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Gresford

Pre-Planning Structural Inspection Report

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This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

1 Executive Summary

JP Structural Design Ltd was appointed to undertake a pre-planning structural assessment of an existing farm building. The inspection was carried out on 29th April 2026 and comprised a visual inspection of the external elevations and an internal inspection of the visible structural elements.

During the visual survey, structural defects were noted including:

- Rotting, potential infestation and excessive deflection of timber roof structure, floor joists and other structural members;
- Cracked, damaged and eroded brickwork;
- Evidence of damp;
- Corrosion of steel beams, plates and bolts;

None of the defects observed are likely to prevent the successful refurbishment and conversion of the building. Defects will require localised repairs to be undertaken as part of the refurbishment, the scope of which is outlined in section 6 of this report.

2 Introduction

2.1 JP Structural Design Ltd was appointed to undertake a structural assessment of an existing building at the following address:

Cedar Hall
Gresford
Wrexham
LL12 8RG

2.2 A visual survey was undertaken on 29th April 2026 by Isaac Dale, Chartered Engineer for *JP Structural Design Ltd.*

2.3 This report presents the observed defects, the high-level observations and recommendations for any remedial works to be undertaken as part of the construction works.

3 Survey Extent

3.1 The structural inspection was undertaken from ground level and 1st floor level where accessible. The survey was limited to the structural elements that were visible/ accessible. The survey focussed on the structural condition of the external elevations and the internal structural elements only and no trial pits were undertaken to expose foundations and no specialist investigations were undertaken such as timber rot/infestation surveys or asbestos materials assessment.

3.2 The survey inspection focussed on structural items only and did not include a review of non-structural items such as rainwater goods, cladding, flashings, or window/door casements.

3.3 Below is a plan view depicting the extent of the building intended to be converted and therefore the extent of the survey.



3.4 A visual inspection was undertaken which means that we did not take up carpets, floor coverings or floorboards, move furniture or remove the contents of cupboards. Also, we did not remove secured panels or undo electrical fittings. We inspected roofs and other surfaces on the outside of the building from ground level and we inspected the roof structure that was exposed and visible from within the building. We were not able to assess the condition of the roof structure concealed by the ceiling finishes.

3.5 Whilst this report presents the observations from the structural inspection, JP Structural Design Ltd gives no representations or warranties, express or implied, and no responsibility or liability is accepted for the accuracy or completeness of the information inserted in the document or any other written or oral information given to any interested party or its advisers. Any such liability is expressly disclaimed.

4 Existing Structural Form

4.1 The existing building is formed in load bearing masonry supporting a roof structure formed in timber purlins and rafters supported off timber trusses and internal load bearing walls.

4.2 The following photos indicate the typical external elevations of the buildings surveyed:



Figure 1: General view of South Elevation



Figure 2: General view of Northeast Elevation



Figure 3: General view of North Elevation



Figure 4: General view of Southeast Elevation



Figure 5: General view of Southwest Elevation

5 Survey Observations

5.1 The building was observed to be constructed in load-bearing masonry comprising of brickwork.

5.2 Timber purlins support the roof. Purlins were observed to be spanning between timber trusses and internal load bearing walls.

5.3 During the visual survey, several structural defects were observed, namely:

- Rotting, potential infestation and over-deflection of timber roof structure, floor joists and other structural members;
- Cracked, damaged and eroded brickwork;
- Evidence of damp;
- Corrosion of steel beams, plates and bolts;

5.4 Structural Inspections

5.4.1 Typical defects observed during the external inspection are presented in the following photos:

	*Observation 1:* • *Erosion to mortar joints* • *Erosion to brickwork*
	*Observation 2:* • *Erosion to mortar joints* • *Erosion to brickwork* • *Repointed cracking in masonry over lintel*
	*Observation 3:* • *Erosion to mortar joints* • *Erosion to brickwork* • *Cracking in masonry over lintel* • *Vegetation in masonry*

	*Observation 4:* • *Potential over-deflection, rot and infestation in timber floor joists*
	*Observation 5:* • *Erosion to mortar joints* • *Erosion to brickwork* • *Cracking in masonry over lintel*
	*Observation 6:* • *Potential over-deflection, rot and infestation in timber roof rafters* • *Potential over-deflection, rot and infestation in timber roof purlins*

	*Observation 7:* • *Erosion to mortar joints* • *Erosion to brickwork* • *Cracking in masonry over arched brickwork*
	*Observation 8:* • *General photo of ground floor room*
	*Observation 9:* • *Potential over-deflection, rot and infestation in timber roof rafters*

	*Observation 10:* • *General photo of ground floor room*
	*Observation 11:* • *Potential over-deflection, rot and potential infestation in timber lintel*
	*Observation 12:* • *General photo of ground floor room*

	*Observation 13:* • *General photo of ground floor room*
	*Observation 14:* • *Cracking in brittle finishes*
	*Observation 15:* • *Cracking in brittle finishes*

	*Observation 16:* • *General photo of ground floor room*
	*Observation 17:* • *Cracking in brittle finishes*
	*Observation 18:* • *General photo of ground floor room*

	*Observation 19:* • *Mild corrosion to steel beam*
	*Observation 20:* • *General photo of first floor room*
	*Observation 21:* • *Potential over-deflection, rot and infestation in timber roof trusses* • *Timber roof truss has been repaired using retrofitted steel plate system near bearing.* • *Potential over-deflection, rot and infestation in timber roof rafters* • *Potential over-deflection, rot and infestation in in timber roof purlins* • *Mild corrosion to steel plate* • *Mild corrosion to steel bolts*

	*Observation 22:* • *Potential over-deflection, rot and infestation in timber roof trusses* • *Timber roof truss has been repaired using retrofitted steel plate system near bearing.* • *Potential over-deflection, rot and infestation in timber roof rafters* • *Potential over-deflection, rot and infestation in in timber roof purlins* • *Mild corrosion to steel plate* • *Mild corrosion to steel bolts*
	*Observation 23:* • *Potential over-deflection, rot and infestation in timber roof trusses* • *Potential over-deflection, rot and infestation in timber roof rafters* • *Mild corrosion to steel plate* • *Mild corrosion to steel bolts*
	*Observation 24:* • *Timber roof truss has been repaired using retrofitted steel plate system near bearing.* • *Potential over-deflection, rot and infestation in timber roof rafters*

	*Observation 25:* • *Potential over-deflection, rot and potential infestation in timber lintel*
	*Observation 26:* • *General photo of first floor room*
	*Observation 27:* • *Potential over-deflection, rot and infestation in timber roof rafters* • *Potential over-deflection, rot and infestation in timber roof purlins*

	*Observation 28:* • *General photo of first floor room*
	*Observation 29:* • *Potential over-deflection, rot and infestation in timber roof rafters* • *Potential over-deflection, rot and infestation in timber roof purlins*
	*Observation 30:* • *Erosion to mortar joints* • *Erosion to brickwork* • *Cracking in masonry* • *Loose or missing masonry*

	*Observation 31:* • *General photo of first floor room*
	*Observation 32:* • *General photo of first floor room*
	*Observation 33:* • *Potential over-deflection, rot and infestation in timber roof rafters* • *Potential over-deflection, rot and infestation in timber roof purlins*

	*Observation 34:* • *Potential over-deflection, rot and infestation in timber roof rafters* • *Potential over-deflection, rot and infestation in timber roof purlins*

6 Defects Summary

6.1 Defects Summary Table and Likely Remedial Works

Typical Defect/Observation	Comments and likely remedial action
Rot and potential infestation to roof structure members	• *Evidence of potential rot and infestation to timber rafters, purlins and trusses. If rot is localised in nature, individual rafters can be replaced.* • *Extent of repair works to timber roof structure to be defined following a specialist rot and infestation survey once floor finishes have been stripped.*
Cracked, damaged and eroded brickwork	• *Exposed brickwork was observed to be damaged with missing or eroded bricks in a number of locations and cracked and eroded mortar joints.* • *As part of the refurbishment works, localised repairs will be required to make good these areas of masonry.* • *Damaged, cracked or eroded mortar joints will require re-pointing. Missing brickwork will need infilling to match existing. Cracks in masonry will need stitching with Helifix product or similar.*
Evidence of damp	• *As part of refurbishment work, the Architect should consider repair and replacement work to rainwater goods and installation of DPM/tanking as required to address areas of damp ingress.* • *There is potential for water damage to rafters. As part of the refurbishment work, the rafters are to be inspected as part of a specialist rot and infestation survey.*
Corrosion of steel beams, plates and bolts	• *Evidence of corrosion in steel beams.* • *Evidence of corrosion in steel truss connection plates and bolts.* • *Steelwork with mild corrosion to be painted with corrosion resistant paint.* • *Steelwork with significant corrosion to be replaced.*
Rot, potential infestation, and over-deflection of timber joists and beams	• *Evidence of potential rot and infestation to timber joists and beams.* • *Extent of repair works to timber structural members to be defined following a specialist rot and infestation survey.*

7 Summary and Conclusions

7.1 The defects observed within the building are localised in nature and are not likely to necessitate large sections of demolition and rebuild.

7.2 A detailed specialist timber survey is recommended to identify and treat any rot or infestation present in the timber elements. Defective rafters or joists will require localised replacement and it is recommended that all timbers to be retained are treated by a specialist timber survey company.

7.3 As part of the refurbishment works, calculations will be required to justify the existing floor joists for the proposed use. This assessment should be carried out by a chartered engineer following strip-out works.

7.4 Cracked and eroded mortar joints will require repointing and any damaged / missing areas of brickwork will require localised repairs. Cracking in masonry will require crack stitching with Helifix product or similar.

7.5 Steelwork with mild corrosion to be painted with corrosion resistant paint. Steelwork with significant corrosion to be replaced.

7.6 It is recommended that the remedial works presented in section 6 of this report are implemented as part of the refurbishment works.

7.7 All observed defects can be readily addressed as part of the detailed design of the refurbishment works and none of the structural issues observed are likely to prevent the successful conversion of the building.