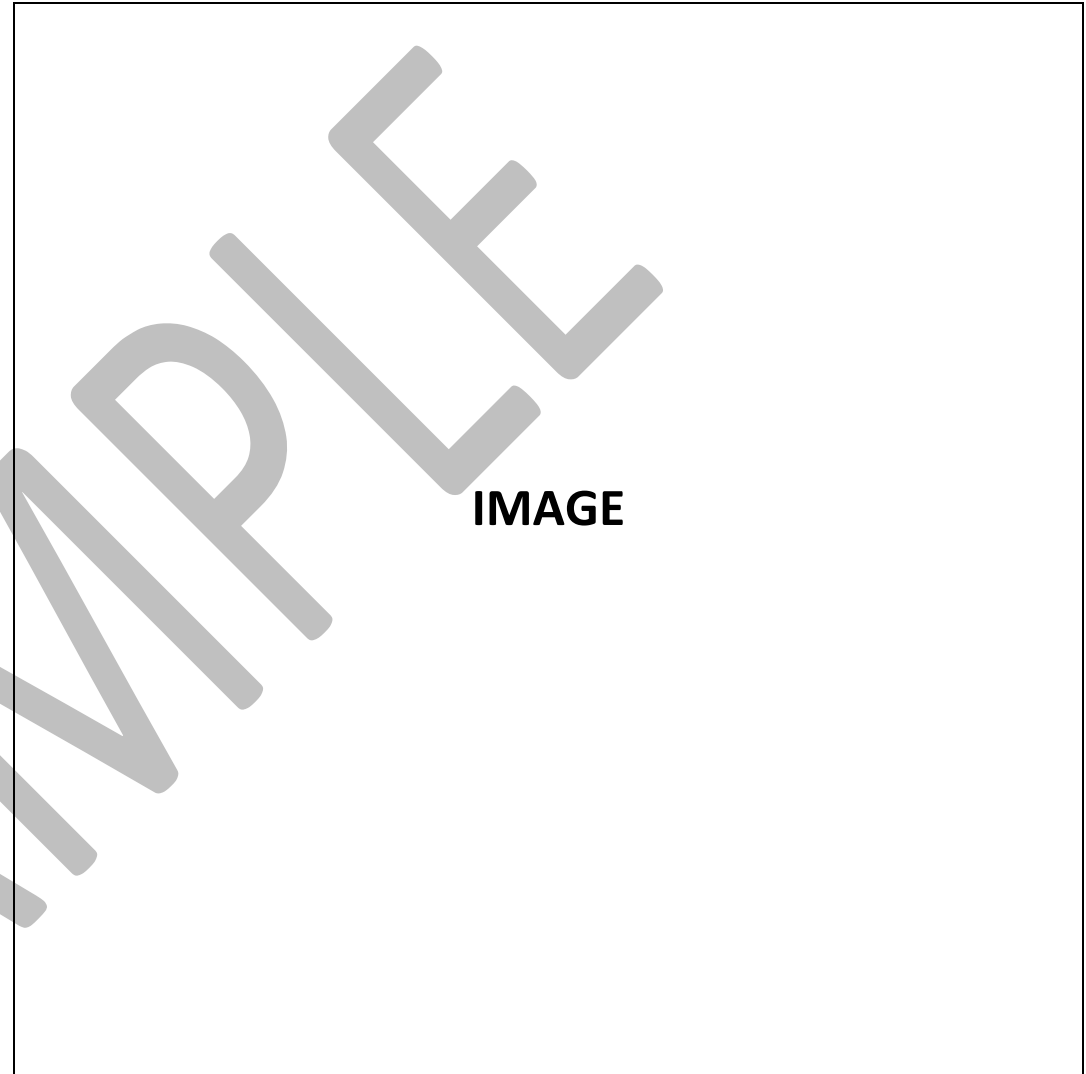


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|-------------------------|---|
| Property Address | 46a Rosewood Drive Leafy Area Suburbia |
| Customer | Mrs J Brown |
| Our Ref. | PXXXXX |
| Inspection Date | 1 May 2019 |
| Report Date | 9 May 2019 |
| Prepared by | Giles Ward MA CEng MICE Partner giles.ward@sereports.co.uk |



Welcome

Firstly, thank you for instructing Structural Engineers Reports to prepare your Report. Our highly experienced chartered engineers have many years' experience of carrying out structural inspections on residential properties and, crucially, in writing reports that are clear and easy to understand.

We understand that having read your report you may have further questions, in which case please call us on 0115 832 0231 or email us at mail@sereports.co.uk and we will do our best to answer them. We have included space for you to write notes whilst reading the report to assist you with this process. We have also included a glossary of technical terms to help improve your understanding.

Our primary objective in writing your report is to address whatever issues may be of concern and to conclude by providing clear advice and recommendations. These are summarised on the next page. Your report has been prepared in accordance with our standard Terms of Business, key extracts of which are contained at the end of this report.

We want you to be entirely satisfied with the service that you have received from us so you will receive an email from our feedback partner with an invitation to a very short survey. Whatever you have to say, positive or negative, will help us to deliver the best possible service and show other customers how we perform.



Giles Ward
MA CEng MICE
Partner



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SAMPLE

Summary

- Purpose of report:** To address concerns raised by valuation surveyor with specific reference to the possibility of movement at the rear due to drainage problems.
- Areas of concern:** Apparently recent cracking at ground floor and first floor level in rear right section of property.
- High level cracking of longer standing over timber beams in left and rear elevations.
- Signs of movement/cracking over archway from conservatory to hall.
- Recommended actions:**
- Repair foul drainage in accordance with recommendations in Turbo Drain report dated 11 June 2012.
 - Investigate and repair as necessary the underground surface water drainage system with particular attention to the rear right section of the property and the soft water cistern.
 - Thorough repair of all existing cracking to restore the overall structural integrity of the property.
 - Remove redundant first floor rear chimney breast (not urgent, but a sensible precaution for future consideration).

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Conclusion:

Provided that our comments and recommendations above and within the body of this report are followed, we see no reason why the property should not be for all practical purposes stable for the foreseeable future. It should therefore provide suitable security for mortgage purposes.

Costs for the recommended crack repairs are likely to be in the region of £2000, including the reinstatement of plaster and rendering, although further more significant costs are likely to be incurred in relation to redecoration which would depend on the nature and extent of that work. Further investigation of the surface water drainage system is required to clarify the extent and therefore the costs of the necessary work to it, which we would suggest should be combined with the works to the foul drainage and undertaken by an appropriately experience contractor.

1. General/Background

- 1.1 In describing the property all references to front, rear, left and right assume that it is viewed from Rosewood Drive.
- 1.2 The property is a detached house, estimated to be in the region of 100 years old. The main accommodation is on two storeys with a further cellar/basement level below the rear part of the property.
- 1.3 A detached garage occupies the front left corner of the plot. It was only briefly inspected and is therefore excluded from the scope of our detailed comments below, although we confirm that nothing untoward was revealed during that inspection
- 1.4 The construction is conventional throughout and, as far as could be determined from a visual inspection, contains no unusual details or materials which might give rise to structural problems.

2. Topography/Geology

- 2.1 The site slopes down from front to rear. The gradient is insufficient to cause problems that might be associated with slope instability. There are no topographical features nearby which might lead to foundation problems.

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- 2.2 Data from the British Geological Survey indicates that the strata underlying the property are likely to be from the Gunthorpe Member of the Mercia Mudstone Group. This consists predominantly of mudstone, which weathers to a fine clay near to the surface, although the data suggests that the property may lie on a band of dolomitic siltstone that runs approximately along the line of Rosewood Drive. Weathered components of the siltstone are likely to be marginally coarser than those of the mudstone and hence less prone to desiccation-related shrinkage. However, in the absence of physical investigation and testing of the foundation strata it must be assumed that there is a theoretical possibility that the foundation strata might be susceptible to the effects of desiccation and therefore that the presence of vegetation around the property which could present a theoretical threat to its stability.

3. Inspection

- 3.1 Externally, slight cracking was noted in the left elevation above the bay window and also extending downwards from the rear left corner window to the arched door from the conservatory. In the rear elevation, raking cracking was apparent above the beam spanning the conservatory windows and also at low level below the main rear lounge window.
- 3.2 No other external cracking of significance could be located, although the majority of the walls are covered with a heavy pebble dashed render, which may be disguising some issues.

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- 3.3 Internally, cracking was noted in the wall between the lounge and the dining area off the kitchen, and also in the equivalent wall above between the master bedroom and wardrobe area. Although the cracking was comparatively minor in scale, it appeared to be relatively recent in origin, the affected areas having apparently been quite recently redecorated.
- 3.4 Above the window in the left wall of the lounge and again above in the rear right bedroom, raking cracking was apparent, again relatively slight in magnitude but possibly of recent origin.
- 3.5 Cracking was noted below the window in the centre left bedroom approximately equivalent to that noted externally above the bay window. It did not however appear to be especially recent. No sign of internal cracking was apparent in the rear left bedroom equivalent to that over the external arched door.
- 3.6 The conservatory has extensive cracking both to the rear wall at high level along the ceiling angle and to the front wall above and around the archway leading to the hall. The area has not been decorated for some time and it would appear that cracking is long standing. Directly above the wall between conservatory and hall is the rear wall of the landing, which includes a door into the rear box room/cupboard. The head of the doorframe slopes down from right to left, although this too appears to be long standing as there is no sign of disturbance to the paintwork to the architraves or cracking to surrounding areas of wall. A chimney breast is present in the corner of the cupboard, serving the fireplace in the rear left bedroom, although is assumed to

be redundant as there is no evidence of a stack above roof level.

4. Discussion/Recommendations

- 4.1 The cracking above the left hand bay and in the rear elevation over the conservatory glazing can be accounted for by the normal deflection expected in a timber beam over time. The appearance of the main beam over the conservatory suggests it to be timber and, given the age of the property, we would strongly suspect that timber was similarly used over the bay window. The cracking should therefore not be seen as anything other than a matter of cosmetic concern and does not indicate any fundamental problems.
- 4.2 The cracking over the arch between the conservatory and hallway is relatively substantial but most probably long standing. It is unclear how the chimney breast in the cupboard off the rear of the landing is supported and it may well be that a peculiarity in the way that the load is transferred through the ground floor walls has caused the damage that is apparent. Given the apparently redundant nature of the chimney breast, it might be prudent to remove it and therefore relieve some of the load on the wall below, although we could see nothing to suggest any active progression in the area and therefore stress that this would be predominantly precautionary rather than an urgent requirement.
- 4.3 The cracking in and around both the ground and first floor right rear rooms appears most likely to be due to

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defects in the underground drainage. We have been provided with a copy of a CCTV drain report by XXXXX dated 11 June 2012 which identifies significant defects in the foul drainage system running adjacent to the right flank wall and also indicates the presence of a soft water cistern (generally designed to receive the run off from the roof of the property) adjacent to the rear right corner. We would therefore confirm that the recommendations in the report for repair/relining of the foul drains be undertaken, and also that the surface water drainage system be investigated and any defects rectified. This may involve the re-routing of the underground surface water pipes away from the building and into newly constructed soakaways within the garden area, although if it is desired to retain the soft water tank this should be possible provided that the incoming pipes and the tank itself can be confirmed to be water tight.

- 4.4 Although as described in the geology section above, there is a theoretical possibility that the property could be susceptible to the effects of vegetation on shrinkable foundation strata, the pattern of the damage does not suggest this to be occurring at present. It would nonetheless be advisable to avoid planting significant items of vegetation in close proximity to the building and to ensure that the existing vegetation is not allowed to develop significantly beyond its current extent.
- 4.5 Following repairs to the drainage system, the property should return to satisfactory stability. It would then be advisable to thoroughly repair the existing cracking in all parts of the property in order to eliminate the points of weakness that would otherwise remain and provide a focus for normal ongoing movements, such as those

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due to changes in temperature. This will help to minimise the risk of a reoccurrence of the cracking following redecoration.

SAMPLE

IMAGE REMOVED IMAGE REMOVED

Photograph No. 1
Description

Photograph No. 2
Description

IMAGE REMOVED

IMAGE REMOVED

Photograph No. 3
Description

Photograph No. 4
Description

Glossary

We always try hard to write our reports so that they are easy to understand. However, sometimes we need to use certain technical words to describe a property (or what is happening to it) which are explained below.

| | |
|--------------------------|--|
| Airbrick | Honey-combed brick used to provide airflow, normally below floors. |
| Architrave | Decorative joinery internally around door frame. |
| Barge Board | Timber or UPVC cladding at edge of roof running from eaves to ridge level. |
| Battens | Timber members, tiles or slates are fixed to and are themselves fixed to the rafters . |
| Beam | A horizontal element designed to transfer loads to supporting walls or columns below. |
| Blockwork | Generally used for the inner leaf of cavity walls to more recent buildings, variety of widths, strengths and surface finishes. |
| Cavity wall | Wall with two leaves of masonry and gaps in-between. Gaps now generally insulation filled, to newer buildings. Cavity width varies generally with the age of the building. |
| Column | A vertical structural element designed to support the weight of the structure above. |
| Corbell | Masonry projection beyond the general face of the wall to support the construction above, often adopted as a feature at eaves level. |
| Coving | Plaster (occasionally polystyrene) moulding at the junction between wall and ceiling |
| Damp proof course | Barrier at bottom of walls to stop damp rising up the wall, variety of different types including blue brick, felt or PVC. |
| Eaves | At the junction of the roof with the external wall, may overhang and have a soffit board to the underside. |
| Efflorescence | White marks on the surface of a brick wall formed by crystallised salts following moisture evaporation. |
| Fascia | Boarding adopted at eaves level, often supports the gutter. |
| Flashing | Jointing material (typically lead) used at the junction of masonry and tiling such as around a chimney. |
| Flaunching | Mortar adopted around chimney pots to hold them in place and allow rain dispersal. |
| Foundations | Generally located below ground level to support the construction above. Can be constructed in concrete, brick or stone (see also raft foundations). |
| Gable end | Generally triangular upper section of wall masonry, abutted by roof. |
| Gulley | Opening into a subsurface drain, constructed in clay, concrete or uPVC. |
| Heave | Swelling of clay subsoil as it rehydrates (absorbs water), can cause upward and lateral movement to foundations and upwards movements to floors. |
| Hips | External junction between two roof slopes. |
| Joist | Structural timber member forming part of a flat roof or floor. |
| Landslip | Downhill movement of unstable earth, normally seen to steeply sloping ground, can be exacerbated/caused by heavy rain, excavation or a bank angle which is too steep. |
| Lath and plaster | Older type of ceiling /wall construction with timber strips fixed to underlying structure to carry the plaster. |
| Lintel | Beam spanning over a window or door, can be constructed in concrete, timber or steel. |

| | |
|---------------------------|---|
| Manhole | Inspection chamber allowing access generally to drains, constructed in uPVC, brickwork or concrete. |
| Mortar | Cementitious mixture used to join bricks or blocks. Older mortar often contains a high proportion of lime. |
| Mullion | Vertical member to a window. |
| Parapet | Low wall adopted as a feature at the edge of a roof. |
| Plasterboard | Gypsum based boarding fixed to underlying walls or ceiling construction and finished with plaster skim. |
| Purlin | Timber (or steel) member supporting the roof rafters . |
| Raft foundations | Horizontal concrete slab below a building used to support the walls and other elements above. Often also providing the ground floor |
| Raking cracks | Cracking through brick/blockwork running at approximately 45 degrees, typical of foundation movement |
| Roofing felt | Membrane used below the roof tiles and battens to prevent water ingress to the roof void. A secondary means of protection, the tiles themselves should be able to disperse the water. Often not present on older properties. |
| Rafters | Sloping timber members to the roof supporting the battens and the tiles above. |
| Roof trusses | Constructed in steel or timber, generally at regular centres to support the battens and the tiles above. Timber trusses are generally braced to improve their overall stability. |
| Soakaway | Used to discharge collected rainwater (from the gutters and downpipes) into the ground at some distance away from the property. The soakaway can be either a proprietary system or a hole filled with bricks/rubble. |
| Soffit | The underside of a component, such as a beam , arch, staircase, or cornice, or the underside of the eaves . |
| Soil and vent pipe | Drainage pipe above ground level, discharges foul water from a toilet or similar and also provides ventilation to the drainage system. |
| Solid wall | External or internal wall without a cavity. Generally 9" wide to external walls of older housing. |
| Subsidence | Downwards movement of the site beneath the foundations. Generally causes cracking to the property, slopes to floors and distortion to openings. |
| Valley | Gutter at the junction of sloping sections of the roof. |

Our Services

1. Our structural engineers report will be based on visual observations of the property taken externally and internally. We must be provided with access to all necessary areas. We do not normally move furniture, lift floor coverings or make exploratory holes during an inspection. If our engineer considers that access to any area would be unsafe, or potentially unsafe, we will be unable to access the area until safety measures are arranged, which may incur an additional cost.
2. Our work will be carried out by a chartered structural or civil engineer. These are the required qualifications in situations where our report is requested in connection with a lending/ mortgage application.
3. Unless you instruct us to the contrary our report will cover the main load-bearing elements of the property. The inspection will however be limited to the main building and exclude any detached garages, outbuildings, walls, and fences etc. unless you specifically instruct us otherwise.
4. Our report will include details of the inspection, our conclusions on the findings and our recommendations for any further investigations, monitoring, repair or remedial works, or other action required.
5. In the event that our report recommends that further investigations are carried out these may include but are not limited to archive research, interviewing persons or organisations, making exploratory holes or excavations, opening up or taking apart, taking samples, undertaking tests and any other activities necessary to determine the extent and cause of the problem(s).
6. In the course of carrying out our work for you it may be necessary for independent contractors to be appointed to perform specialist services such as drains testing, soil testing or excavating trial holes. If so, we will advise you of the costs of the additional services and obtain your approval before proceeding. On completion of their work, we will settle the contractor's account directly and include their costs (along with a 10% administration charge) in our invoice to you.
7. Certain investigation work may cause damage - particularly to finishes and decorations. If you are not the owner of the property and you request us to carry out any investigation work this will indicate to us that you have all necessary permissions from the owner of the property for us to carry out the work. Reinstatement of damaged areas will be included only if specifically agreed.
8. Where estimated costs, budgets or allowances for building/remedial works are provided by us, these are only to indicate the likely order of costs. They should not be considered as an accurate assessment of costs and must not be relied upon as such. Due to the varying complexity of such works you are advised to obtain written estimates, quotations or tenders from suitable contractors with relevant experience before making any financial commitment.
9. We will not inspect the woodwork or other areas of the property which are covered, unexposed or inaccessible and our report will not therefore indicate that any such part of the structure is free from defect.
10. Our report will not include those aspects normally dealt with in a Building Surveyor's report, including but not limited to:
 - utilities / services, valuation, decorations, roof coverings and the like, the position of the property with respect to local amenities, the condition of the property with regard to dry rot, timber infestation, dampness and the like.
11. Furthermore, unless noted in the report to the contrary we will not consider matters such as contaminated land, asbestos or other potentially hazardous or deleterious materials which may have been used in the construction of the property.