure appears to be in an adequate condition however there is evidence of infestation and rot in areas.
- 2.5 The floor structures are in a very poor condition and need replaced throughout
- 2.6 The lintels over the windows are timber and some have been affected by infestation and rot and are in need of replacement.
- 2.7 The farm house is in a very poor state of repair throughout and is in need of total modernisation.

3.0 DISCUSSION/RECOMMENDATIONS

- 3.1 The left hand rear extension and rear main wall of the property have suffered structural movement in the past which has caused the cracking apparent in the gables to the main farm house. In terms of repair we recommend the following:-
 - The bowed wall to the rear elevation of the extension needs locally removed and rebuilt plumb off a new foundation.
 - The foundations to the rear left hand extension and rear wall of the main property need underpinned, we expect a length of over 20m of underpinning being necessary. The depth of underpinning will need confirmed when trial holes expose the existing ground conditions
 - The cracked masonry needs tied by installing 750mm long Precast Concrete Spanlite Lintels into the wall across the crack location at 450mm vertical centres. The cracked masonry can then be filled with a non shrink cementitious grout and Expamet fixed to the wall face across the crack location prior to re-rendering. It is likely that when the render is removed other masonry cracks will be exposed and in each case these should be repaired as

noted prior to re-rendering. The ties should be provided to both the inner and outer face of the walls.

- 3.2 The bulging masonry to the front elevation is excessive and the wall is at risk of collapse should further movement occur. The wall needs locally taken down and rebuilt off a suitable foundation with the new masonry retied into the adjoining internal walls. The masonry arch to the inner adjoining wall will need fully propped during these works to protect the structure from failure once the outer wall is removed. The arch may also need some local rebuild. The conifer tree adjacent to the front wall needs removed in addition to all the Ivy growing up the wall.
- 3.3 The roof structure needs inspected by a timber specialist to check for wood worm and wet/dry rot. All timber elements to be retained as part of any refurbishment scheme should be treated and where necessary replaced with a suitably designed element.
- 3.4 The floor structures need replaced as part of any conversion scheme. The stairs need inspected by a timber specialist to check for rot and infestation and the timber elements treated accordingly.

4.0 CONCLUSION

- 4.1 The property has suffered significant structural movement with a considerable amount of underpinning necessary in addition to areas of rebuild where excessive bulging of the walls has occurred. Generally the property needs totally refurbished with many of the timber elements in need of replacement or treated for infestation and/rot. With the structural works above complete the property could be retained as a heritage asset and rehabilitated following modernisation.

For and on behalf of WDS Limited

Tom Short BEng (Hons) CEng MICE



PHOTO 01 VIEW ON FRONT WALL BOW & MOVEMENT TO INNER WALL



PHOTO 02 VIEW ON CRACKING TO REAR ELEVATION EXTENSION



PHOTO 03 VIEW ON CRACKING TO LEFT HAND ELEVATION



PHOTO 4 VIEW ON CRACK TO REAR ELEVATION MAIN HOUSE.