



Structural Engineering Inspection Report

On

**Barn building areas C and D
at**

**Glasspool Farm
Port lane
Risely
RG7 1RU
for**

Wroxton Ltd

Project No. 11325

July 2024

**Gurney Consulting Engineers
Hallmark House
10-12 St Johns Road
Woking
Surrey
GU21 7SE
Tel: 01483 721721
Fax: 01483 725073
e-mail:
gce@gurneyce.com
www.gurneyce.com**

TECHNICAL DIRECTORS:

NJ ANTAL : CEng MStructE
P EVANS BEng (Hons) CEng MICE

ASSOCIATE DIRECTORS:

JP WILDE BSc (Hons) CEng MStructE
RM BROWN BEng (Hons) CEng MStructE





CONTENTS

1.0 Introduction

2.0 Inspection

3.0 Discussion

4.0 Conclusions and Recommendations

Appendix

	Author	Signature	Date
Prepared by:	Jonathan Wilde		31 July '24
Approved by:	Peter Evans		31 July '24

Revision	Date	Description	Prepared	Approved
Issue 1	31 July '24	First issue	Jonathan Wilde	Peter Evans



1.0 INTRODUCTION

Gurney Consulting Engineers was commissioned by Tony White of White Planning on behalf of Wroxton Ltd via an email dated 8 July 2024 to undertake a structural inspection and report on an existing agricultural barns at Glasspool Farm, Risely RG71RU.

The inspection was to assess the ability of the structure to be converted to an hotel building.

The inspection was undertaken on 17 July and the weather was hot and dry.

2.0 INSPECTION

The Barn referenced as 'building C and D' by Architect Imageon Designs ltd measures approximately 64m length x 25.5m width overall. The primary structure is a precast concrete framed. Refer Appendix I for location and photos.

The roof comprises corrugated sheet cladding spanning between concrete purlins which is turn are supported by 2 No. independent precast concrete portal frames with raised flat roof connecting the two main areas. The precast columns incorporate haunch thickenings at eaves level.

The frames are likely to be 3 pinned portal frames with pin connections at the apex and column bases and are located at approximately 4.4m centres.

The walls of the barn are blockwork walls to approximately 2.0m height or full height to eaves in some cases. The blockwork walls are likely to provide stability to the portal frames along the length of the building.

The concrete floors to the barn slope downwards in places and there is some cracking in places.

The age of the structure is not known but is it assumed that the building was built circa 1970's. It is understood that the building was previously used as a cow shed.

3.0 DISCUSSION

The primary concrete elements appear generally to be in good condition, although there are some localized areas of concrete spalling to the portal frames which will require concrete repair.

Taper profiled Concrete purlins span between the portal frames supporting the roof cladding. These appear to be in a reasonable condition.

It is assumed the columns are fixed onto concrete pad foundations, although no opening investigation has been undertaken to check the condition of the bases of the columns which are buried in the ground / concrete.



No intrusive investigations were undertaken and the construction of the foundations was not determined. From a visual inspection there is no sign of any obvious settlement or movement of the structure suggesting the foundations and underlying founding strata are adequate to support the existing applied loads.

There are no signs of any significant settlement of the building and hence it appears the foundations are adequate for the loads applied. There may be a requirement for some underpinning in order to comply with current building regulations regarding minimum depth of foundations.

The cladding to the roof is in reasonable condition. These elements do not form part of the primary structure as they do not provide overall support or stability

In order to convert the building to an hotel it would be necessary to significantly upgrade the thermal and water resisting performance of the walls, roof and slab even after they are restored to their original condition. Floors will require raising in order to provide an internal floor level which his commensurate with internal inhabited rooms, which may be achieved with local reconstruction and / or relevening with raised floors incorporating insulation and water resistance.

The rearmost portal frames and infill area are to be removed in order to reflect the proposed building layout. This will not adversely affect the stability of the building.

4.0 CONCLUSION

It will in our opinion be feasible to convert the existing barn into an hotel without wholesale reconstruction of the primary structural frame.

The walls, roof and ground floor slab will require significant upgrading to achieve the necessary thermal and watertight envelope to meet modern Building Regulations and the introduction of door and window openings.

APPENDIX I
BUILDING C / D



Photo 1: proposed site plan

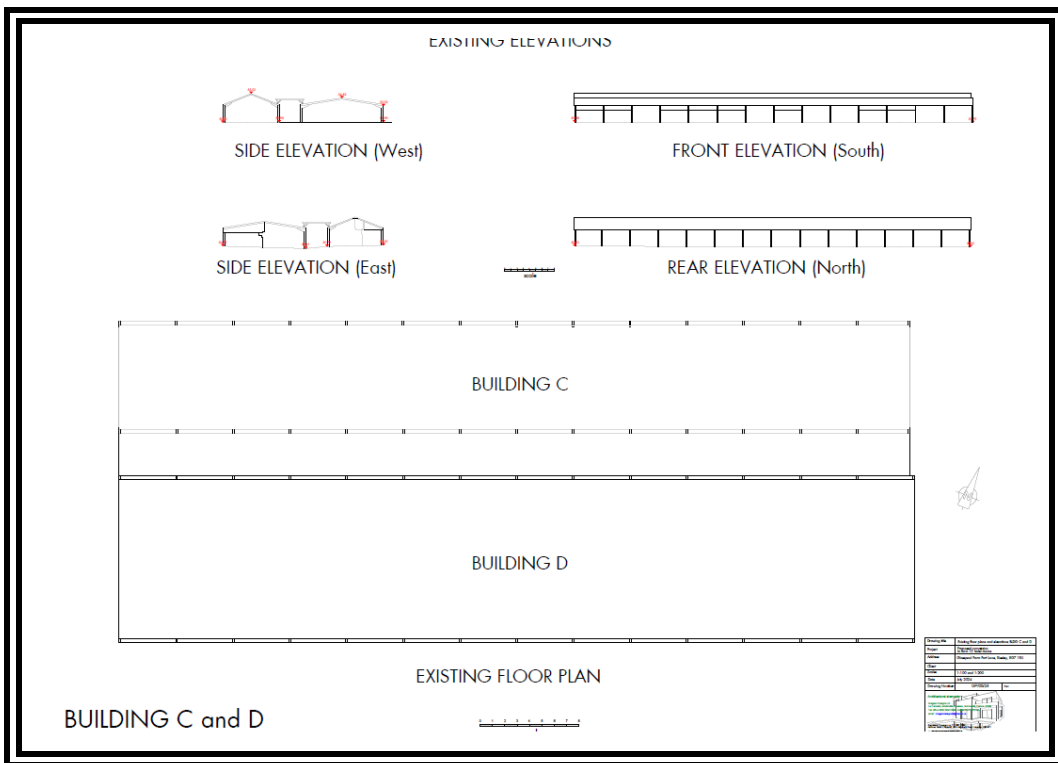


Photo 2: Building CD – extg



Photo 3: Building CD – Side Elevation West



Photo 4: Building CD – Front Elevation South Part D



Photo 5: Building CD –Rear Elevation North Part C



Photo 6: Building CD – Side Elevation East



Photo 7: Building CD –internal view part D



Photo 8: Building CD –internal view Part D



Photo 9: Building CD –internal view Part D

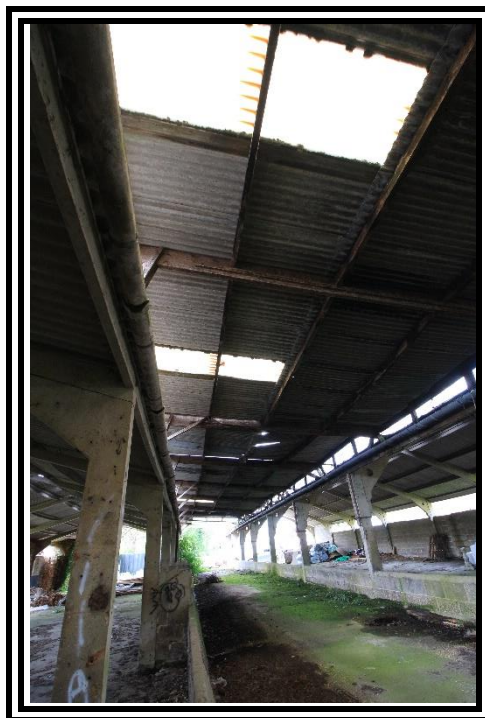


Photo 10: Building CD –internal view



Photo 11: Building CD –internal view



Photo 12: Building CD –internal view Part D