TOWN and COUNTRY DESIGN SERVICES

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STRUCTURAL CONDITION SURVEY

AGRICULTURAL BARN AT OLD STAR FARM, BEELOW LANE, COTTON, STAFFORDSHIRE

Site: AGRICULTURAL BUILDING AT OLD STAR FARM, BEELOW LANE, COTTON

Client: **Mr. S. WATKIN/Building Design,**

Old Star Farm, Beelow Lane, Cotton, Staffordshire ST10 3BL

Date: **October 2019**

Job Number: **6032b-MJA**

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STRUCTURAL CONDITION SURVEY

1.0 BRIEF:

1.1 ***To provide a general visual structural condition survey on AGRICULTURAL BUILDING at OLD STAR FARM, BEELOW LANE, COTTON and to determine, in principal those general areas that require structural reconstruction/refurbishment, for the purpose of complimenting the planning development approval.***

2.0 COPY RIGHT AND LIMITATIONS:

2.1 ***This report has been prepared by TOWN and COUNTRY DESIGN SERVICES and its use remains, at all time, subject to the approval of this practice.***

2.2 ***The condition report is principally for the purpose of complimenting and ensuring a successful planning application and is a guide for the recommended structural remedial works the exact nature of which should be determined "on-site".***

2.3 ***The report is for the private use of the client in the context as stated above. It shall not be reproduced in whole or in part, or relied upon by third parties for any use, without reference to this practice.***

2.4 ***No intrusive investigatory works have been undertaken and therefore this report is based on those structural conditions that were readily observable at the time of inspection.***

2.5 ***This report is intended to address visual structural matters only, and should not be relied upon for financial, public health or legal comments, for which expert advice should be sought.***

2.6 ***Lack of comment on any particular structural element does not imply that they comply with the current Building Regulations.***

GENERAL CONSTRUCTION:

3.1 ***This report is to be read in conjunction with the planning drawings provided by BUILDING DESIGH, Architecture and Planning Consultants, 15A Whitmore Road, Newcastle-under-Lyme, Staffordshire ST5, 3LY. The "on-site" survey was undertaken on Thursday 16th September 2019.***

3.2 ***This single storey stone - block built building has a long rectangular shaped plan footprint and stands adjacent to Old Star Farm. The building has a curved vaulted roof. Provided that the recommended remedial works are correctly undertaken the overall structurally condition of the building is such that conversion to habitable dwelling would ensure the long term viability of the building.***

3.3 ***The self-supporting curved roof to the building encompasses and forms the upper section storage area. The roof appears to be clad with self-supporting deep-ribbed mineral fibre sheets which may contain asbestos. All remedial works should be undertaken in accordance with clause 5.2.1.***

3.4 ***The building is generally of 200 mm stone-block brickwork construction up to a height of 1.2 mts. The arch gable ends have been enclosed with stone-block and timber in-fill. Remedial works will be required to most elevations. The remedial works will be as noted in clause 4.1.2.***

3.5 ***There is no first floor.***

3.6 ***The existing ground floor will need to be up-graded.***

3.7 ***The site is reasonably level. New exits will be required at each end of the building and therefore appropriate care should be taken with regard to door opening requirements.***

3.8 ***An effective surface water/foul drainage system should be installed, to the building, to suitable soak ways.***

3.9 ***The foundations have not been exposed for inspection.***

It is recommended that appropriate investigatory works are undertaken, prior to commencing the proposed conversions, to

assess the nature of the footings and to determine the extent of any necessary under-pinning works.

No investigatory research into geo-technical information has been undertaken and is therefore not considered in this report. It is suspected that the barns may be in an area of past mine working activities due to the rebuilding works associated with the west facing elevation.

4.0 BUILDING:

4.1 External Observation:

4.1.1 Roof Level:

As noted above the vaulted curved roof is clad with heavy ribbed mineral fibre sheets.

The mineral fibre sheets are supported on and spring off the stone – block perimeter side elevation walls.

Should the roof to this building be composed of mineral fibre sheeting containing asbestos, then removal of any asbestos contaminated material is to be in accordance with the Asbestos Regulations 1984.

A new self-supporting pre-fabricated roof structure will therefore be required to the building. All work and materials are to Planning Officers approval and Building Regulation requirements.

All works to the roof structure should be undertaken in accordance with 4.2.1.

4.1.2 Stone – Block [external elevations]:

External 200 mm perimeter block walls generally require some minor remedial works to all elevations except.

This remedial work is likely to relate to the following:

Missing stone – block will need to be replaced with suitable matching where required.

Fractured stone – blocks will need to be rebounded or replaced where fractured.

Repointing and cleaning works are also likely to be required to most elevations.

Some under pinning works may be required where foundations are inadequate.

The exceptions being as follows [refer to Architects drawings]:

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East Elevation:

Curved vaulted roof – stone – block wall.

Replace vaulted roof with self-supporting roof structure..

Undertake fracture repairs to cracked stone-blockwork.

Repair stone – block pillars where required.

South Gable Elevation:

Stone – block infill to elevation arch.

Undertake fracture repairs to cracked stone-blockwork.

Existing concrete lintels may need to be replace but dependent upon condition.

West Elevation:

Curved vaulted roof – stone – block wall.

Replace vaulted roof with self-supporting roof structure..

Undertake fracture repairs to cracked stone-blockwork.

Repair stone – block pillars where required.

North Gable Elevation:

This north facing end elevation is currently in-fill with timber boarding fixed to a structural timber frame.

A new purpose made self-supporting pre-fabricated end frame should be inserted.

All work and materials are to Planning Officers approval and Building Regulation requirements.

4.1.3 External Brickwork Reconstruction:

It is unlikely that there will be any extensive stone – block reconstruction to the elevations.

4.1.4 External Floor levels:

External site levels to this barn are relatively constant.

Proposed exits or ramps should be appropriately assessed and ground levels adjusted accordingly.

New foul and surface water drainage systems are likely to be required. A comprehensive surface water drainage system is required to ensure storm water is effectively channelled away from the barn.

No Damp Proof Course was evident to this barn. It is recommended that a new d.p.c. is inserted.

4.1.5 Foundations:

The foundations to this barn have not been exposed.

The foundations should be opened-up for investigation and under pinning works undertaken, if necessary.

5.2 Internal Observation:

5.2.1 Roof level:

All mineral fibre sheeting, cladding the roof of the building, should be removed in accordance with clause 5.1.1. A new roof self-supporting structure, to current Building Regulation standards, will be required.

5.2.2 First floor level:

There is currently no first floor to the building except to the south facing elevation which has a small storage platform.

This platform appears to have a concrete floor.

5.2.3 Ground floor level:

The existing ground floor is unsuitable for purpose and will need to be completely replaced to current Building Regulation standards.

5.2.4 Internal Brickwalls:

Internal 100 mm blockwork may need of some remedial attention.

New and existing internal walls should be fully bonded to the external walls.

Lateral restraint and holding down straps to be inserted through-out.

6.0 CONCLUSIONS AND RECOMMENDATIONS:

6.1 ***The overall condition of the building is such that a successful conversion can be completed, provided that all the recommended remedial works and improvement works are undertaken to appropriate building standards.***

6.2 ***The removal of any asbestos contaminated material is to be in accordance with the Asbestos Regulations 1984.***

6.3 *All timber members should be structurally assessed and be thoroughly inspected for suitability, any in-appropriate timber replaced.*

Where replacement of the roof is a requirement this should be undertaken in accordance with the current Building Regulations.

6.4 ***All structural steel beams are to be assessed for suitability and appropriately environmentally treated.***

6.5 ***All stone – block refurbishment is to be undertaken where required and in accordance with the recommendations of this report.***

6.6 ***All new brick/stone walls should be repaired and tied to existing external walls, where required.***

6.7 ***Lateral restraint and holding down straps should be installed to Building Regulation requirements.***

6.8 ***Underpinning works are subject to further investigation.***

6.9 ***All structural alterations to be in accordance with current Building Regulation requirements.***

6.10 ***I have not inspected parts of the structural fabric which were covered, unexposed or inaccessible. Any concealed defects, upon opening up, should be assessed and the appropriate remedial action undertaken.***