

Our ref : 14029/MRR

21 August 2014

Mr J McNaughton
9 Elmbridge Close
Ruislip
HA4 7XA

Dear Justin

Re 9 Elmbridge Close Ruislip HA4 7XA.

Structural Engineer's General Movement Report.

I confirm your recent instructions provided by email on the 7th August 2014. You requested an inspection of the above as I understand that you are concerned about cracking that has occurred between the rear extension and the original house.

I have agreed to undertake what I call a 'General Movement Report', which as explained at the time of your enquiry, is a visual inspection of the main loadbearing walls only. This is to assess the extent of any subsidence/settlement cracking and to indicate whether any of the defects present in this regard are serious or not.

I would stress this is not a wider structural appraisal of any other parts of the skeleton structure such as the roof or the loft or extensions, nor is it a wider building survey of the sort normally carried out by a Chartered Surveyor.

My opinions are of course based on a single visual inspection without the benefit of any intrusive exploratory work, testing of soils or any enquiries with Local Authorities etc.

I trust I have interpreted your brief correctly, but please contact me immediately if you wish to extend my appointment to look at any other matters.

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Brief Description of Property

The property is a three bedroomed detached bungalow, believed to have been constructed in 1935 and of traditional construction. The original main body of the house is essentially rectangular in plan with a single storey wrap around extension to the rear and right hand side. The extension was constructed in 2012 this work also included the conversion of the roof area to provide the third bedroom with an en-suite bathroom. The main building has rendered masonry external walls, the internal walls are a mixture of timber studwork and solid masonry. The floors are suspended timber, with the exception of the extension which is concrete. The main roof is pitched hipped and tiled.

The property is located on a relatively flat site. The geological survey sheet for this area would suggest an underlying subsoil of either Alluvium or Lambeth Group, Clay Silt and Sand. From the positioning of waste pipes, gully's and inspection chambers it would appear that the foul drainage runs along the right hand side of the property and discharges toward the rear.

There are various trees surrounding the property and whilst I have attempted to identify the more dominant, an Arboriculturist should be consulted for exact identification. All heights and distances are approximate. To the rear left hand side is an Oak tree that is approximately 15m high and 14m from the rear left hand corner of the extension. To the rear boundary are two small deciduous trees and a Pyracantha. To the right of the Pyracantha are two stumps these were two Sycamore trees that were removed in December 2013 along with two Ash trees to the left hand side of the property, the latter are approximately 2.5m from the flank wall.

At the time of my inspection the property was occupied and furnished and some of the internal walls were difficult to see due wardrobes, fitted units etc. The decorative condition of the house would be described as good.

It is understood that when you first noticed the cracking a subsidence claim was submitted to your Building Insurers who in turn appointed Loss Adjusters, GAB Robins

to investigate the damage and advise. As part of their investigations they commissioned site investigations to the rear left hand side of the property. The site investigation company Fastrack were instructed and you have provided me with their report, issued in October 2013. Subsequent to this GAB Robins wrote to you on the 27th January 2014 advising that Insurers had instructed them to close their file. I understand from our conversation that this was on the basis of non-disclosure of the two trees to the left hand side that have now been removed. You now have buildings insurance cover with a different Insurer but this does not include subsidence cover.

Site Observations

The following is not a blow by blow schedule of defects, but briefly describes the more relevant structural defects.

All references to left and right etc. are made as if viewing the property from the front unless noted otherwise.

It is normal for period buildings to have settled in their early years of construction and therefore quite normal for there to be some long term distortion to walls, door and window frames and slight sloping of floors.

Please note it is not possible to comment on what might happen to the structure in the future nor what repairs can be undertaken to guarantee against future problems, since this would invariably mean strengthening the entire housing stock both above and below ground (foundations) which is clearly unrealistic. Some Building Society reports call for such guarantees!

To the left hand side flank wall there is a vertical crack that has been filled with mastic to the junction of the main house and the extension. The crack does not extend to ground level. The crack is reflected internally in hairline form.

There is a vertical hairline crack below the bathroom window to the right hand side flank wall. Above the side utility room door there is cracking to the front of the opening, the cracking has a maximum width of 0.5mm and emanates from the corner diagonally before progressing vertically to the roofline.

There are three vertical hairline cracks to the render below the rear kitchen window, the cracks do not extend to ground level.

Generally the line and level of the floors and window cills is good. The doorframes are also level with no sign of recent movement.

Discussion and Recommendations

Subsidence occurs to a property when roots from vegetation extend beneath the foundations and affect a cohesive subsoil through dehydration, differential movement results which is dependant on: the plasticity of the clay (its Shrinkability), the water demand of the tree(s) and the extent of the root zones beneath the foundations.

The cracking I have described above is generally vertical in form and restricted to the render finish and is therefore likely to be as a result of shrinkage of the render rather than foundation movement through subsidence. Similarly, the crack to the junction of the old and new sections of the building is of constant width over its height and does not extend to ground level. The cracking falls into the category of slight as defined in BRE digest 251. Subsidence cracks to junctions such as this are generally wider at the top and reduce toward ground level due to the rotational mode of failure. It is therefore probable that the crack is due to differential expansion and contraction at the junction of the two types of construction where the structure has effectively formed its own joint.

The site investigations conducted by Fastrack include one trial pit and two boreholes, one adjacent to the rear corner of the original house and the other adjacent to the corner of the extension. The trial pit only shows the existing house foundations and not the extension. The foundations shown have an overall depth of 560mm and consist of a two brick corbel underlain by concrete. The subsoil is described as a very stiff orange brown silty clay. The boreholes terminate at 1.2 and 1.3m respectively due to an obstruction and unfortunately no laboratory testing was carried out on the samples obtained. The roots encountered relate to both Ash and Oak. The former will be from the two trees that you have had removed and the latter from the Oak to the rear corner of your garden.

GAB Robins established a monitoring location at the crack to the extension/house junction and I have added two more, one above the utility door and one below the kitchen window. Readings were taken at the time of my visit.

Whilst it is probable that the damage to the render is shrinkage related and the crack at the junction due to expansion and contraction, given the location of the mature Oak, there remains the possibility that the damage is subsidence related. I therefore suggest that you consult an Arboriculturist to advise if the Oak tree can be reduced thereby reducing its water demand. I in turn will continue with the monitoring exercise so that any benefit from this work can be catalogued. The monitoring will need to be conducted over a twelve month period with visits at two monthly intervals. In this way the four seasons will be encapsulated within the monitoring period. I will publish the results following each visit. As we agreed, my fees for this will be £100 per visit.

Once the cause of the movement has been confirmed from the monitoring exercise we can discuss the appropriate repairs.

I trust the above is clear but if you do have any queries please do not hesitate to contact me.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Mark Riley', with a stylized flourish at the end.

Mark Riley BEng(hons) CEng MStructE

Encs. A Selection of Photographs

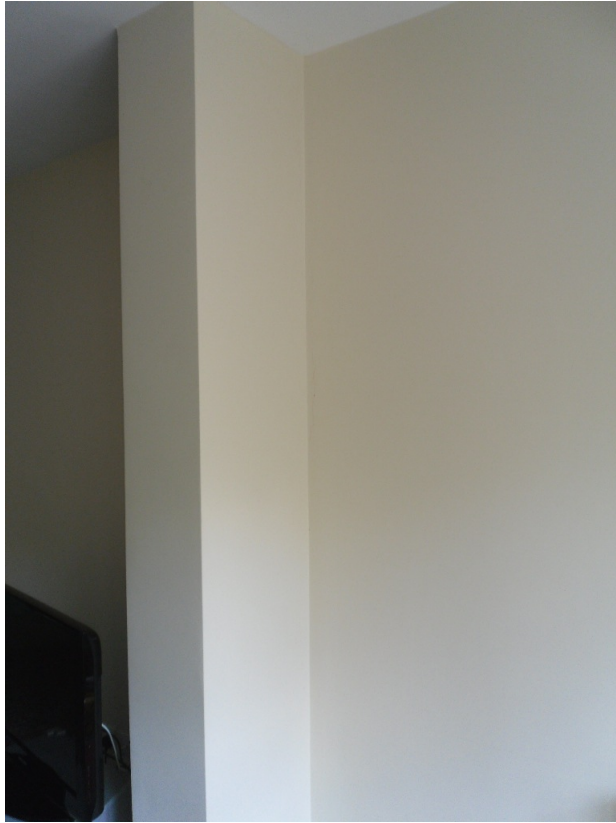
General Movement Inspection Report Guidance Notes



Front elevation



Cracking to extension/original house junction



Hairline internal cracking reflecting external crack



Hairline crack below bathroom window



Cracking above utility room door



Cracking below kitchen window

April 2012

'General Movement Reports' at 'point of sale'; For residential property (houses, apartments, flats)

Background

A general movement report is the same as a 'subsidence appraisal' that your building insurers might undertake. It does not deal with all aspects of the skeleton structure, such as floor and roof timbers, building regulations alterations and compliance.

When appointing a Structural Engineer, you are appointing a specialist whose concern is the skeleton structure and stability of a property. We are not concerned with more minor defects normally associated with buildings and are not concerned with any non-structural issues, which are the domain of the Chartered Surveyor. We recommend you appoint a Surveyor to undertake a full 'building Survey' if you have not done so already.

A useful analogy is your GP doctor (your Surveyor) and your specialist e.g. back or heart specialist (Structural Engineer). Our inspection is analogous to you having an initial consultation/ by your specialist, but without any testing or internal examinations.

The skeleton structure is frequently concealed by plaster/ render/decorations/ coverings and we have to interpret the condition of cracks and distortions of the building together with the age of decorations to undertake our work. We also use our knowledge of the area (often first hand, but also from geological maps), proximity of trees and drains and general topography.

Our 'General movement reports' are normally required following a point of sale Surveyors report that identifies several 'movement' related concerns, usually possible subsidence concerns. The same sort of report is carried out for owner occupiers on occasions.

We offer a more brief report when only one or two very specific defects require our opinion and this is called a 'defect inspection report'. See separate guide note if applicable.

Fees

Visits and reports are lump sum fees agreed and normally paid in advance. We assume a single visit to report. If sufficient access is not made available and we visit the property/ agent (people out, rooms locked, keys not available etc) and a visit is abortive, we will need to charge an additional fee to revisit (normally £300 to cover abortive travel time).

Once payment has been made and a diary date secured, fees are not refundable in full, as we are unlikely to be able to fill the diary appointment with other clients at short notice. A 50% refund will be made if more than 24 hours notice is provided.

Any additional advice following issue of our report, apart from brief telephone assistance clarification, will be charged on a time spent basis, normally £150 per hour for small increments of time, unless otherwise agreed.

What we do

We make a visual inspection of the external and main internal load bearing walls. We look at the general line and level of windows, doors and floors and look for general signs of cracking and distortion. We look for a variety of tell tale signs such as any significant cracking in decorative finishes. Our appraisal allows us to form an overall opinion regarding the movement/ cracking.

Our visual inspection is carried out by an experienced Chartered Structural Engineer. Our time at the property varies considerably depending on the size of property, condition, number of defects and their complexity. Typical timescales would be 1-3 hours. Total time including travel, reporting and liaising is typically 4-7 hours and lump sum fees, agreed in advance are based on this, together with the level of expertise required.

We prepare site notes and appropriate sketches and/or photographs and then prepare a report. This is commonly available a few days after our inspection in normal circumstances.

Definitions and Limitations

This guidance note together with our verbal discussions form the basis of our agreement/ brief, NOT phraseology used in Surveyors or lenders reports which we may or may not have seen. Most reports are urgent and are carried out very promptly to avoid delays to sale chains so written instructions/ confirmation are rarely practical. Surveyor's and lenders recommendations for Engineers reports sometimes include inappropriate requests; most commonly that our advice should ensure the future stability of properties, which is clearly not possible without wholesale underpinning etc. Often we do not get to see the Surveyor's report.

Our involvement is normally the result of a Surveyors report who has a number of concerns relating to cracking and possible subsidence issues. We comment specifically on these items (if they are made known to us) and provide a more general overview on the subsidence issues affecting the rest of the demise.

When inspecting flats or apartments, maisonettes in multi demised buildings, our specific comments only relate to the particular leasehold demise in question, unless specifically agreed beforehand. I.e. Not the entire building.

The inspection involves the main load bearing walls only, and is concerned with any signs of Subsidence/ settlement/ cracking. We do not look in roof voids during this type of report but are pleased to add the timber roof structure to our brief by separate agreement (additional cost typically £150). The walls within roof voids are commonly badly built and can contain poor jointing and some very old cracks (e.g. from initial building settlement shortly after construction) but are virtually impossible to date and provide no contemporary information unless there is corresponding cracking in the decorated/ habitable areas.

No exploratory work is carried out during an initial inspection. This is rarely practical; particularly during 'point of sale' inspections and clients do not wish to pay for something that might not be required. We do not disturb fittings or move furniture, floor or wall coverings or lift manhole covers or test drains. Foundations obviously remain hidden. We are not concerned with superficial cracks or non load bearing elements and do not provide a schedule of all defects noted.

This sort of appraisal does not include other elements of structure such as the roof or floor timbers or structural alterations or building regulations compliance. It does not include any none structural matters; these are normally looked at by a Chartered Surveyor (roof coverings, services, damp, infestation, decoration etc).

Our advice only concerns the habitable areas unless specifically agreed beforehand, i.e. it excludes external areas such as garden walls, retaining walls, paths, detached garages and out buildings.

Our report is based on a single visual inspection only. We do not include any form of local Authority search, to check for any history of underpinning or structural works unless specifically requested and agreed. Our inspection by one person is limited by health and safety at work provisions and excludes standing on flat roofs, accessing confined spaces or standing on fragile building elements or high unattended ladders.

Our opinion is based on a 'snap shot' in time and you will appreciate that the property may experience movement at a latter date due to weather/climate/trees/drains etc.

You should appreciate that a property may not comply with the Building regulations (including structural), and 'compliance' is not part of our 'general movement report' brief. There may have been structural alteration (e.g. walls or chimney breasts removed) and identification of these is not part of our remit during this type of report.

Our appointment is in accordance with the Association for Consultancy and engineering Agreement 5 2009 for homeowners for use where the consulting Engineer is engaged to provide a report and advisory services. We can provide a copy of this standard document if you wish.

The advice that we provide is our own professional opinion and is not simply to meet the requirements of third parties such as Surveyors, Builders, Local Authorities, e.g. Building Control Officers who might have less stringent requirements.

Access Limitations

In the case of a house, we are normally allowed full access inside and out i.e. into each room. In the case of apartments/flats, access is often limited, both inside and out. When inspecting for a point of sale report on leasehold flat, we have assumed access will not be possible to adjacent flats. General comments can be made externally and from common parts if easily accessible.

Report

Our report strives to explain matters in day-to-day language, but some technical jargon is sometimes unavoidable.

We aim to be as specific as possible, but occasionally, the cause of an apparent defect is simply not clear. Further intrusive investigations are sometimes necessary. Sometimes the cost of further investigation might be more than the cost of simple repairs, which MAY rectify the matter. If defects reappear then clearly further investigations may be required.

We indicate the relative severity of any problems and the sort of measures that might be involved in repair or further investigation, as appropriate.

Our reports do not include specifications, drawings, or calculations, as the requirement for these are unknown at the time of appointment/agreement of fees; we are pleased to prepare such further advice by later agreement, if our initial report makes recommendation for remedial work or more detailed investigation.

Our report is not a 'blow by blow' schedule of defects, nor does it describe every single crack or structural defect. The report provides an overview but with specific recommendations where possible.

Indicative costs for likely repairs are not normally given unless specifically agreed in advance as they depend on subsequent investigations, design and specifications. Market forces among builders for small repairs also vary enormously. We do not undertake building work ourselves.

Point of sale reports strive to provide pragmatic advice (normally to the purchaser), since urgent decisions to buy are normally pressing.

Further Advice

We are pleased to assist further if exploratory works, calculations, specifications or drawings are required.

If you plan to extend, alter or refurbish the house, we can assist with structural advice and are always happy to recommend appropriate builder, Architects, interior designers and Surveyors etc.