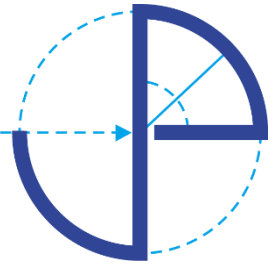


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Newtown Meadow Worlingworth

Structural Inspection Report

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ISSUE AND REVISIONS RECORD

Document No:	Issue Date:	Issued to:			Format Issued			
					Email	Disk	Digital upload	Post
NS23/009	28/02/2023	Mrs Uff			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Document Revision No:	Issue Date:	Document Revision Comments	Revised by (INT):	Reviewed by (INT):				
Job no/report/RevA	Click or tap to enter a date.				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Click or tap to enter a date.				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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1.0 INTRODUCTION

- 1.1 We were instructed by Mr and Mrs Uff to undertake a structural engineer's visual, qualitative and localised dimensional appraisal of the existing agricultural building at Newtown Meadow in advance of a planning application for conversion to residential purposes. Our reporting and liability is therefore limited accordingly.

2.0 DETAILS OF SURVEY

- 2.1 The property was inspected on Wednesday, 22nd February 2023. The inspection was undertaken from ground level externally, and ground and attic level internally.
- 2.2 Weather conditions at the time of the inspection were dull and overcast with temperature in the region of 6°C.

3.0 GENERAL DESCRIPTION

- 3.1 The property comprises a one and a half storey detached agricultural building believed to date from the mid to the late twentieth century.
- 3.2 The property features a duo pitched roof with interlocking clay pantiles supported on a combination of timber frame and blockwork walls.

4.0 EXTERNAL OBSERVATIONS

North Elevation

- 4.1 The north elevation presents a gable end comprising timber weatherboarded clad gable over a solid blockwork wall beneath. The wall is in good alignment and good verticality.

- 4.2 There is evidence of minor movement in the blockwork with a stepped fracture occurring approximately in the middle of the elevation, and tracking diagonally upwards and to the west, where it is open to approximately 3mm width.
- 4.3 Of note at the west corner of the building a mature deciduous tree, believed to be Ash, is present, approximately 3.5m distance.
- 4.4 At the opposite corner of the elevation, at the east end a mature Willow tree is located approximately 2.5m distant.

East Elevation

- 4.5 The ridgeline of the roof presents as level. The roof plane presents as uniform with no obvious dipping or sagging. The roof currently discharges rainwater on this side directly to ground level, with the guttering missing at the time of the inspection.
- 4.6 The wall to the east elevation is a combination of timber featheredge boards over timber framing supported on painted concrete blockwork.
- 4.7 The blockwork presents in good alignment and verticality. There is a vertical construction joint approximately two thirds along the elevation representing different phases of construction.

South Elevation

- 4.8 The south elevation presents a gable end predominantly clad in timber featheredge boards over a small plinth comprising five courses of painted concrete block.
- 4.9 The wall is in good alignment and verticality.
- 4.10 There are two relatively minor stepped fractures in the blockwork plinth, one located beneath the window, and the other towards the western end. The fracturing generally follows mortar joints, however, has cracked through two to three of the blocks. The fracturing is open to hairline beneath the windowsill and increases in width towards ground level, open to a maximum of 2mm to 3mm

width. The western crack is smaller at the base, open to approximately 1.5mm at ground level, and increasing in width at sole plate level to approximately 3mm to 4mm.

West Elevation

- 4.11 As recorded previously, the ridgeline presents as level and the roof plane uniform with no obvious dipping or sagging.
- 4.12 The roof discharges rainwater to a positive rainwater system comprising uPVC guttering out letting via a rainwater downpipe into large galvanised tanks.
- 4.13 The wall construction supporting the roof is a combination of timber featheredged boarding on timber frame supported on the concrete blocks. The concrete blocks appear to be of the hollow type and measure approximately 150mm in thickness. The construction joint noted on the east elevation is also present on this elevation representing phases of development.
- 4.14 There are a few fractures present across the elevation with a pattern of stepped fractures being visible towards the northern end, with the cracking open to approximately 1mm width at ground level, generally stepping and following perpendicular joints and bed joints, where it opens to approximately 2mm width two courses below the eaves level.
- 4.15 The roof construction is visible at eaves level presenting the common rafter feet, these measure 50mm wide x 100mm deep and spaced at 400mm centres. Some of the rafter feet were probed with a knife point and exhibit the onset of decay at the exposed end of grain, and it should be expected that localised repair may be required to these.

5.0 INTERNAL INSPECTION

Ground Floor

- 5.1 The access door to the interior is located on the south gable end and opens freely in the frame. The ground floor accommodation comprises a largely open plan space with a separate small room towards the northwest corner.

- 5.2 The walls of the main open space have been finished with plasterboard and painted, drylined off the supporting structure. There are a few minor shrinkage fractures in the finishes around the space, however, these are considered to be of a minor nature and are commonly found with this format of finishing.
- 5.3 Within the main space the roof is vaulted and the plasterboard finish continues up on the underside of the rafters and up to the ceiling collars. The finishes are generally in fair to good condition, aside from minor shrinkage cracking.
- 5.4 Within the secondary room within the northwest corner of the building, the walls are painted and plastered with the exception of a small area of tiling. There are no obvious significant cracks or defects to the finishes that suggest a structural issue. There is a patch of mould growth on the ceiling in the northwest corner suggesting an historic roof leak, however, it appears that this has been repaired subsequently.
- 5.5 Flooring throughout the main space and the smaller ancillary room comprises painted timber boarding, which is understood to be constructed on 50 x 50 battens built off the existing concrete slab.

Attic Level

- 5.6 At the northern end of the building, a mezzanine / attic level is present providing accommodation within the roof space. The plaster finishes to the underside of the rafters present in good condition with no obvious signs of sagging or significant fracturing. The plastered wall finishes present in a similar condition.
- 5.7 The floor of the attic / mezzanine is level and does not yield to heel drop test.

6.0 DISCUSSION

- 6.1 The property comprises a simple mid twentieth century agricultural building comprising a mixed palette of concrete blockwork, timber stud and timber cladding overlain with clay pantiled roof.

- 6.2 There has been a series of additional phases of development at the building in the last twenty to thirty years, which are recorded in the body of the report. A few, small magnitude fractures were recorded to the external blockwork, which are commonly found when using this brittle building material and frequently occurs as a result of shrinkage of the mortar joints and of the concrete blocks themselves.
- 6.3 The roof construction presents as level and with even roof planes and no obvious signs of sagging or settlement recorded.
- 6.4 Internally, plastered finishes have been provided to the ceilings, roof slopes and walls. These are generally found to be in good condition with evidence of only minor fracturing around the usual spots e.g., at changes of construction around door and window openings and these are not considered to be significant.
- 6.5 The ground floor presents as level and serviceable.
- 6.6 The upper mezzanine / attic floor was found to be level with no obvious signs of sagging, with no bounce or deflection noted under 'heel drop' test.
- 6.7 We have not exposed the foundations to the property. At the time of the inspection the building appears to be performing satisfactorily under the current lending regime, with modest, low magnitude cracking noted to the walls.

7.0 LIMITATIONS

- 7.1 The structural inspection is a specialist survey, whose purpose is to enquire into the structural stability of the building.
- 7.2 The work of a structural inspection consists of a visual inspection of all accessible parts of the building, assisted by a check for abnormal distortions where practicable. Reference may be made to local geological conditions, and to records of structural damage to other houses in the vicinity.

7.3 The limitations of structural inspections are similar to those of most other domestic surveys. We are not permitted to dig trial holes, lift floor coverings or remove decorations. We will therefore remain unaware of hidden defects or unusual construction details. In most cases, these limitations are not important, because structural problems are usually evident on the surface (walls, ceilings, door openings) before they become severe. But it does mean that we cannot detect problems that are latent or concealed. We always recommend, regardless of the structural condition of the building, that the owners maintain cover for all insurable perils, as these are never 100% predictable.

7.4 Except where specifically noted otherwise, our advice is concerned solely with current structural performance, and we do not report on the condition of finishes, waterproofing, damp penetration or timbers.

7.5 We recommend carrying out structural maintenance as part of good housekeeping, the most important tasks being:

- Ensuring drains remain free flowing and watertight
- Ensuring vegetation does not grow uncontrolled close to the building
- Ensuring the building remains weatherproof
- Repairing or replacing deteriorated materials
- Taking professional advice on any proposed alterations or extensions

7.6 We can provide detailed advice on structural maintenance if requested. We are not able to detect the presence of asbestos materials. We can provide standard literature on the risks associated with asbestos, if requested. This report is for our client's personal use, and is confidential, non-assignable and carries no admission of liability to any third party.

8.0 CONCLUSIONS

8.1 We were instructed to undertake a structural engineer's visual, qualitative and localised dimensional appraisal of the existing detached agricultural building at Newtown Meadow, Worlingworth. Our investigations found a mid twentieth century building, commonplace for the region, in a permanent and substantial state with modest defects only recorded.

- 8.2 Our review of the condition and general construction form of the building suggests that it is capable of ongoing use, and with sufficient structure remaining, capable of reuse in a proposed conversion to residential purposes.
- 8.3 In any event, irrespective of whether the building is converted or not, the following are suggested for the general wellbeing and upkeep of the property:-
- Add guttering to the eastern facing roof slope with a positive outlet.
 - Repoint the minor cracking recorded to ensure that the external walling remains watertight. Reapply the painted finish as appropriate.
 - Maintain the growth of vegetation around the building and remove any limbs of trees that overhang the building to prevent accidental damage. Cut back vegetation that is growing close to the property to mitigate any associated damage that could occur.
 - Assess and repair any minor decay in the timber rafters.



9.0 APPENDICES

Appendix A – Photographs



Photograph 1: North gable end



Photograph 2: East elevation



Photograph 3: South elevation



Photograph 4: West elevation



Photograph 5: Minor cracking to north blockwork



Photograph 6: Minor cracking to west elevation blockwork



Photograph 7: General view of interior



Photograph 8: Mezzanine / attic level