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Pen Y Palmant, Minera

Pre-Planning Structural Inspection Report

RP 100870-001

Issue 1

August 2024



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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.

I 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 31st July 2024 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 timber purlins;
- Roof ridge damaged/ missing;
- Walls show evidence of damp;
- Protective paint on steelwork flaking away
- Minor surface corrosion to steelwork

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

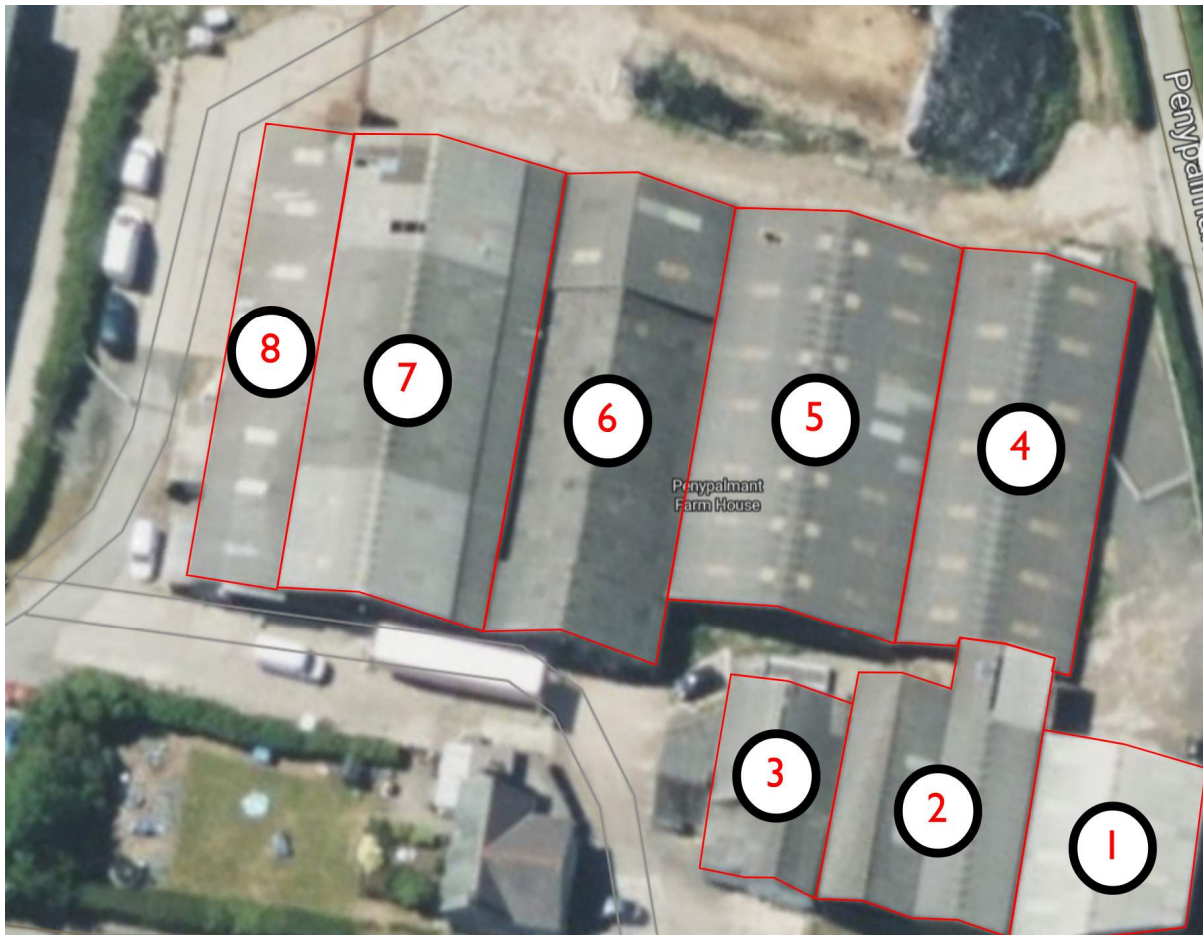
- 2.1 JP Structural Design Ltd was appointed to undertake a structural assessment of an existing building at the following address:

**Pen Y Palmant,
Old Road, Minera,
LL11 3YR**

- 2.2 A visual survey was undertaken on 31st July 2024 by Lee Murphy, Structural 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 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 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 did not inspect the roof structure from within the building as there was no safe access to the roof space. 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 buildings are formed from steel portal frames with masonry and timber infills, supporting a roof structure formed in a mixture of timber purlins and rafters supported off the portal frames or steel angle trusses.
- 4.2 The following photos indicate the typical external elevations of the buildings surveyed:

4.3 Building 1



Figure 1: View of Front Elevation

4.4 Building 2



Figure 2: View of Front Elevation



Figure 3: View of Rear Elevation

4.5 **Building 3**



Figure 4: View of Front Elevation



Figure 5: View of Rear Elevation

4.6 **Building 4**



Figure 6: View of Front Elevation



Figure 7: View of Rear Elevation

4.7 **Building 5**



Figure 8: View of Front Elevation

4.8 **Building 6**



Figure 9: View of Front Elevation

4.9 **Building 7**



Figure 10: View of Front Elevation Internal

4.10 **Building 8**



Figure 11: View of Front Elevation

5 Survey Observations

5.1 The building was observed to be constructed using steel portal frames

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

- Missing/eroded stonework & mortar to walls;
- Roof ridge and purlins showing signs of deflection/ sagging;
- Minor surface corrosion to steelwork
- Vegetation growth to steel columns;

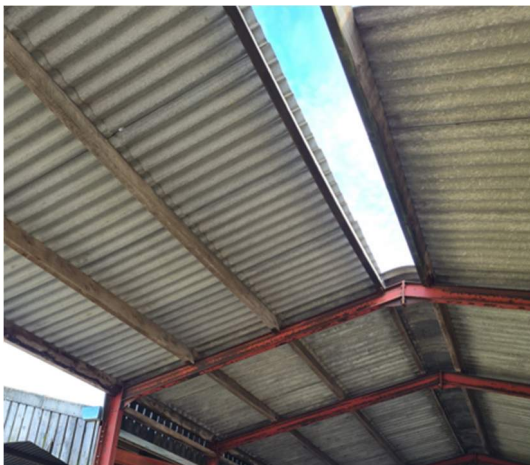
5.3 Structural Inspections

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



Observation 1: Building 1

- Signs of vegetation growing inside the structure through the ground floor slab
- Signs of deterioration to the paintwork



Observation 2: Building 2

- Sections of roof missing



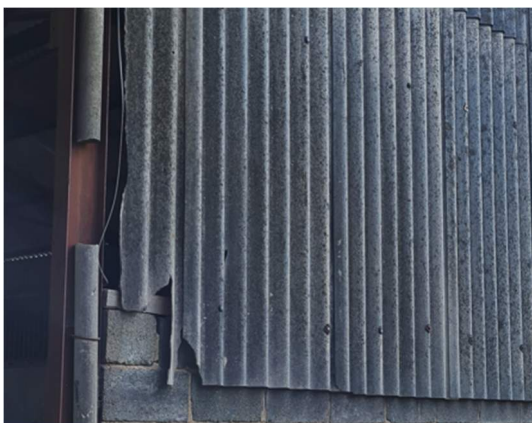
Observation 3: Building 2

- *Signs of deterioration to paint to steelwork*



Observation 4: Building 2

- *Damage to column.*
- *Minor surface corrosion*



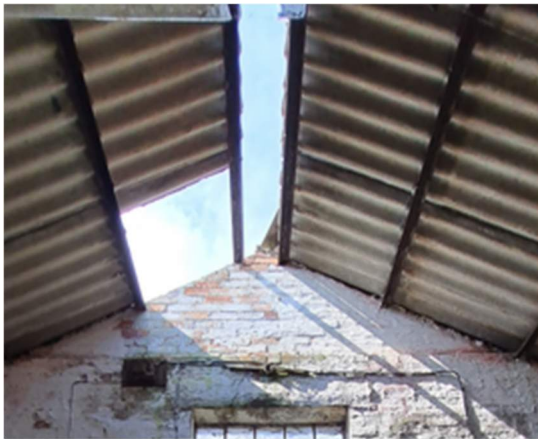
Observation 5: Building 2

- *Damaged sections of cladding*



Observation 6: Building 3

- *Damp staining to masonry*
- *Missing/eroded mortar.*



Observation 7: Building 3

- *Sections of roof missing*



Observation 8: Building 3

- *Erosion to mortar joints.*
- *Missing sections of masonry.*
- *Signs of vegetation growth to lower courses of masonry.*



Observation 9: Building 4

- *Erosion to mortar joints.*
- *Water damage to section of wall.*
- *Signs of vegetation growth to masonry.*



Observation 10: Building 4

- *Sagging timber purlins*



Observation 11: Building 5

- *Deteriorating paintwork*



Observation 12: Building 5

- *Timber rafters showing clear signs of deterioration*



Observation 13: Building 5

- *Section of roof damaged exposing timber rafters*



Observation 14: Building 6

- *Missing cladding*



Observation 15: Building 6

- *Section of roof missing*



Observation 16: Building 6

- *Damp staining to masonry*

6 Defects Summary

6.1 Defects Summary Table and Likely Remedial Works

Typical Defect/Observation	Comments and likely remedial action
Cracked, damaged and eroded brickwork	- Brick work was observed to be damaged with missing or eroded bricks on building 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.
Rotting and deflecting roof rafters	Timber roof structure members show signs rotting, with some cases causing excessive deflection, these will need to be replaced.
Damp and mould to infill walls	Due to exposure conditions damp and mould is evident. Walls to be cleaned to remove staining
Damaged and missing cladding	As part of the refurbishment works the damaged and missing cladding panels should be replaced and any exposed structural timber members checked for signs of rotting and replaced locally if required
Missing and damaged sections of roof	As part of the refurbishment works the damaged and missing roof panels should be replaced and any exposed structural timber members checked for signs of rotting and replaced locally if required
Steel work showing signs of minor surface corrosion	Clean steelwork where needed and apply a fresh coat of protective paint to the surface to ensure the surface is protected against corrosion

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** Cracked and eroded mortar joints will require repointing and any damaged / missing areas of stonework will require localised repairs.
- 7.4** It is recommended that the remedial works presented in section 6 of this report are implemented as part of the refurbishment works.
- 7.5** 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.