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**Structural Appraisal
Report
on
T J's
15 Milton Road
Gravesend
DA12 2RF**

INTRODUCTION

Gledsdale Associates were appointed by Iris Smith, to carry out an inspection of the property and provide a report on the structure and to comment with regard to the possible extension of the premises

SURVEY

A visit was made to 15 Milton Road on 24th March 2021, when a visual survey was carried out internally and externally from ground level.

The property was in use as a public house at the time of the survey, so any observations were restricted by the presence of furniture, fixtures and fittings.

Reference to Left and Right Hand side refers to the Left and Right hand as seen standing outside facing the front of the property.

FINDINGS

GENERAL

The property is a part two storey, part three storey, detached property in use as a public house on the ground floor, with a three bedroomed apartment above spread over two floors. There is a separate single storey structure at the rear which is used as an events room.

The original part of the property is believed to date from around the 1790's and is a timber frame structure. There are some masonry infill walls between ground and first floor particularly to the front elevation. There is a basement beneath the main area of the original building. The original building has had further extensions added over time.

There is a timber framed lightweight canopy over the rear courtyard area.

INTERNAL

GROUND FLOOR

Main Bar area

No signs of cracking to the walls or ceiling.

Floor slightly uneven.

Deflection to some of the timber ceiling beams, particularly the beam over the right hand section of the bar area inside the entrance door. In this area there is also a definite sag in the ceiling line.

The brickwork infill walls to the front of the building appear to be only 4½" brickwork.

Toilet Areas

No signs of cracking to the walls or ceiling.
Some damp at low level in the right hand rear corner of the Ladies toilet.
It was noted that there is a rainwater down pipe externally on this corner.

Rear Function Room

No signs of cracking to the walls or ceiling.
Construction is of cavity brick and blockwork with steel framing to support the roof.

Rear Store Room

Cracking to the wall in the Northeast corner. Possibility of some previous settlement to this corner.

Kitchen

No signs of cracking to the walls or ceiling.
Uneven floor to the area of the kitchen within the side extension.

Side Store

Some damp noted at the bottom of the lean to roof.

Basement

Basement appeared to be mainly dry. Evidence of deflection of the timber ceiling beams holding up the ground floor above.

FIRST FLOOR

Main Front Room

No signs of cracking to the walls or ceiling.

Floor noticeably drops away towards the southwest corner, which is the corner adjacent to the front entrance to the bar below.

Bedroom

Some slight cracking to the wall beneath the window, but no other evidence of movement.

Kitchen

No. signs of cracking, but definite sag to the eaves line along the top of the wall on the South side.
Floor noted as being uneven.

Rear Bathroom

No signs of cracking to the walls or ceiling.

SECOND FLOOR

Both the rooms at second floor had no obvious signs of cracking. The long term distortions of the roof framing were evident in the out of alignment of the ashling walls and the uneven junction with the ceiling slope.

EXTERNAL

North Elevation:

On the North elevation above the flat roof the construction is timber frame rendered over and with some tile hanging at the lower level. There was no sign of cracking or movement visible. At the lower level on the Northwest corner the brick pier is leaning out of vertical. Though there is no evidence of current cracking. There are some joints with mortar loss near the top of the pier.

West Elevation(Front):

The elevation is painted brickwork with feature bay windows at the lower level. There were no signs of movement or cracking to this elevation.

East Elevation:

Above the low level roof, the elevations are either rendered or timber clad. Whilst there are no signs of movement or cracking, the long term distortions of the eaves lines are evident.

At the lower level the brick elevations facing the rear courtyard appear to be in reasonable condition.

South Elevation:

This elevation is timber framing with timber cladding. The rear section of the elevation appears to bow out slightly along the line of the elevation.

At the front corner some of the cladding has come away at low level and this has revealed rot to the timber plate and bottom of the vertical studs forming the structural framing.

Roofs:

Both the main roof and the lower roof to the rear addition show signs of long term deflection and distortion of the roof shape. The tile coverings are in reasonable condition with only one or two slipped tiles to the higher roof. The brickwork to both the chimneys is in reasonable condition

The flat roof is in reasonable condition, as is the front brick parapet and flashings.

ANALYSIS

The distortions and deflections of the structure to the roof and timber framed areas are typical of buildings of this age and type of construction. These are long term deflections which have gradually occurred over the 300 year life of the building. Although some of the deflections, particularly of the first floor and eaves lines, are quite excessive, there are no signs of current movement.

The South elevation, where there is a single storey timber frame extension, is suffering from rising damp to the bottom of the frame. There is possibly some water ingress exacerbating the problem, as shown by the internal staining at eaves level to the rear section. This is now causing rot to the bottom plate member and to the bottom of the vertical studs.

The cracking noted to the rear store room may just be as a result of thermal movement. The location of the cracking is where the timber frame section meets the masonry construction, which is where differential movement will occur.

The out of alignment of the brick pier on the Northwest corner is probably a result of where there is no adjacent brickwork to tie it in.

FUTURE EXTENSIONS

It is understood that extensions to the first floor are being considered to provide further accommodation at the first floor levels. Careful consideration will need to be given to the structure in order to achieve this. The existing timber frame and in particular the single storey timber frame extension on the South side are unlikely to be capable of carrying any additional loads without requiring strengthening works.

The Southwest corner of the two storey section of the building over the bar is likely to need additional beams and supports and the single storey section would need new framing altogether.

Extensive investigations into the existing structure would be required before finite requirement can be assessed, including finding out what foundations have been provided to the South single storey extension.

CONCLUSIONS

There is no evidence of current movement of the foundations or settlement within the property.

There are large distortions of the roof shape and timber framing which have occurred gradually over the life of the building.

The single storey extension on the South side is suffering from water ingress affecting the timbers at low level and possible at the eaves.

Whilst the existing building is still able to carry the existing loads, any extensions to the property which may increase the loads are likely to result in strengthening being required.

RECOMMENDATIONS

Whether or not further extensions are considered we would recommend the following further investigations to ensure the continued serviceable life of the building:

1. Check the connection between the top of the brick pier in the Northwest corner and the roof construction. Provide additional ties as necessary to ensure the top of the pier is fully tied into the structure.
2. Remove areas of cladding to the South elevation to check the condition of the timber framing. Replace the timber plate and bottom section of studs as necessary. Check the condition of the timbers at eaves level and replace or strengthen if necessary. Check cladding and flashings to ensure any water ingress is prevented.



I. D. Gledsdale B Eng, C Eng, M I Struct E

APENDIX A

Photographs



Front Elevation with out of vertical brick pier on Northwest corner



Main roof
(Showing sag to slope and distortion at eaves)



Roof to rear addition
(Showing sag to roof and distortion of eaves)



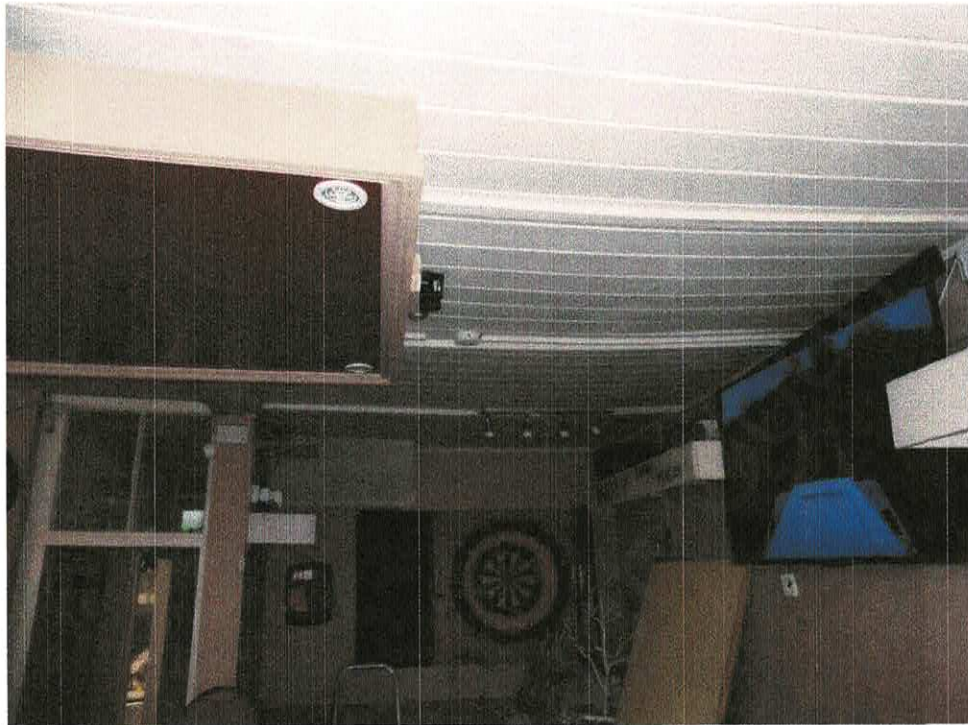
South Elevation



Deterioration of plate and studs to timber frame on South Elevation



Damp ingress at eaves on South Wall



Deflections on ceiling at South end of bar