

REPORT
ON
THE HOVELS, TARBOCK HALL
OX LANE, TARBOCK GREEN
PRESCOT, L35 1QA
E.20592

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BRIEF

As requested we confirm having carried out a structural inspection of the above to comment on its general condition as a precursor to the building being refurbished and converted into residential accommodation.

DESCRIPTION OF THE PROPERTY

The building is 7.6 metres long x 4.2 metres wide and 2.1 to eaves level. The existing elevations are constructed in 230mm thick brickwork and there is an internal crosswall which subdivides the internal layout of the building and is constructed 110mm thick brickwork. The existing roof is duo pitched slate covered supported off timber rafters and purlins which have an intermediate support from a timber truss which is offset from the location of the crosswall. The building is situated adjacent to the boundary wall with next doors property.

FORM OF SURVEY

A visual inspection was carried out internally and externally and the defects noted.

Investigations into the existing foundations were not carried out as there was no evidence of instability in the existing foundations.

The building was virtually a simple shell which has been used for storage and therefore the survey was restricted to the main loadbearing elements of the building.

RESULTS OF SURVEY

Roof Structure

The existing slate covering is supported on 70mm x 70mm timber rafters at 430mm centres which are supported on a ridge beam and 2 No. long span timber purlins which vary in size from 200mm x 160mm to 190mm x 100mm. These in turn are supported on the end gable walls with an intermediate support from a timber truss which is located approximately half way along the length of the building. A detail of the truss is shown in photograph No. 5 and the detail of the end bearing of the purlins on the gable wall is shown in photograph No. 6.

Referring to photograph No.'s 4 & 5 there is distinct evidence of woodworm and beetle attack within the loadbearing timber elements and photograph No. 5 also

highlights a degree of wet rot damage at the bearing end of the truss. Photograph No. 9 & No. 3 highlight the wall plate and its condition which exhibits woodworm, beetle attack and areas of wet rot. Photograph No. 10 is a view of the lateral distortion in one of the purlins.

External and Internal Walls

A check was carried out on the vertical alignment of both the external and internal masonry walls. The level of distortion on the front long elevation was an outward lean of 30mm in 1200mm, on the rear long elevation the distortion was a maximum of 20mm in 1200mm outward lean, the end gable adjacent to the boundary wall has a maximum of 20mm in 1200mm outward lean and a similar level of distortion in the opposite gable wall. The internal crosswall was out of plumb by 30mm in 1200mm.

It would appear that both the long front elevation and the internal crosswall are distorted in excess of normally accepted limits for walls of 230mm thickness and 110mm thickness.

Referring to photograph No.'s 1 & 2, we would note that there does not appear to be adequate bond between the long external elevations and the end gables and internal crosswall.

Referring to photograph No. 6, the end gable wall at the opposite end from the boundary has a fairly large section of brickwork missing at high level.

Photograph No. 8 shows the general condition of the external brickwork with shelling to the faces of the bricks and worn pointing.

CONCLUSIONS AND RECOMMENDATIONS

As regards to the condition of the timber roof structure we would note that there is extensive evidence of woodworm, beetle attack and areas of wet rot. We do not consider that the sizes of the timber purlins and rafters would comply with current Building Regulations following a refurbishment of the roof covering and the addition of ceiling and insulation to the soffit of the roof.

We have given careful thought to the retention of the construction as surveyed and have carried out calculation checks to substantiate the existing roof members in an effort to retain them for use in a refurbished structure.

The timber truss is suffering from evidence of woodworm beetle attack and wet rot at the end bearings and we would not recommend retaining the truss as a major loadbearing element in any rebuilding of the structure. We would consider that elements of the roof construction i.e. the timber truss and certain purlin members could be retained and reused with a degree of repair / reinstatement. This would require careful assessment between the Architect and Structural Engineer to agree those elements which are sufficiently robust to be retained within the Architects overall concept.

As regards the existing elevations we have considered the overall alignment and condition of the external brickwork and would have to advise that the level of vertical and horizontal distortion exceeds the normally accepted stability limits. To try and retain the existing elevations would necessitate the addition of strengthening piers and a substantial amount of mechanical tying to counteract the misalignment and lack of continuity. We would have thought that strengthening piers would detract from the internal layout of the building and would certainly not be acceptable externally as they would not be in keeping with the original elevational treatment.

It would perfectly feasible to retain a proportion of the brickwork and reuse within a rebuilt structure although it must be appreciated that a fair proportion of the brickwork is shelled and frost damaged.

With regard to the internal crosswall we do not consider that it should be retained, as the level of distortion is in excess of normally accepted limits and it is not adequately tied into the external elevations. This crosswall should be demolished and rebuilt with mechanical ties at the junction with the external elevations.

We understand from information provided by the Architect that there is a proposal to extend the existing configuration of the building and if the intention is to have the minimal amount of crosswalls within the final layout we would propose the introduction of a lightweight steel portal frame to break up the span of the long timber purlins and thereby keeping the building as open plan as possible. This would have the added advantage of increased headroom if the ridge level of the existing building is to remain as part of the rebuilding works.

The build will obviously involve the construction of a new ground floor slab which would have the benefit of insulation to comply with current regulations.

We would point out that the defects noted in this report are not intended to be a comprehensive list, but only a guide upon which our conclusions and recommendations have been made.

WILLIAM JONES & PARTNERS

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