KRP

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Structural & Civil

REF:- 15144.E01

ENGINEERS SITE INSPECTION REPORT

SITE:- South Lodge
Stanbury Park
Wellington Court
Spencers Wood
Reading
Berkshire, RG7 1BN

JOB No.:- 15144

CLIENT:- [redacted]
Date of Inspection:- Thursday 16 July 2015

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The Institution of Structural Engineers

INTRODUCTION:-

We were asked by [redacted] to carry out a visual structural inspection of this five bedroom detached property.

BRIEF:-

Our brief was to undertake a visual structural inspection, with regard to the previous insurance claims for subsidence related damage, and to report on any current structural defects found, with recommendations for further action as appropriate. A full structural survey was not undertaken.

SCOPE OF INSPECTION:-

This visual inspection of accessible areas externally and internally was undertaken without the benefit of exploratory works, or research into the history of the property or location, except as noted. Therefore no comment is made on the condition of any unseen element or part thereof except by inference from the condition of the exposed surface finishes. A design check on the structural elements has not been carried out, nor a check with regard to compliance with current Building Regulations, unless noted.

A review of documentation regarding the insurance subsidence claim was also undertaken.

BRIEF DESCRIPTION:-

- Original bungalow built approximately c1860. Part single storey, part two storey, detached dwelling with attached double garage / workshop. We understand that the house has been unoccupied for approximately 8 months, and that no redecoration or remedial works have been carried out in this time.
- Original house has been added to and extended several times, in 1960's and 1990's, and the ground floor is split level.
- Loadbearing masonry construction, with solid and suspended timber floors, with solid and stud partitions.
- Pitched roof to main house, flat roof to garage / workshop.
- The geological map identifies the ground conditions as River Terrace Deposits, i.e., Sands and Gravels over London Clay Formation, i.e., Clay, silts and Sands.
- Reasonably level site.

- Below ground drainage apparent to all sides of the dwelling.
- Numerous trees around the property, including a giant Redwood, located about 9.00m from the North-West bedroom corner.

HISTORY:-

- The property has a history of subsidence dating back over many years.
- Extensive documentation was provided by Mr. P. Mootyen regarding the subsidence insurance claims. Brief summary as below:-

(i) Claim 2005/2006 Loss Adjuster Cunningham Lindsey.

- Internal damage first noted Summer 2003, and despite repairs cracks re-opened, together with external damage, to 1960's extension and junction near 1996 extension.
- Damage attributed to foundation movement as a result of clay shrinkage exacerbated by the nearby trees, specifically a giant Redwood which has a TPO. Removal of this tree was not permitted by the Wokingham Borough Council. A root barrier was installed between the house and this tree, but failed to be effective, we understand.
- External walls to the right hand side (assumed around the North West bedroom corner), underpinned via a piled reinforced concrete needle beam system, together with superstructure repairs, all in 2008.
- Wokingham Borough Council Building Control Department advised us of an application for partial underpinning, ref:- BN/2007/3157 – Applicant M&D Foundations & Building Services, and that their last inspection was in August 2008.
- Certificate of Structural Adequacy by Cunningham Lindsey provided, dated 15 December 2008.

(ii) Claim 2009 - Loss Adjustor – Cunningham Lindsey

- Further minor internal cracking to Music Room / Lounge wall.
- Movement attributed to same cause as previous claims.
- Superstructure repairs carried out and a Certificate of Structural adequacy provided by Cunningham Lindsey dated 9 March 2010.

OBSERVATIONS AND APPRAISAL:-

- The attached drawing indicates the site layout, together with locations where cracking was noted to the internal and external walls.
- Slight signs of movement were noted internally in several locations, and in particular to the Music / Dining Room partition walls adjacent to the Kitchen annex and adjacent to the mezzanine, the Kitchen annex wall adjacent to the Porch, and the partition between the mezzanine and Boiler Room.

- These cracks were generally not noted externally, except for a light vertical crack adjacent to the porch. This crack however had been painted over.

- Walls generally appear to be plumb and bed joints level. Floors also appear to be reasonably level and without gaps below skirting's except to the skirting in the North West corner bedroom, which showed a slight gap.

- Where internal walls have been removed, and at internal door locations, other than slight cracking around lintel bearings, we noted no evidence of significant structural distress.

- Cracking was also noted to the curved section of retaining wall nearest to the giant Redwood, and also to the brickwork boundary walls, particularly the 102mm thick piered wall nearest to the giant Redwood.

CONCLUSIONS & RECOMMENDATIONS:-

1) It is not entirely clear from the documentation provided, as there is no floor plan, exactly which walls were underpinned and repaired as part of the insurance claim. We presume that the partial underpinning was to the North West bedroom corner external walls, i.e. the corner nearest to the giant Redwood.

2) The cracking noted in various locations and as indicated in the attached drawing are all of a minor nature, and in the majority of instances could be attributed to one or a combination of shrinkage cracking and differential material movement. As the last repairs were carried out in 2010, we presume these 'new' cracks have all appeared since that time.

3) The fact that cracking is not evident to the external leaf of the cavity walls, is in itself a good sign, and it would appear that the underpinning works have arrested the movement which was apparent when the insurance claims were made. However, no guarantee can be given that no further movement will occur in the future. It may be that the internal cracking noted to the Dining / Music Room areas are the result of an inadequate repair method. This consideration would need further investigation.

4) We recommend the following:-
   a) In view of the history of this building we would recommend that insurers are advised of the cracking now evident, as the further investigations and remedial works recommended below may be covered by the existing insurance claim.

   b) A copy of the underpinning warranty should be obtained.

   c) It has already been established that the giant Redwood cannot be removed, however to reduce the risk of further movement as a result of moisture abstraction by other nearby trees, we suggest that trees nearest to the house are either removed or regularly maintained at a height not greater than their distance from the building. Arboricultural advice should be sought particularly with respect to potential heave following removal of these trees.

Details of the previously installed root barrier should be obtained if possible and consideration given to installing a further more effective root barrier. We recommend that Arboricultural advice first be sought with regard to the extent of the root protection area, and therefore the location, depth and form of construction of the root barrier.

d) The cracking to the internal walls particularly in the Music / Dining Room area should be investigated further by initially carrying out a monitoring exercise to check for progressive movement, followed by appropriate remedial works, preferably via stitching using masonry reinforcement. The monitoring should also include the floor slab and gap evident below the Bedroom skirting.

e) It is likely that the 102mm thick brick boundary wall will need partial reconstruction, possibly on new foundations. Cracks in other boundary and retaining wall locations could be re-stitched or movement joints incorporated.

f) We also recommend the below ground drainage around the building be checked via CCTV survey.

[redacted]

…… July 2015

Kenneth R. Paul
KRP CONSULTING ENGINEERS

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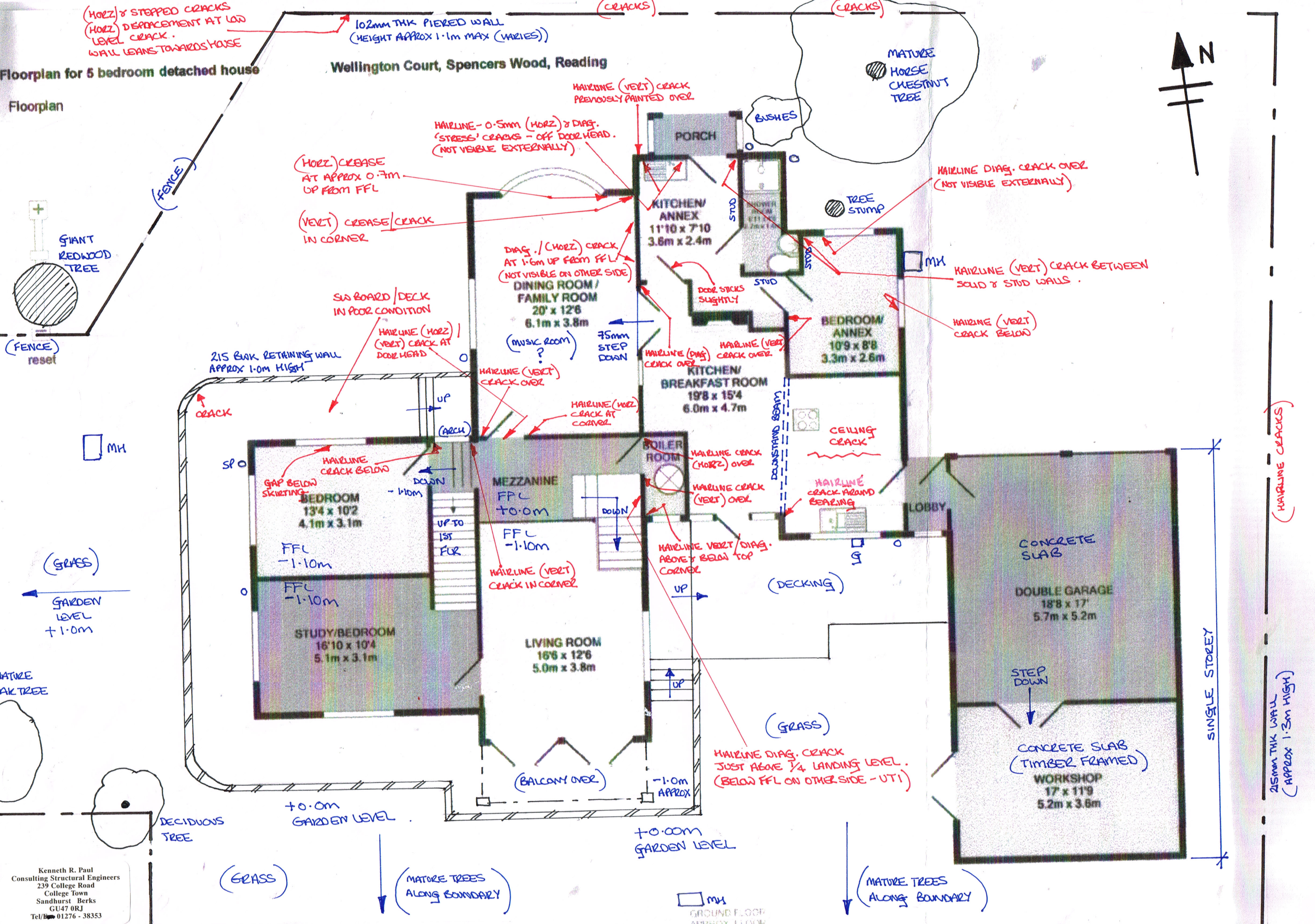

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