

Rookery Farm – Barn 3
Haughley Green
Stowmarket
IP14 3RR

Structural Inspection Report



DOCUMENT CONTROL

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1.0 BRIEF

- 1.1 J P Chick & Partners Limited were appointed on behalf of the client by Wincer Kievenaar Architects to undertake an inspection of an existing farm structure on Rookery Farm, as part of a Part Q Planning Application. This is referenced as Barn 3 shown on the attached plan no.5889 PA_07 A provided by Wincer Kievenaar Architects, in Appendix A.
- 1.2 Our appointment was received on 8th January 2024. We attended site on Wednesday 17th January 2024.
- 1.3 The weather was overcast, calm and remaining dry throughout the period of our attendance.

2.0 BRIEF DESCRIPTION

- 2.1 Barn structure 3 is situated to the Northeast of the site with a footprint of approximately 18m x 9m arranged in a North South arrangement about its longest axis. The access / opening to the barn is situated to the southern gable.
- 2.2 The structure comprises of five portal frames with approximate steel size of 170mm x 102mm, 6mm thick columns spaced at approximately 4.5m centres. There are intermediate stanchions of approximately 2m in height providing support and fixing for the internal cladding. This structure was clearly used as a grain store; hence the cladding being mounted internally. At 2m and above the side cladding is mounted externally to the frame in the form of corrugated cement sheets. This material accounts for the roof covering.
- 2.3 The roof structure is principally formed by the spanning members of the portals with covering supported by a series of unequal angle steel section purlins which span over the portals running front to rear. There are three such purlins to each side with the profile sheeting attached with “J” bolts.
- 2.4 Floors are ground bearing concrete slabs formed in situ, which have been laid full width of the barn in 4m sections. These have a typical board joint formed between each section.

- 2.5 To the Northeast at the boundary with the neighbouring agricultural field, there are a row of Poplars approximately 11m remote from the rear of the Barn. The Barn itself is in an area of relatively low-lying land which is evidenced by standing water to the East of the Barn at the time of our inspection.

3.0 GEOLOGY

- 3.1 With reference to information published by the British Geological Survey this site is shown to be underlain by Lowestoft Formation - Diamicton which dominates this area. Diamicton is often referred to as Boulder Clay. This is underlain at depth by Crag Group – Sand, forming the Bedrock geology. Based upon information from the same source the clay is considered likely to be well in excess of 20m thick.

4.0 OBSERVATIONS

- 4.1 All frames are in reasonable condition, albeit that they exhibit minor surface corrosion throughout the entirety of the structure. More significant corrosion can be seen to the front left stanchion where a rainwater downpipe has been mounted against it, and this has caused some delamination of the steel web as this has suffered from corrosion. Otherwise, all stanchions appear to be in reasonable condition. It is anticipated that these are all situated upon their own concrete base foundations, situated at an unknown depth within the clay subsoil.
- 4.2 All bolted connections to the portal frames and the apex plate connections appear to be in good order with no signs of any stress or deformity.
- 4.3 At high level, mounted and bolted between the portals to all elevations is bracing formed from equal angle steels. These are then welded to the eaves cladding rail and provide fixing for “j” bolts for the cladding. All appears in reasonable condition commensurate with the portals, again showing signs of slight surface corrosion but no sign of any distortions, stress or failure.

4.4 All connections between the cement sheet cladding and roofing appears to be in good order with no signs of any loss or degradation. Similarly, the low-level cladding which is mounted to the internal face of the columns and its connections appear to be in reasonable condition with minor damage and distortion from serviceability impacts.

4.5 The concrete slab section to the rearmost of the barn has suffered some articulation and vertical displacement. Repairs to this slab have historically been undertaken in isolation where cracks have occurred without addressing the level displacement. At the junction between the rearmost slabs, the joint has degraded and been lost. Through this open joint, water is visible beneath the slab. The level of this water would tend to coincide with standing water seen outside the structure.

5.0 LIMITATIONS

5.1 This report shall be for the private and confidential use of the client for whom it was undertaken, and it should not be reproduced in whole or in part or relied upon by third parties for any use without the express written authority of J P Chick and Partners Limited.

5.2 Unless stated otherwise in the report, we have not disturbed or removed any fixtures or linings. Coupled with this, we have not exposed the foundations or tested the drains serving the site or individual barns. We are therefore unable to report that such part of the property is free from defect or that these satisfy current building regulation.

5.3 We have not inspected woodwork or other parts of the structure, which are covered, unexposed or inaccessible and we are therefore unable to report that any such part of the property is free from defect.

5.4 The condition of the finishes, waterproofing, damp penetration and structural timbers, unless specifically referred to, are not the subject of this report. We would recommend the services of a specialist to cover these areas.

5.5 We have not undertaken any environmental or contamination assessment of the site and any such requirement would be subject to a separate commission.

6.0 CONCLUSIONS AND RECOMMENDATIONS

- 6.1 We consider that the main portal frames of the structure, are in good condition based upon their age with the exception of localised corrosion to the front left column where the rainwater downpipe has been mounted within the web of the steel, discharging at its base. Subject to global cleaning (and very localised welded plate repair) and reapplication of a protective coating, we consider that the portals will be suitable for use as the main structural element associated with residential conversion.
- 6.2 Based upon the nature of the corrugated cladding, at high level, it is likely that this will be exchanged for an alternative product. The low-level cladding mounted internally against the portals is unlikely to be suitable for retention and will be replaced with suitable infill panels (timber or masonry) being used to obtain thermal values and incorporating some bracing between portals to aid overall stability.
- 6.3 The roof covering will similarly require replacement with a more contemporary and suitable material, shown in detail as likely to be a zinc sheet material or similar, upstand seamed roof. This is likely to have a similar, if not lesser, weight to the asbestos cement sheet already in place and should be a saving with regard to loading. The thickness of the roof construction will likely increase to provide sufficient thermal performance. This can easily be thickened with the use of timber packing and furring pieces etc.
- 6.4 Existing concrete floor slabs are level and free from any obvious articulation with the exception of that to the rear of the barn. These concrete floors are suitable for use as an over site slab, although the failed slab to the rear will need to be broken out and re-laid, assuming ground bearing slabs are proposed for incorporation within the design.
- 6.5 Existing surface water drainage does exist and should be cleared and cleaned to ascertain its functionality and suitability for inclusion in proposals.



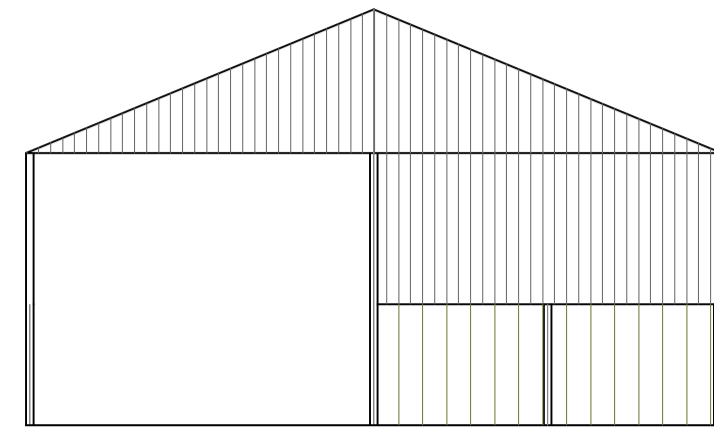
7.0 APPENDICES



Appendix A – Wincer Kievenaar Drawing No. 5889 PA_07 Rev A



EXISTING EAST ELEVATION



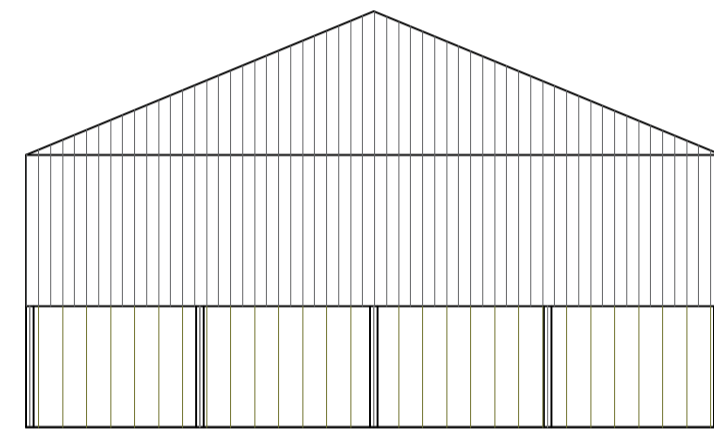
EXISTING SOUTH ELEVATION



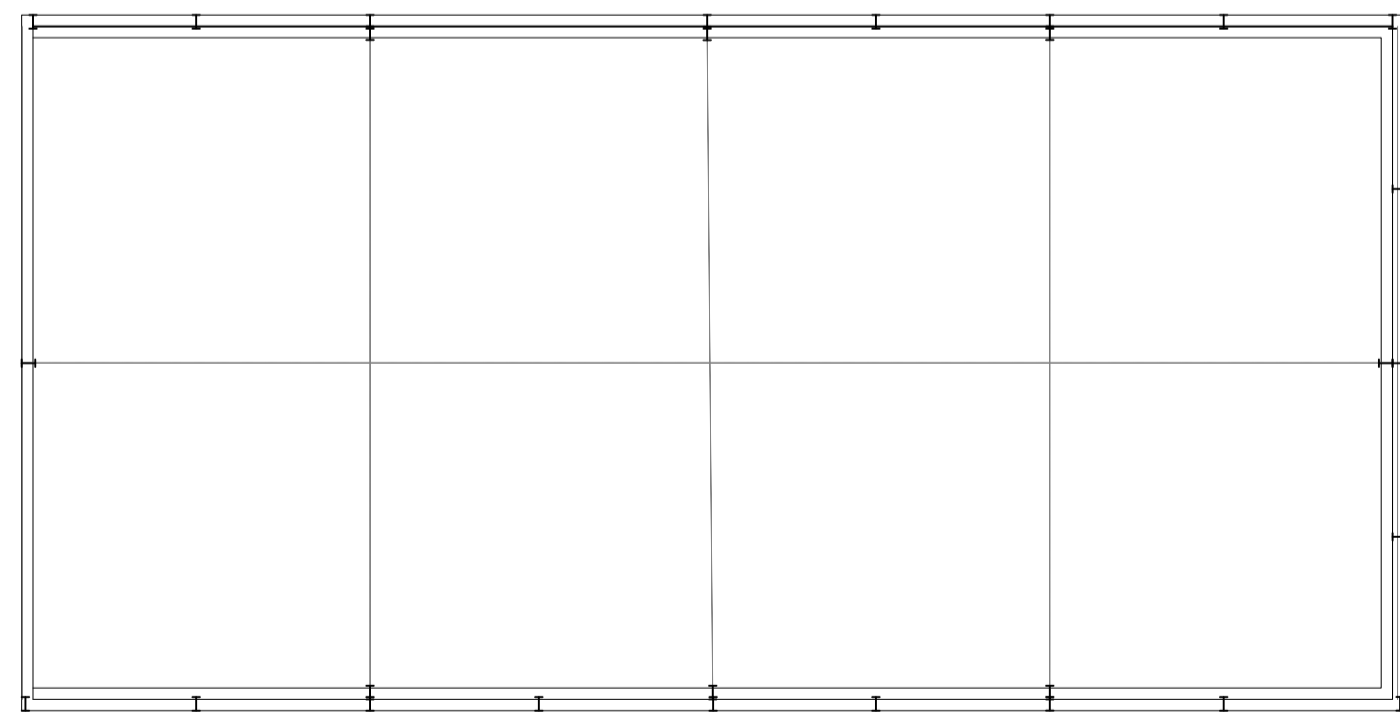
SITE KEY PLAN
1:1000



EXISTING WEST ELEVATION



EXISTING NORTH ELEVATION



EXISTING BARN 3 PLAN

REVISION	DESCRIPTION	DATE	DRAWN	CHECK
A	Revised following client meeting	12/12/2023	EB	CW

PROJECT: **5889** DRAWING TITLE: **PA_07** REVISION: **A**

TITLE: EXISTING BARN 3 - PLAN AND ELEVATIONS

SCALE: 1:100 SHEET SIZE: A1

ISSUE DATE: 28/11/2023

AUTHOR: EB CHECK: CW

PROJECT: Proposed Class Q Residential Development
Rookery Farm, Haughey Green
Stowmarket, Suffolk IP14 3RR

CLIENT: Mr I. Robinson

STATUS: PLANNING