Report

R01 P0638
04 February 21

Report
Structural Appraisal

Project
96 Dogdrove North
PE12 0SA

Client
C A Holmes Construction Ltd



Agile Engineering *01778 346399 colin@agileengineering.co.uk*

Company Registration nr 10959458 *Registered in England and Wales*

A Brief

1 The authority for this report was given by J Jones on 13 January 21.

2 The objectives of this report are to:

- Appraise the structural fabric only in relation to the aspects previously noted and to record significant visible structural damage.
- Provide opinion on the cause and significance of the structural damage in relation to the future performance of the building
- Recommend in outline remedial measures together where appropriate.

3 The purpose of this report is limited to an opinion on the structural condition of the property. We shall only report on those structural defects that may materially affect the stability of the property providing that these defects are reasonably detectable at the time of our inspection. Whilst we will use reasonable skill and care in preparing this report, we cannot provide any guarantee that the property will be free from future defects or that the existing ones will not deteriorate further.

4 This report was prepared for the sole use of the Instructing Client in response to specific instructions. Any other party using the information in this report do so at their own risk and a duty of care to those parties is excluded.

B Investigations

The visit

1 The property was visited by Colin Brackley on the 21 January 21.

2 The weather was predominately cold and dry.

3 A purely visual survey was carried out.

4 Refer to Appendix A for a photographic record of general and specific aspects.

Construction

1 The property is a detached bungalow.

2 It is understood that the property was built around 1950.

3 The construction is timber stud walls with a cut timber roof and suspended timber ground floor. The foundations are unknown.

4 The standard of external maintenance is poor.

5 The internal decorations are approximately 30 years old.

Exclusions

1 The below ground drainage was not inspected.

2 Only a limited inspection of the roof void conducted from the access hatch was carried out.

3 This investigation was limited to a Structural Appraisal which is defined as an assessment of the behaviour of the primary load bearing elements of the building. The investigation was not intended to cover decorative condition, coverings, dampness, timber infestation, deleterious materials, curtilage and value.

C Observations, Discussions, Conclusions

External

1 The vertical timber cladding is stained in several locations. Refer to photos 09 and 13 for typical examples.

- The location of the stained patches aligns with joints in the roof gutters suggesting that it is caused by excessive splashing from the leaking gutters.
- If left unchecked the cladding will continue to deteriorate and will eventually rot.

2 The ribs on the timber cladding are softening and can be easily damaged.

- This is not an immediate structural concern but an early indication that the cladding is reaching the end of its life.

3 Vegetation has penetrated the cladding on the North elevation. Refer to photos 14 and 15.

- This is not an immediate structural concern, however, if left unchecked will accelerate the deterioration of the external walls.

4 The external walls consist of; vertical timber cladding, bitumen impregnated membrane, softwood studs and then plasterboard. Refer to photos 17 and 20.

- Modern timber frame construction would normally have a drained cavity between the structural timber and the cladding and have a layer of plywood type material known as sheathing to provide lateral stability.
- Without the sheathing, the existing walls must be relying on the plasterboard on the inside and the vertical cladding on the outside.
- Therefore. the integrity of the vertical cladding is key to the overall structural integrity of the building.

5 The trial pit exposed a shallow concrete foundation circa 350mm below ground level. Refer to photo 16.

- Whilst this is very shallow, there were not any visible signs of differential foundation movement.

- The timber frame superstructure is relatively shallow so it is possible that some minor movement has taken place without causing any visible defects.

Internal

1 The floor void was opened up by the owner during the course of the survey. Refer to photos 18, 19 and 19a.

- This exposed a broken floor joist.
- The floor generally felt relatively solid for a suspended timber floor, however it is possible that there are other broken or defective floor joists.
- Given the age of the building and the form of construction this is not unusual.
- The ground floor joists are an integral part of the structure, walking over damaged floor joists could cause injury.

2 The opening up also exposed a section of rotten wall plate. Refer to photo 18.

- This suggests that moisture is penetrating the external cladding on a regular basis.
- Based on the condition of the external cladding it is likely that this has occurred elsewhere on the property.
- The wall plate is an integral part of the timber structure and needs to be in good condition.

D Summary Conclusions

1 The external cladding is reaching the end of its serviceable life and needs replacing.

2 The roof guttering and downpipes are in poor condition causing damp patches on the external cladding. This is accelerating the deterioration of the external cladding.

3 Parts of the wall plate need replacing.

4 Isolated floor joists need replacing.

5 Whilst outside of our remit, the construction will have a very low thermal performance. Extensive works will be required to improve the thermal insulation of the building.

6 It may not be economical to replace the cladding, repair the sections of the damaged wall plate and floor joists along with improving the thermal performance of the building.

E Recommendations

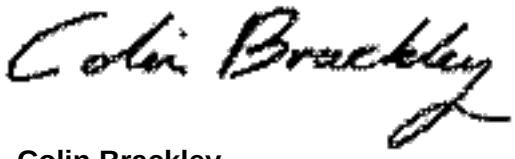
1 Replace the external cladding and incorporate a drip detail to protect the timber structure.

2 Repair the roof gutters and ensure the downpipes are properly connected to the below ground drainage.

3 During the recladding expose and inspect the condition of the wall plate. Replace as necessary.

4 Lift the floorboards to allow inspection of the floor joists and replace as necessary.

5 Consider improving the thermal performance of the building.



Colin Brackley
BEng Hons CEng MIStructE
Project Leader
For and on behalf of Agile Engineering Consultancy Ltd

Appendix

Nr Document

A Photographs **01 to 20**


2021/01/21


2021/01/21


2021/01/21


2021/01/21


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8m
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