

LEO HORSFIELD SURVEYING

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General Structural Inspection



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25th March 2021

Report undertaken for
Alan Andrews

Report undertaken by Leo Horsfield MRICS
On behalf of Leo Horsfield Surveying Ltd
Job number LH12137555



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1.0 Summary & Recommendations

I was instructed to inspect to cracking at the property and advise on the general structural integrity of the building.

The property is a detached bungalow which is believed to have been originally constructed circa 1960.

The property comprises of cavity brickwork external walls underneath a timber framed, cut, pitched and hipped main roof.

This property is believed to be constructed on marine/estuarine sand and silt. This is a clay to silty texture. This can be affected by excessive amounts of water discharging into the ground and seasonal movement. Clay sub soil can also be affected by tree roots.

There is a very large tree growing approximately 7.7 m away from the rear of this building.

The tree is at least 15.0 m in height and is of considerable age. Tree roots will be growing below this property.

I recommend the tree is pruned and reduced in size.

Cracking in the lounge, on the flank wall around the window, measures between hairline and 0.5 mm.

Cracking around the rear extension flank window is hairline.

There are some hairline cracks around the rear wall of the original building between the lounge and extension, measuring between hairline and 0.5 mm.

In my opinion, slight seasonal movement is occurring over time due to tree roots in the ground and the composition of the sub soil below the building.

There are drains running across the east side of this property. These are believed to be the neighbours drains. There is a very strong possibility that the old clay pipework below ground level has become damaged by tree roots. I recommend a CCTV survey of the underground drainage is carried out to ensure the condition of all underground pipework.

I recommend all cracking and filling around the rear of this property is repaired and made good, as required.

To the front of the property, there is cracking between 3.0 mm and 6.0 mm directly below the cladding below the front bedroom window. Cracking runs between the damp proof course and the underside of the cladding. There is a drain in very close proximity to the front corner of the building and there is also a plant growing against the building. I recommend the drain is checked with a CCTV survey to ensure this is in adequate condition below ground level. There is a very strong possibility that leaking pipework is causing some movement in the building and this needs to be checked and any repairs carried out, as required.

The inspection chamber between the properties on the east side of this building is slightly damaged. The mortar benching within the inspection chamber is damaged and would benefit from being patch repaired to ensure the drains function correctly.

I recommend the cracking on the front elevation below the cladding is re-pointed, as required.

There is evidence of staining around the rear single storey extension walls at low level. There is a very strong possibility that the guttering around the rear of

this building is leaking and oversailing. There is evidence of condensation staining internally and there is a very strong possibility that leaking and oversailing guttering is discharging onto the exterior of the property which is causing some dampness internally. I recommend the guttering is cleaned, re-sealed and made good, as required.

There are numerous areas of cracked, damaged and deteriorated hardstanding around the east side of the property. Concrete hardstanding is very thin which is most likely inadequate depth. This is moving and distorting due to the composition of the subsoil below the concrete.

There are some hairline cracks around the rear patio doors and kitchen windows. There is a very strong possibility that the original door and window frames were used to support the loading from the masonry above. The windows have been more recently replaced and I cannot rule out the possibility that some cracking may occur in the future. This may require some additional strengthening of the window lintels at the rear of this building however, these do appear to be in fair order at the time of survey.

This property is believed to be constructed on marine/estuarine sand and silt. This is a clay to silty texture. This can be affected by excessive amounts of water discharging into the ground and seasonal movement. Clay sub soil can also be affected by tree roots.

The BRE report 251 on movement in buildings would suggest that this cracking falls within Category 2 as it is less than 5 mm. Category 2 defines the stage above which repair work requires the services of a builder. For domestic dwellings, which constitute the majority of cases, damage at or below Category 2 does not normally justify remedial work other than the restoration of the appearance of the building. For the cause of damage at this level to be accurately identified it may be necessary to conduct detailed examinations of the structure, its materials, the foundations and the local clear ground conditions.

Consequently, unless there are clear indications that damage is progressing to a higher level it may be expensive and inappropriate to carry out extensive work for what amounts to aesthetic damage.

There are no significant signs that this movement is progressive, and it would be costly to try and establish this at this time without further indication of significant movement to the property indicating a general progressive downward settlement of the building. I would suggest that the cracks are dealt with by simple redecoration works and monitored to see if they come back over time, if they do then further work may be required in the future.

Buildings of this age and type with shallow foundations are susceptible to seasonal movements in ground from seasonal hydration cycles of the ground and further movement cannot be ruled out, but this is an inherent problem with the buildings of this age and construction and is typical for them and should not be unexpected.

2.0 Instructions

2.01 Our instructions are to inspect cracking through the property and the general structural integrity of the building. Our report is limited in its scope to this task. We have not inspected parts or problems that are not relevant to this request.

2.02 This report is based on a visual examination of the property. The inspection did not involve any destructive testing or removal of the floorboards, floor, wall coverings or investigation of other inaccessible items. We are therefore unable to confirm that such areas are free from defects at this time.

2.03 The report has been prepared in accordance with the addressee's request and therefore any liabilities which may arise are restricted to the addressee.

3.0 Description

3.01 The property is a detached bungalow, believed to have been constructed circa 1960. The property comprises of cavity brickwork external walls underneath a timber framed, pitched roof covered with interlocking tiles.

3.02 The weather at the time of the inspection was overcast with intermittent rain.

4.0 Ground Conditions

4.01 The property is believed to be constructed of marine/estuarine sand and silt. This is a clay texture. This will be susceptible to seasonal movement and could be affected by excessive amounts of water discharging into the ground below the building. Tree roots can also affect clay subsoil.

5.0 Drains

5.01 The drains are located either side of this property. There are inspection chambers on the east and west side.

The drainage system on the east side of the building needs to be checked with a CCTV survey. All movement at this property is located around the east side of the building and there is a very strong possibility of there being damage to the pipework below ground level.

There is evidence of slight damage and deterioration to the benching around the pipework within the inspection chamber on the east side of this building and this would benefit from being patch repaired to ensure the drains function correctly.

6.0 Observations and Comments

There is hairline cracking around the chimney breast in the lounge. This appears to be where modern plaster has been applied over older masonry. This has cracked and come away and would benefit from minor plaster repairs and redecoration.

There appeared to be slightly loose floorboards in the living room around the chimney breast. This is most likely where floors were cut historically and have been poorly patch repaired. You may wish to have the parapet lifted and patch repairs of the floorboards undertaken.

Cracking around the flank window in the lounge appears to be where the window opening has been historically installed.

The cracking has occurred directly at courses of brickwork. There is also a vertical crack directly below the window. This is hairline cracking which does appear to be within acceptable tolerances and would benefit from minor plaster repairs and redecoration.

There are large sections of blown and loose plaster on the wall above the doorway between the kitchen and dining room. The plaster is inadequately bonded to the wall and would benefit from plaster repairs and redecoration.

Minor hairline cracking has occurred around the door opening between the kitchen and the living room. This is hairline cracking which appears to have occurred at the junction between the lintel and the brickwork. This should be filled and redecorated.

Cracking is a subjective matter: The following extract from the Institute of Structural Engineers clarifies the various levels of cracking.

Classification of Visible damage to walls, with Particular Reference to the Type of Repair, & Rectification Considerations

Category of damage	Approximate crack width (mm)	Definition of cracks and description of damage
0	Up to 0.1mm	HAIRLINE - Internally cracks can be filled or covered by wall covering, and redecorated. Externally, cracks rarely visible and remedial works rarely justified.
1	0.2 to 2mm	FINE - Internally cracks can be filled or covered by wall covering, and redecorate. Externally, cracks may be visible, sometimes repairs required for weather tightness or aesthetics. Note: Plaster cracks may, in time, become visible again if not covered by a wall covering.
2	2 to 5mm	MODERATE - Internal cracks are likely to need raking out and repairing to a recognised specification. May need to be chopped back, and repaired with expanded metal/plaster, then redecorated. The crack will inevitably become visible again in time if these measures are not carried out. External cracks will require raking out and repointing, cracked bricks may require replacement.
3	5 to 15mm	SERIOUS - Internal cracks repaired as for MODERATE, plus perhaps reconstruction if seriously cracked. Re-bonding will be required. External cracks may require reconstruction perhaps of panels of brickwork. Alternatively, specialist resin bar techniques may need to be employed and/or joint reinforcement.

Extract from The Institution of Structural Engineers – "Subsidence of Low Rise Buildings Table 6.21" 2000

Foundations

We cannot advise you as the depth and size of foundations provided to this property. To obtain information relating to the foundations would require the excavation of trial holes around the base of the main walls.

The building is likely to be constructed on a subsoil subject to seasonal shrinkage and expansion which can cause structural movement.

The ground conditions are believed to be clay. Clay contains a high amount of clay coils and silts. These are susceptible to ground movement due to changes of moisture content within the soil. Factors which can affect the moisture content are drainage and vegetation.

Conclusion

A number of minor cracks have occurred around the property over a period of approximately two years. These are minor cracks which do not indicate any significant downwards movement in the property.

There are drains running across the east side of the building. There is a possibility that damage to the drainage system is allowing excessive amounts of water to discharge into the ground below the building.

There is a large tree in close proximity to the rear of this property. This needs to be pruned to ensure this does not cause any significant damage to the property in the future.

All cracking at the property should be filled, redecorated and made good.

Appendix A Photos







APPENDIX B TERMS AND CONDITIONS OF ENGAGEMENT FOR SURVEYS AND REPORTS

Subject to express agreement to the contrary and any agreed amendments/additions, the terms upon which the Surveyor will undertake the Building Survey are set out below.

Based on an inspection as defined below, the Surveyor will advise the client by means of a written report as to his opinion of the visible condition and state of repair of the subject property.

The inspection will be carried out in a single visit unless otherwise previously agreed. The comments made in the report are given on the understanding the property is fully furnished and occupied at the time of the inspection and that no tests were applied to any of the services.

2. The Inspection

During our inspection of the premises as presently existing, which will normally be carried out in a single visit, we shall check all visible exposed and accessible elements of construction.

We will not arrange for exposure works to be carried out to the superstructure or below ground, or carry out tests for high alumina cement concrete, calcium chloride, asbestos or the use of woodwool slabs as permanent shuttering, but where appropriate will seek further instructions for these to be carried out for an additional charge.

(a) Accessibility and Voids

The surveyor will inspect as much of the surface area of the structure as is possible but will not inspect those areas which are covered, unexposed or inaccessible. Cupboards shall not be emptied, and no heavy furniture shall be moved. The report will specifically exclude all covered, unexposed or inaccessible areas and buried elements of construction such as foundations and built-in steels and timbers. Unexposed structure cannot be inspected and therefore the surveyor is unable to report that any such part of the property is free from defect.

(b) Floors

The surveyor may lift accessible sample loose floorboards and trap doors, if any, which are not covered by heavy furniture, ply or hardboard, fitted carpets or other fixed floor coverings. The Surveyor will not attempt to raise fixed floorboards without permission.

(c) Roofs

The Surveyor will inspect the roof spaces if there are available hatches. The Surveyor will have a ladder of sufficient height to gain access to a roof hatch or to a single storey roof, not more than 3.0m (10'00") above the floor or adjacent ground. It may therefore not be possible to inspect roofs above this level. In such cases pitched roofs, will be inspected with the aid of binoculars. The Surveyor will follow the guidance given in Surveying Safely, issued by the RICS in April 1991. This incorporates the guidance given in Guidance Note GS31 on the safe use of ladders and step ladders issued by the Health and Safety Executive.

(d) Grounds, Boundaries and Outbuildings.

The inspection will include the above but specialist leisure facilities such as swimming pools, equestrian facilities and tennis courts will not be inspected.

(e) Services

The Surveyor will carry out a visual inspection of the service installations where accessible. Manhole covers will be lifted, where accessible and practicable. No tests will be applied unless previously agreed. The Surveyor will report if, as a result of his/her inspection, the Surveyor considers that tests are advisable and, if considered necessary, an inspection and report by a specialist should be obtained. We shall not arrange for tests to be carried out unless specifically instructed beforehand.

(f) Areas Not Inspected

The Surveyor will identify any areas which would normally be inspected but which he/she was unable to inspect and indicate where he/she considers that access should be obtained or formed. Furthermore, the surveyor will advise upon possible or probable defects based upon evidence from what he/she has been able to see. The surveyor will not arrange for exposure works to be carried out to the superstructure or below ground or carry out tests but will seek further instructions for these to be carried out for an additional charge.

(g) Flats

Unless otherwise agreed, the Surveyor will inspect only the subject flat and garage (if any), the related internal and external common parts and the structure of the building in which the subject flat is situated. Other flats or properties will not be inspected. The Surveyor will state in his /her report any restrictions upon accessibility to the common parts or visibility of the structure. The Surveyor will state if a copy of the lease has been seen and, if not, the assumptions as to repairing obligations made. The client is reminded that, particularly in the case of large blocks, the object of the inspection is to give guidance on the general standard of construction and maintenance, pointing out those items which will require attention within, say, the next decade and not to list those minor points which would normally be taken care of in the course of routine maintenance. (Many flats form part of large developments consisting of several blocks. In such cases the Surveyor will inspect only the one block in which the flat is situated).

3. Deleterious and Hazardous Materials

(a) Unless otherwise expressly stated in the report, the Surveyor will assume that no deleterious or hazardous materials or techniques have been used in the construction of the property. However, the Surveyor will advise in the Report if, in his/her view, there is a likelihood that high alumina cement (HAC) concrete has been used in the construction and that, in such cases, specific enquiries should be made or tests carried out by a specialist.

(b) Lead water supply pipes and asbestos will be noted, and advice given, if these materials can be seen but it must be appreciated that such materials are often only visible after opening up – see paragraph 2 (a). The surveyor has not allowed for any sampling or testing of suspected asbestos material.

(c) The Surveyor will advise in the report if the property is in an area where, based upon information published by the National Radiological Protection Board, there is a risk of radon. In such cases the Surveyor will advise that tests should be carried out to establish the radon level.

(d) The Surveyor will advise if there are transformer stations or overhead power lines which might give rise to an electro-magnetic field, either over the subject property or visible immediately adjacent to the property. The Surveyor cannot assess any possible effects on health or report on underground cables.

4. Contamination

S57 of the Environment Act 1995 is expected to be activated, bringing into effect Part IIA of the Environmental Protection Act 1990. Under this legislation the Local Authority are under a duty to establish contaminated sites in their district and may issue Remediation Notices requiring sites to be cleared of contamination.

The surveyor will not comment upon the existence of contamination as this can only be established by appropriate specialists. For your own protection we recommend that a desk top study is carried out prior to purchase to ascertain if your site is contaminated, or may be contaminated now or in the future, by uses on adjoining sites. The surveyor or your solicitor can arrange for this report to be undertaken by a specialist company.

5. Consents, Approvals and Searches

(a) The Surveyor will assume that the property is not subject to any unusual or especially onerous restrictions or covenants which apply to the structure or affect the reasonable enjoyment of the property.

(b) The surveyor will assume that all bye-laws, Building Regulations and other required consents have been obtained. The Surveyor will not verify whether any such consents have been obtained. The client and his/her legal advisers should make all necessary enquiries. Drawings/specifications will not be inspected by the Surveyor.

(c) The Surveyor will assume that the property is unaffected by any matters which would be revealed by a Local Search (or their equivalent in Scotland and Northern Ireland) and replies to the usual enquiries, or by a Statutory Notice and that neither the property, nor its condition, its use, or its intended use, is or will be unlawful.

(d) The surveyor may examine lease or title documents, planning or other consents and fire certificates made available prior to the inspection. The surveyor shall assume the solicitors will be advising in detail upon these matters and that they will also check on the responsibility for the maintenance of all boundaries and rights of way and the existence of easement or necessary rights of light, drainage etc.

6. CDM Regulations 2007

The Survey Report is not intended to identify all potentially hazardous materials, structure or contamination present in the buildings or land and as a result must not be used by any party to discharge any duty under the Construction (Design & Management) Regulations.

7. Fees and Expense

The client will pay the Leo Horsfield Surveying Ltd the agreed fee for the report and any expressly agreed disbursements in addition. The fee is subject to VAT at the current rate.

8. Restrictions on Disclosure

The Report is for the sole use of the named client and is confidential to the client and his professional advisers. Any other persons rely on the report at their own risk. The Contract (Rights and Third Parties) Act 1999 shall not apply. We accept no liability to any other party who may seek to rely upon the whole, or any part, of this report.

The report must not be reproduced, in whole or part, without the prior written consent of the Leo Horsfield Surveying Ltd.

The comments made in this report are given on the understanding that the property was fully furnished and occupied at the time of the inspection and that no tests were applied to any of the services.

We have not inspected woodwork or other parts of the structure which are covered, unexposed or inaccessible and are therefore unable to report that any such part of the property is free from defect.

Appendix C

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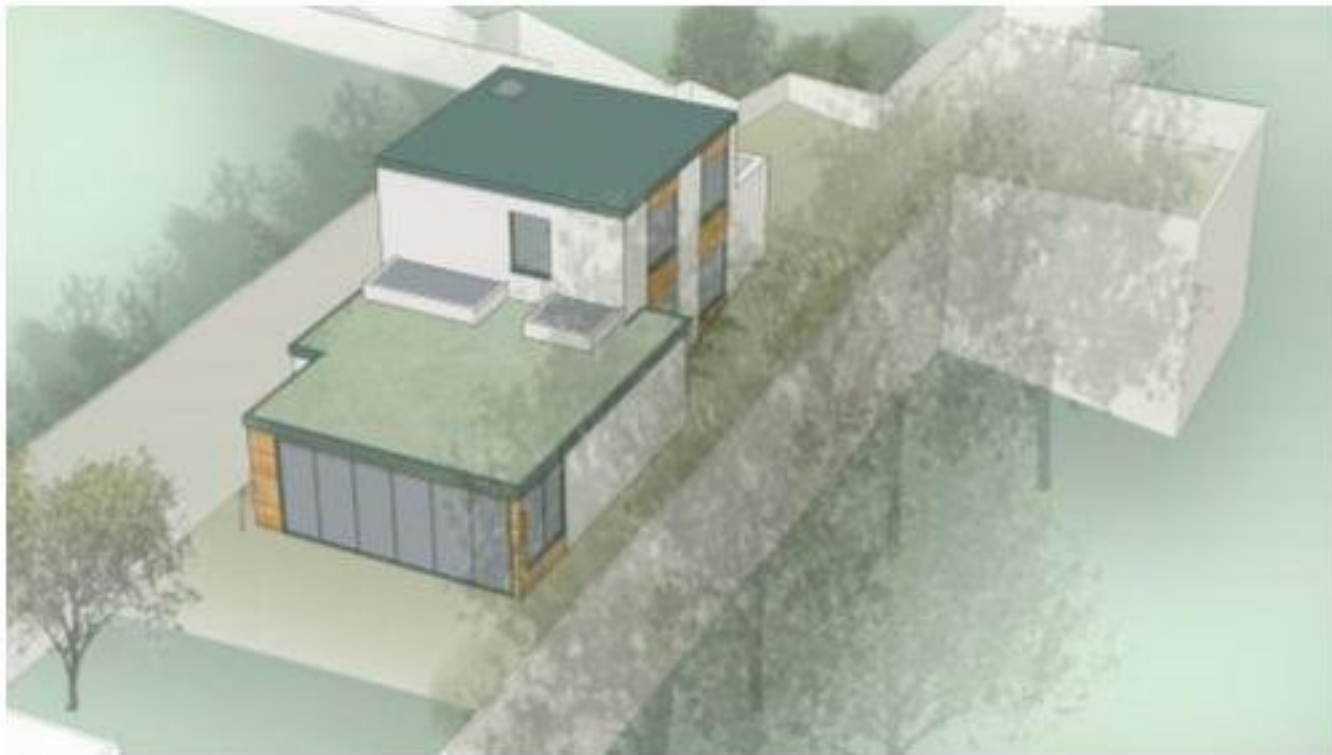
Building Surveyors and Consulting Engineers

Thinking of extending or refurbishing your house?

We also undertake **Planning applications** and **design work** for extensions and refurbishments.

Our in-house **Architect** Rowena Horton has vast experience in extensions, refurbishments and new build projects.

If you are considering undertaking a refurbishment or extension please **call us** to discuss your requirements [REDACTED]



Extension of a detached building 3D model (above) internal photo (below)



LEO HORSFIELD SURVEYING

Building Surveyors and Consulting Engineers

Thinking of making structural alterations or does your property need remedial works?

We also undertake **design work** and provide **supervision** for structural alterations and carrying out remedial works.

Our in-house **Surveyor** and **Building Engineer** Leo Horsfield has vast experience in designing and overseeing structural projects.

Whether you are knocking out walls or carrying out remedial works such as bracing or underpinning we can help. If you are considering undertaking structural works please **call us** to discuss your requirements 01273 386775.



Rear extension and removal of rear walls on a terraced town house. Internal photo (above) external photo during construction (below)

