



General Report

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Report of the inspection of the Brick barn at TempleHall Cottages, Bosworth Road, Wellsborough



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1. Brief

- 1.1. To inspect the above storage barn to comment upon its structural stability and its potential for conversion to a domestic property.

2. General Observations

- 2.1. The building is a composite structure comprising an asbestos cement sheet clad roof with internal timber trusses, steel columns at similar centres and brick wall cladding to the flank walls and gables.
- 2.2. The internal floor is concrete with minor floor irregularities.

3. External Observations

- 3.1. The roof is Big 6 clad and given the age of the building s likely to be asbestos containing material. There are ridge ventilators.
- 3.2. The roof has good line and level, but unsealed at eaves level.
- 3.3. The northern gable wall has racked cracking visible indicative of settlement of the north eastern corner and there is also some similar cracking to the eastern flank wall at the same corner.
- 3.4. There is also some cracking over windows and doorways to the same elevation considered to be due to the deterioration of the timber lintels.
- 3.5. At the location of the internal steel columns there are external brick piers at approximately 2.9m centres. No expansion or contraction joints were visible in the wall at the recommended maximum brick panel size of 12m length.
- 3.6. To the south-eastern corner of the elevation, there is some further cracking at mid-height, possibly due to lateral loading locally.
- 3.7. The southern gable is quite badly weathered. There is a central large door opening to this elevation.
- 3.8. To the western elevation, there was similar cracking in brickwork over timber lintels as noted to the eastern elevation.

4. Internal Observations

- 4.1. The roof is supported on timber purlins, which in turn are supported on timber trusses which have a steel bar tie at eaves level.
- 4.2. The trusses are supported off the head of steel columns, which are cast into the concrete floor slab.
- 4.3. There is some surface corrosion of the steels, but no sign of distress in the brickwork to indicate any excessive deflection of the composite framing.
- 4.4. The floor of the barn was concrete with some minor cracking noted, to the south-east corner the floor slab was locally higher.
- 4.5. To the northern end of the barn, there is a full height brick partition wall which forms a single bay workshop area. Minor cracking was noted at approximately 2m height close to the side elevation wall.

5. Conclusions and Recommendations

- 5.1. There has been minor settlement of the northern gable which has caused the cracking noted locally. The amount of settlement is around 3-4mm and is not considered to be structurally significant.
- 5.2. It is recommended that the below ground drainage in that area be checked and repair made as necessary. This may require the installation of a soak away for the drain which should be constructed at least 6 metres from the building.
- 5.3. The timber lintels are recommended for replacement with either steel or concrete lintel and repointing of the mortar joints over the lintels after installation.
- 5.4. Whilst the current mortar joints have opened over these lintels, the cracking has not compromised the stability of the structure.
- 5.5. The Southern elevation has been badly weathered resulting in erosion of the brick faces. If the elevation is to be retained, it is recommended that the wall be re-built with more durable bricks.
- 5.6. It was noted on the western elevation that there was a difference in the bricks above window lintel level which were smaller and more variegated in colour above lintel level.
- 5.7. This suggests that the upper brickwork was constructed at a much later date.
- 5.8. Conversion of the building is considered to be viable, requiring the changing of the roof sheets for insulated sheets. This may require the provision of additional timber purlins or preferably replacement with cold rolled purlins.
- 5.9. The overall stability of the structure currently is good, and viable for conversion to a domestic property, with the minor changes noted above plus minor pointing repairs to cracked brickwork.
- 5.10. Drainage will require some consideration with regard to pipe runs, which will require the breaking up of the floor slab to facilitate pipe work installation.
- 5.11. **It is considered that the building in its present state is structurally stable and suitable for conversion to a domestic property with minimal work as described above and as noted in the following pictures.**

Prepared by:

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Addendum:

A further visit was carried out on 20 June 2023. The barn had been emptied considerably exposing minor bending to the steel tie bars of the structure which can be heated and straightened if required. Otherwise, the report reinforces the conclusion of clause 5.11
Photos are appended

6. Photographs



Picture 1 – North end gable infilled doorway and exposed verge



Picture 2 – Exposed verge and purlin protrusion



Picture 3 – note lower level thin render and stepped cracking in doorway above shovel handle



Picture 4 – General eastern elevation showing render line



Picture 5 – Minor mortar separation above window lintel



Picture 6 – spalling mortar cap to pier plus light corrosion of strap bolts to internal steel columns



Picture 7 – Minor displacement of brickwork over timber lintel



Picture 8 – Slight stepped cracking to left of render line



Picture 9 – Brick erosion and impact damage to corner brickwork



Picture 10 – Eroded gable brickwork and exposed verge



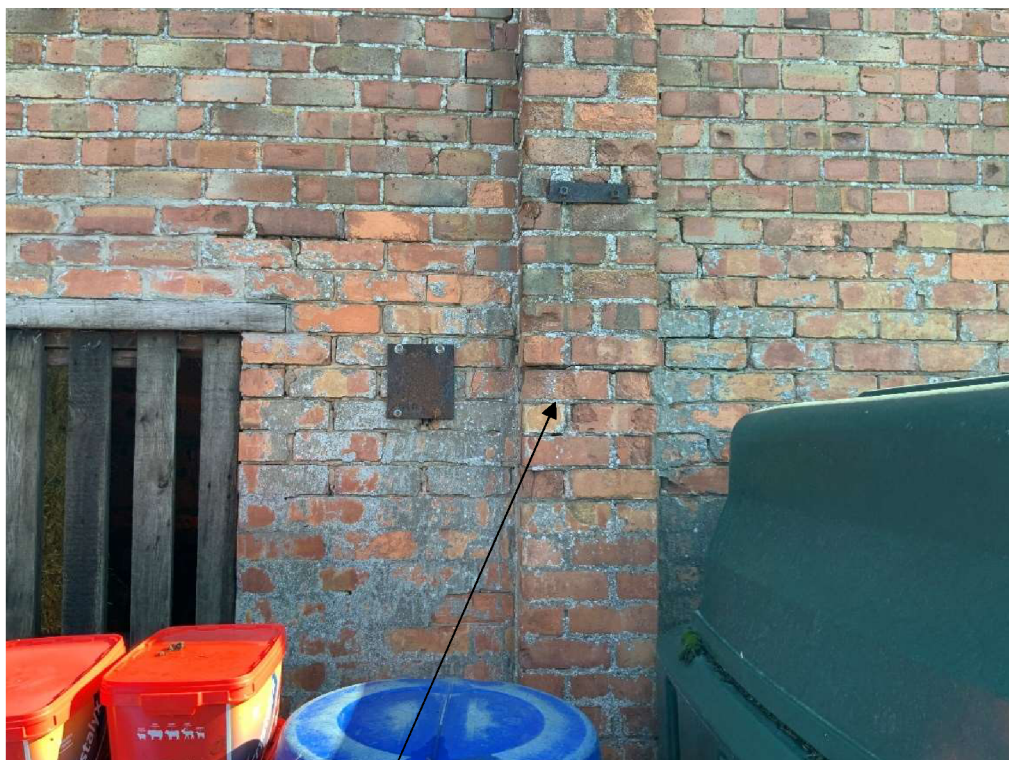
Picture 11 – Missing brickwork at eaves line and eroded brickwork of gable



Picture 12 – Cracked and eroded brickwork to corner of barn (south west corner)



Picture 13 – closer detail of cracked brickwork to corner



Picture 14 – damaged brickwork to be replaced



Picture 15 – timber lintels to be replaced as required, minor repointing works



Picture 16 – Mortar coping to pier missing



Picture 17 – General view towards south-western corner, note cracked brickwork over centre window opening



Picture 18 – General view towards north-western corner – note eroded brickwork to central pier to be replaced



Picture 19 – replaced brick panel behind retaining wall panel



Picture 20 – minor mortar erosion beneath window opening – positive drainage outfall recommended



Picture 21 – General roof line good



Picture 22 – General roof line good ACM roof panels will need replacement



Picture 23 – Closer view of stepped cracking in northern workshop area doorway



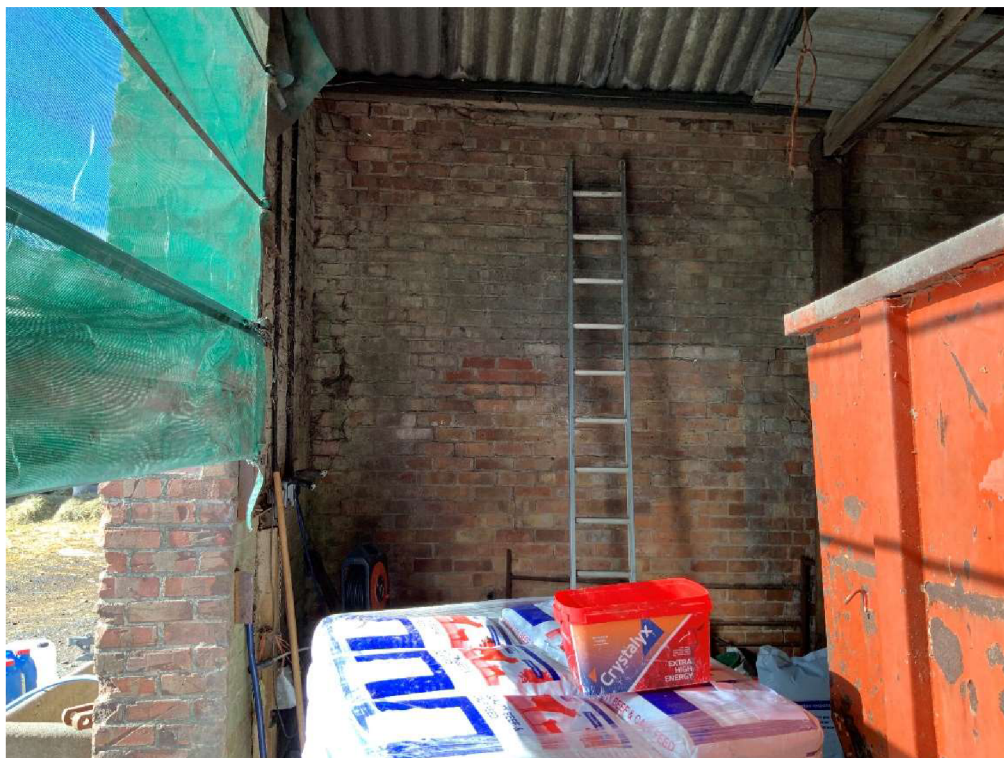
Picture 24 – Stepped cracking to north east corner brickwork to be raked out and repointed



Picture 25 – Purlin holding down straps adequate



Picture 26 – opening through division wall without lintel over



Picture 27 – internal damage to brickwork of south-western corner



Picture 28 – Stored material in south-eastern corner brickwork which may have caused cracking noted externally



Picture 29 – Internal partition to south eastern corner



Picture 30 – detail of columns and timber trusses to roof



Picture 31 – further view of roof trusses and tie bars of lower member



Picture 32 – internal view of cracking over timber lintels



Picture 33 – note change in brickwork approx. 3 courses above window opening



Picture 34 – Note location of strapping bolted through external brick piers at column positions



Picture 35 – Truss/Column connection



Picture 36 – closer detail of connection



Picture 37 – stored pipes in roof line



Picture 38 – truss connection details



Picture 39 – hole through wall with no lintel – visible daylight at roof vent position (adequate)



Picture 40 – Open eaves visible as daylight at wall plate



Picture 41 – Purlin adjacent to eaves walls in good condition



Picture 42 – North gable view 2023



Picture 43 – East flank wall, unchanged 2023



Picture 44 – Southern gable with brick erosion 2023 marginal change and missing eaves bricks



Picture 45 – Cleared interior of barn 2023 – note minor bend in tie bar of truss



Picture 46 – South western corner unchanged 2023



Picture 47 – Interior of cleared barn 2023 - note floor level difference to centre



Picture 48 – View near grain store area 2023 – no change from previous inspection



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