Reid Jones partnership

Consulting Civil & Structural Engineers

STRUCTURAL INSPECTION

OF

THE TALBOT HOTEL AND ADJACENT BARN

ON BEHALF OF

TALBOT AT CHIPPING LTD

February 2011
Project No 3184

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1.0 INTRODUCTION

Reid Jones Partnership Ltd were requested by IWA Architects, acting on behalf of the owner of the property Talbot at Chipping Ltd, to carry out a structural inspection of the Talbot Hotel and adjacent barn building at Talbot Street, Chipping, Lancashire. The public house has been in use until relatively recently but is now vacant. The barn is currently unused and empty.

It is proposed to renovate the hotel building and convert the barn into an accommodation annex. The purpose of this inspection is to assess the structural condition of both buildings and to make recommendations on any essential structural repairs considered necessary as part of conversion and general refurbishment works.

Mr John Reid BSc CEng MICE MIStructE of Reid Jones Partnership Ltd carried out the structural inspection on Wednesday 9 February 2011. Photographs are included within Appendix A.

The inspection was of a visual nature, and no opening up of the fabric of the building was carried out.

This report shall be for the sole use of Talbot at Chipping Ltd and their professional advisors and shall not be relied upon by any other party without the full written consent of Reid Jones Partnership Ltd.

2.0 DESCRIPTION

For orientation purposes, the front of the building faces Talbot Street, and the right- and left-hand sides of the building are those viewed when standing at the front of the property and looking directly at the front wall.

The hotel is a stone-built two-storey building constructed in the mid 18th century **(photos 1&2)**. Two single storey extensions at the rear of the property appear to be of more recent construction. The ground floor comprises a bar and several lounges, toilets and a kitchen. On the first floor is landlord's living accommodation and a snooker room. An attic floor is located within the roof space and may have originally provided accommodation for guests or servants, but appears to have been left unused for some considerable time. A cellar or beer vault lies under part of the hotel, accessed through a covered yard. Further store rooms are located on the ground floor on the right-hand side of the main building. The barn lies to the left of the hotel and is generally of single storey construction, but with a two-storey area attached to its left-hand side **(photos 3&4)**. It is also stone-built and of a similar age to the hotel.

The walls of both the hotel and barn are of traditional, solid, stone masonry, with the front of the hotel having a rendered finish. Stone quoins are provided at external corners, and most window and door openings have dressed stone surrounds. Stone arches are provided above the main front and rear doors to the barn. A slated covering is provided on the main hotel roof and the front roof slope of the barn, with the rear roof slope of the barn covered with stone flags. The roof structure of both hotel and barn comprises timber rafters on timber purlins, supported in turn by timber trusses. The upper floors of the hotel are of timber construction, and the ground floors of both hotel and barn are of stone flags or concrete. Stone vaulted ceilings are provided over the cellar areas.

3.0 OBSERVATIONS

The following observations were made during the inspection of the property: -

Hotel – Attic Space

- The roof has been re-covered relatively recently, and provided with new rafters and felt.
- The original timber trusses and purlins remain in place. Signs of serious wet-rot decay were noted in the timber purlins, in particular those close to rooflights on the front slope **(photos 5,6&7)**. Evidence of historic repairs to these purlins was noted. The main trusses appeared to be free of decay, but access to inspect the more vulnerable truss feet at the outer wall was restricted. Some timber purlins show a noticeable down-slope bow in

the middle of their span. Signs of insect infestation were noted in many of the timber purlins and in both trusses.
- The original ceiling joists and lath-and-plaster ceiling remain, though part has either been removed or has collapsed onto the attic floor.
- The left-hand gable wall shows signs of water ingress **(photo 8)**.
- A timber lintel in the right-hand gable wall shows some signs of decay, and the masonry above and below the lintel has cracked **(photo 9)**.
- The timber floor of the attic is partly supported on the bottom tie-beam of the roof trusses and is uneven and not level. The floor is covered with debris and has many missing floorboards.

Hotel – First Floor

- The undersides of the main roof truss tie beams are visible behind a timber cladding. Signs of insect infestation were noted.
- There is a vertical crack of some 15mm width in the rear left-hand bedroom **(photo 10)**.
- The inner wall of the room to the rear of the snooker room shows a significant lean of around 75mm over the height of a door **(photo 11)**.
- Damp was noted on the left-hand wall of the snooker room **(photo 12)** and above the chimney breast in the front left-hand bedroom.
- The first floor is generally uneven and out-of-level.

Hotel – Ground Floor

- Signs of water ingress and timber decay were noted at several locations near the rear wall **(photo 13)**.
- Some signs of moisture ingress were noted in the left wall of the front right-hand lounge **(photo 14)**.
- The ceiling of the kitchen appears to be sagging.
- The roof of the covered yard area appears to have failed and is propped by steel props.
- Some slates are missing from the roof of the right-hand store room.

Hotel – Cellar

- The cellar has a stone vaulted ceiling. The walls and floor were dry. No structural defects were noted.

Hotel – External

- On the right-hand single-storey gable, there are some open joints in the stonework **(photo 15)**.
- There is a noticeable sag in the ridge of the single-storey kitchen roof.
- At the rear left-hand corner, there is some cracking or opening of joints around the stone quoins near eaves level.
- There is a hole in the stonework and a vertical crack in the left-hand gable wall **(photos 16&17)**. The stonework has been pointed with cement mortar. The face of the stone is eroded.
- There are several cracks in the render on the front wall. Above the front door, the wall shows a noticeable lean backward.

Barn – Internal

- The barn roof has four timber trusses, all of a king post arrangement, creating five bays of timber purlins.
- Close inspection of the timber rafters and purlins could not be made from ground level. The rafters appear to be more recent replacements, not original timbers. Some purlins appear to be of original hewn timber, others are more modern sawn timber replacements. The roof covering remains largely intact and no obvious signs of decay in the timber rafters and purlins were noted.
- The first truss from the right-hand gable is of relatively modern sawn timber, and appears to be in reasonable structural condition. The second truss is similar, but appears to be propped by several timber posts rising from the floor. It is possible that these timbers may have been part of a partition wall or screen. The third truss appears to be original, but has been strengthened by the provision of a steel beam below the bottom tie, and additional timbers on both sides of the principal rafters **(photo 18)**. The fourth truss is a more recent replacement, in sawn timber, and appears to be in reasonable condition.

- The inside face of the front, rear and left-hand gable walls of the barn appeared to be in reasonable condition. Holes remain in the walls where the floor timbers of former upper floors were supported. Insect infestation and decay was noted in the timber inner lintel over the front and rear doors (photo 19).
- The right-hand gable wall contains an area of badly damaged and poorly consolidated masonry below a high-level doorway **(photo 20)**.
- There was no access available to the rooms or spaces at the left-hand side of the main barn.

Barn - External

- The front wall (Talbot Street) appears to be in reasonable condition. Some open joints and erosion of the stonework were noted, especially close to leaking gutters.
- The right-hand gable wall is in poor condition and shows a significant outward bulge below the high-level door opening **(photo 21)**. A metal tie bar has been installed between the front and rear walls at mid-height of the gable, presumably to prevent outward movement and separation of the gable stonework.
- The rear wall shows noticeable distortion along its length, in particular to the right (as viewed from outside) of the rear entrance door **(photo 22)**. The stonework is eroded, in particular close to the rainwater downpipe closest to the right-hand gable. Stones are dislodged or missing each side of an old clay flue near the left-hand gable.
- No significant defects were noted in the left-hand gable wall.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The hotel is in reasonable structural condition but contains a number of structural defects that need to be addressed during the course of the refurbishment works.

The slated roof covering and timber rafters are in reasonable condition, having been replaced relatively recently, but significant decay was noted in the timber purlins, especially those on the front slope close to the rooflights. The roof trusses appeared to be reasonably sound, but with signs of insect infestation in the bottom tie beam. Other internal timbers are also affected by woodworm, and wet-rot decay was noted in several locations where water was penetrating the building fabric, at failed or missing flashings and gutters. We would recommend that a more detailed inspection is undertaken by a timber preservation specialist of the roof and floor timbers and any timber lintels built into the stone walls. Sufficient floorboards, ceilings and lath-and-plaster lining walls should be removed to provide full access to all structural members, including the feet of the main roof trusses. Following full inspection, a decision can be made on which timbers can be retained and re-used, and which need to be repaired or augmented with new timbers or steel plating. All timbers will need to be treated to eradicate wood-boring insects.

There is cracking in the internal walls at several positions, the most significant being in the rear left-hand bedroom at first floor level. The cause of this crack is unclear without further investigation. The wall should be rebuilt locally to ensure that the stonework is fully bonded. The leaning internal wall to the room to the rear of the snooker room may be associated with this wall originally being built as an external wall. The degree of lean is not great compared to the thickness of the wall and chimney breast at this point, and re-building is not recommended.

The external walls are generally straight and plumb, apart from one localised area above the front door. The stonework is suffering from erosion of the mortar joints close to defective gutters or flashings. The stonework on the left-hand gable has been pointed with cement mortar, and this has resulted in water becoming entrapped in the stone and subsequent frost damage. The vertical crack in the left gable is associated with the chimney breast and may be the result of a chemical reaction between the flue gases and the cement mortar pointing. We would recommend that all the stonework is cleaned, the joints raked out and the whole re-pointed with lime mortar. Cracks in the render can be raked out and repaired during redecoration.

The barn is in reasonable condition considering its age, but also contains defects that need to be corrected during any conversion works.

The roof should be stripped and the timbers inspected by a timber preservation specialist. It may be possible to retain and re-use the majority of the existing rafters and purlins, and the three timber trusses of more recent construction. The

strengthening work to the one original truss would need to be assessed to see if it is of a standard sufficient for inclusion in a commercial building to be used by the public.

The right-hand gable wall is significantly distorted and partially collapsed on the inside. The central portion of this wall should be re-built. Decayed timber lintels should be replaced. The stonework should be cleaned, the joints raked out and the whole of the external face of the external wall re-pointed with lime mortar. On the internal face, the re-pointing can be restricted to cracked or poorly consolidated areas.

The conversion of the barn should include a new blockwork internal lining wall, tied to the existing stonework. This, in conjunction with a new first floor and upgraded roof, should add significantly to the overall robustness of the structure and prevent future distortion of the external walls.

APPENDIX A

PHOTOGRAPHS

Photo 1 – View of Front of Hotel

Photo 2 – View of Rear of Hotel

Photo 3 – View of Front of Barn

Photo 4 – View of Rear of Barn

Photo 5 – Decayed Timber Purlin

Photo 6 – Decayed Timber Purlin

Photo 7 – Decayed Timber Purlin

Photo 8 – Damp Staining at Left Gable Wall

Photo 9 – Decayed Lintel and Cracking at Right Gable Wall

Photo 10 – Crack in Internal Wall – Rear Left Bedroom, First Floor

Photo 11 – Leaning Internal Wall – Rear Right Bedroom, First Floor

Photo 12 – Damp in Snooker Room Wall

Photo 13 – Decayed Timbers - Rear Wall, Ground Floor

Photo 14 – Damp Staining – Left Wall, Front Lounge, Ground Floor

Photo 15 – Right Gable (Low Level)

Photo 16 – View of Left Gable Wall

Photo 17 – Crack and Hole in Left Gable Wall

Photo 18 – Barn Roof Structure

Photo 19 – Decayed Timber Lintel above Rear Door of Barn

Photo 20 – Cracked and Loose Stonework on Inside of Right Gable Wall of Barn

Photo 21 - Distorted Right Gable Wall of Barn

Photo 22 – Distorted Rear Wall of Barn