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Our Ref: SU539

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AGRICULTURAL BUILDING SURVEY

BUILDING 2

MOAT FARM, BURY ROAD, THORPE MORIEUX, SUFFOLK, IP30 0NH

1.0 INTRODUCTION

1.0.1 The Brief

1.0.2 On the instructions of Wincer Kievenaar Architects Limited, we have been engaged to prepare a structural report on the above barn to compliment a planning application.

1.0.3 This report is prepared as a result of a single visit on the 21 January 2021.

1.1 Methodology

1.1.1 Prior to visiting the site, desk studies were carried out to consult geological maps available to determine the likely subsoil for the area. A visit to the site and walk over survey was carried out, initially to assess the topography and to note any trees or influences which may affect the structure.

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1.0 DESCRIPTION

- 1.1 Building 2 is a single storey long building. The building would be reviewed as from the driveway. The left-hand side is a single storey flint wall with coins and brick piers. A pitched roof with a pan tiled roof. The gable end is linked through to Building 1 with upper timbers purlins and a pitched timber roof, but the gable end has a double door in it and is a newer timber frame. The rear elevation is a mixture of sheeting and rendered walls with exposed posts.
- 1.2 The first two bays from the left to the rear wall have a vertical green profiled metal sheet wall supported on a concrete plinth and the second, third and fourth bays are rendered. The next bay on the righthand side has a slightly higher ridge line that overlaps part of the flint wall and this section of the building front wall is red brick masonry.
- 1.3 The rear wall is a mixture of block piers and studwork. The left-hand partition wall between this and the first-floor bays is of light concrete block and the lower roof is boxed in over this section. There is partition stud wall between this and the final bay which is a higher ridge line but perpendicular to the remainder of the building with a brick gable timber infill upper apex building is not square with the righthand side wall being at a slight acute angle.
- 1.4 The right wall is of blockwork with two breeze block piers and the rear wall is blockwork with brick piers either side of the doors. The walls to the blockwork are rendered, to the back of the righthand wall is brick plinth rendered blockwork

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wall. On the rear the building is set out the ground on what appears to be concrete plinth or concrete raft edge.

2.0 DESK STUDIES

2.1 Study of the 1/50,000 geological maps produced by the British Geological Society show that the superficial deposits are Lowestoft formation – Diamicton which is a sedimentary superficial deposit, which were formerly described as boulder clays and generally have a medium to low classification with respect to shrinkage. These soils are subject to desiccation and influence from trees and the NHBC Chapter 4.2 guidance should be followed with regard to tree influence on the property.

3.0 EXAMINATION

3.1 EXTERNAL INSPECTION

3.1.1 Front Elevation

The first-four bays of the flint work and brick quoins to corners and openings appear in reasonable condition. The ridge line is relatively true but there is a slight overall depression in the roof slope along the length of this building. The rear elevation is much the same. The concrete plinth is in poor condition for the first four bays and requires minor repairs. The next section of this building has a raised floor level as is the section of roof. The brickwork wall between this and final bay is eroding where water is discharged into the ground and has eroded the brick mortar joints at low level. There is a vertical crack in the wall of the

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middle section beneath the righthand window and there is evidence of cracking of the plinth horizontally. The rear wall of Bays 3 and 4 of the left-hand ends are covered by stacked tiles up against the rear wall, posts which are exposed will need the lower ends probably removing and a new lower section at 300mm splicing on.

3.2 INTERNAL INSPECTION

3.2.1 First Four Bays, left-hand end

Internally it is noted that the floor level at the righthand end is lower than the outside and there is water penetrating through the lower sections of the wall. Part way along there is a raised floor level for the second bay in. This is 100-125mm higher. The flint work inside generally is in reasonable condition and there are one or two areas where a local patch is requiring, but these are small areas. The roof construction is a raised collar ceiling with ties at the main posts which are evident in the rear elevation. The eaves plate in the rear elevation far left-hand end has suffered from water ingress and rot in the past. It currently looks as though it has dried out but the last 1.2m requires replacement.

3.2.2 The left-hand gable end is an infill timber wall which will require a much more substantial and better construction although the eaves tie where it could be seen on the front elevation does appear to be in a satisfactory condition. The roof construction generally is in a reasonable condition. There are areas where damp historically is clearly affected some timbers and has resulted in deflection noted externally, but generally the roof is considered to be in an acceptable condition.

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The rear wall for Bays 3 and 4 of this are in breeze block and these are solid, and the eaves plates above has been renewed in places and is in good condition.

3.3.3 The next bay has a slightly raised roof, has a concrete floor and the roof structure is a new structure, and this would appear to be an infill between the two sections. The roof has spread historically, and the top three courses of the front wall have rotated outwards under the roof loading and there is a gap of 8mm in the wall. The rear wall is in reasonable condition, no rotation has been noted and it would appear that three metal ties have been installed and these appear a later date to prevent further roof spread from damaging the roof.

3.3.4 Internal Bays, the garage

The ceiling joists span from left to right and are overloaded showing a significant sag from the timbers and storage in the roof void. The roof construction is formed of rafters, tied at the eaves each side with a central purlin which appears to be propped off a ceiling binder is contributing to the deflection of the ceiling joists. The internal walls show only a crack on the left-hand side wall as viewed from the front and to the front of the lintel to the doorway into the bay next door all seem to be in good order.

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4.0 CONCLUSIONS AND RECOMMENDATIONS

- 4.1 The roof structure requires minor repairs to the roof plate on the rear elevation far left-hand end has rotted locally along with the lower ends of the rafters. The left-hand gable is also an infill which requires more repair. The roof has undergone some damp deterioration in the past and the roof should be allowed to dry out and it is likely that the roof timbers will be acceptable. There are areas of roof spread which have occurred to the infilled section between the garage and the left-hand end, and this requires strengthening either by further eaves ties.
- 4.2 The roof with relatively modest repairs will be serviceable. The walls generally are in reasonable condition, although some localised repairs will be required and damp to the retained section walls will be damp protection to the retain section as the walls will be required to prevent damp penetrating through the walls resulting in long term deterioration.
- 4.3 If these areas are addressed, then the building structure can be made serviceable with relatively minor repairs for domestic conversion.



PHILIP STROUD BEng CEng MICE MStructE

Stroud Associates Ltd

Enc: Appendix A

Limitations

Photographs

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Appendix A

Limitations

1. The report is prepared with respect to the structural elements of the building and does not include comment on fitments and fittings, unless it is considered that any such would have an impact on the structural elements.
2. Please note that we have not inspected any part of the structure, which is covered, unexposed or inaccessible and we are, therefore, not able to report that any such part is free from defect.
3. Photographs are included at the rear of this report to indicate the damage discussed. Please note that these photographs are included to show the nature of any damage discussed and are not intended to portray the full extent of any problem.
4. Please note that any comments made within this report are with respect to the structural elements of the property and not intended to indicate or imply any financial valuation.
5. During a single visit of a property it is generally not possible to gauge whether cracks are progressive or have ceased movement. If possible, the cracks will be assessed by their condition and state to form consideration as to whether such cracking is recent and whether it poses a potential problem.
6. If the condition of the cracks does not indicate historic movement, it may be necessary to monitor them over a period of time or to open up parts of the structure for further investigation.

- 7 This survey has only examined timbers which are fully exposed; a reasonable effort has been made to assess timbers hidden behind boards or render, etc., but the full condition of any damage will only be proven on full exposure of the timber frame. Based on experience an attempt has been made to predict the extent of timber degradation but there will be uncovered areas which may require additional repairs.
- 8 This report has reviewed the building at the time of the visit, and no responsibility can be taken for on-going deterioration of the structure.
- 9 The report has been prepared to identify any structural problems in the building but is not intended to be an exhaustive list of repairs and works required. This document is not to be used for construction/repairs.
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TOPOGRAPHICAL & MEASURED BUILDING SURVEYS

ABBREVIATIONS & SYMBOLS

AH	Asch Head Height	ER	Earth Rod	R2D	Roller Chutter Door
A/B	Air Brick	ET	EPN-Transformer	R/LJ	Roller Eelst Joint
AR	Assumed Route	FB	Flower Bed	SI	Sign Post
AV	Air Valve	FBD	Floor Board Direction	SP	Anti Spring Point Height
BB	Beltch Beam	FH	Fire Hydrant	SV	Stop Valve
BH	Bore Hole	FL	Floor Level	SW	Surface Water
BL	Bed Level	FP	Flag Pole	SY	Castle Clay
BO	Boiler	FW	Foul Water	T/C	Tactile Paving
B/P	Brace Post	GG	Gully Grate	TC	Tactile Cover
BZ	Bug Stop	GV	Gas Valve	TH	Tree Pit
BU	Bush	HH	Head Height	THL	Threshold Level
BUW	Barbed Wire Fence	IC	Inspection Cover	TL	Traffic Light
BX	Box (Meters)	IL	Invert Level	T/W	Top of Wall
CB	Close Board Fence	IR	Iron Railings	TP	Telegraph Pole
CO	Cill Height	KO	Kerb Outlet	TS	Traffic Signal Cover
CL	Cover Level	LP	Lamp Post	TV	Cable TV Cover
CL	Chain Link Fence	MH	Manhole	UB	Universal Beam
C-Lav	Ceiling Level	MP	Marker Post	UC	Unknown Cover
CO	Column	NB	Name Board	UK	Unknown Tree
CP	Chopped Piling Fence	CHL	Overhead Line (Support)	UMG	Underground
CR	Cable Repair	Par	Panel Fence	UEB	Under Eide Beam
CW	Chicken Wire	PB	Post Box	U/L	Unable to Lift
DC	Drainage Channel	PM	Parking Meter	U/LT	Unable to Survey
DH	Door Head Height	PO	Post	VP	Vent Pipe
DI	Displaced	PR	Post & Rail Fence	WB	Waste Bin
DP	Down Pipe	PW	Post & Wire Fence	WH	Wisp Hole
DR	Drain	P/Wall	Partition Wall	WL	Water Level
EB	Electric Box	RE	Roading Eye	WM	Water Meter
EC	Electric Supply Cover	RL	Ridge Level	WO	Wich Out
EL	Eaves Level	RP	Reflector Post	W/O	Floor to Ceiling Height
EP	Electric Pole	RS	Road Sign	W/C	Floor to False Ceiling Ht

Survey Control Station

DRAWING NOTES

Topographical Surveys
Trees are drawn to scale showing the average canopy spread. Descriptions and heights should be used as a guide only.
All building names, descriptions, number of storeys, construction type including roof line details are indicative only and taken externally from ground level.
All below ground details including drainage, voids and services have been identified from above ground and therefore all details relating to these features including: sizes, depth, description etc will be approximate only. All critical dimensions and connections should be checked and verified prior to starting work.
Detail, services and features may not have been surveyed if obstructed or not reasonably visible at the time of the survey.
Surveyed physical features may not necessarily represent the legal boundary lines.

Measured Building Surveys
Measurements to internal walls are taken to the wall finishes at approx 1m above the floor level and the wall assumed to be vertical.
Cill heights are measured as floor to the cill and head heights are measured from cill to the top of window.

General
The contractor must check and verify all site and building dimensions, levels, utilities and drainage details and connections prior to commencing work. Any errors or discrepancies must be notified to Survey Solutions immediately.
The accuracy of the digital data is the same as the plotting scale implies. All dimensions are in metres unless otherwise stated.
The survey control listed is only to be used for topographical surveys at the stated scale. All control must be checked and verified prior to use.
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Do not scale from this drawing.

SURVEY CONTROL CO-ORDINATES

STATIONS	EASTINGS	NORTHINGS	LEVEL	DESCRIPTION
ST01	594201.581	253867.529	81.509	Hill nail
ST02	594240.296	253939.708	82.743	Hill nail
ST03	594244.016	253967.008	83.029	Hill nail
ST04	594232.644	253972.827	83.212	Hill nail
ST05	594207.039	253870.284	83.061	Hill nail
ST06	594189.332	253955.542	83.343	Hill nail
ST07	594194.981	253986.585	82.305	Hill nail

SURVEY GRID AND LEVEL DATUM

The coordinate system established for this survey is related to Ordnance Survey (OS) national grid at a single point using Smartnet, then orientated to grid north with a scale factor of 1.000.
The level datum established for this survey is related to Ordnance Survey (OS) using GPC Smartnet.
To avoid discrepancies any coordinated data used in conjunction with this survey must be derived directly from this control data.

A Checked southern wall line of central structure. WHG BTC 03.11.20
REV DESCRIPTION DRAWN APPR DATE
Original Sheet Size A1V

SURVEY SOLUTIONS

LAND SURVEYING
BUILDING SURVEYING
UNDERGROUND SURVEYING
SITE ENGINEERING
MONITORING

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PROJECT TITLE
BURY ROAD, THORPE MORIEUX, SUFFOLK.

DRAWING DETAIL
TOPOGRAPHICAL SURVEY

CLIENT	HADLEIGH CASTINGS LTD	SCALE	1:200
SURVEYOR	WHG	CHECKED BY	BTC
SURVEY DATE	08.10.2020	APPROVED BY	BTC
DRAWING NUMBER	275178e-01	REVISION	A
		ISSUE DATE	20.10.2020

RICS
ICCS
THE SURVEY ASSOCIATION