

Harborne Building Consultancy

Structural Surveys and Designs



SPECIFIC STRUCTURAL REPORT

By

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Prepared for

Clients

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ENGINEERS REPORT

INTRODUCTION

I have been asked by my clients to comment on any structural movement that may have taken place at the property and its rear wing. This follows underpinning completed to the all the main house elevations of the rear wing in 1997. A report was required by my clients to help them to obtain future buildings insurance. All directions within the report are given if as facing from the front of the property, porch and garage.

DESCRIPTION OF PROPERTY

The property is a detached house built c1950. The house is in two storeys with a pitched, hipped roof. To the rear of the property there is a single storey utility room. A conservatory was added c2002.



FIGURE 1

Photograph of the front elevation of the house, porch.

SITE TOPOGRAPHY

The site, upon which the property was built, is reasonably level.

OBSERVATIONS / DESCRIPTION OF THE DAMAGE

The following is an abbreviated description of the damage. The photographs included in this section of the report illustrate the damage

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FIGURE 2

Photograph of the rear elevation of the house, conservatory and utility room.

INTERNALLY

- There was no noticeable damage internally to the house.

EXTERNALLY

Front

- The front elevation of the main house is fairly vertical.
- The cracks repointed in 1997 have not re-opened.
- There are diagonal cracks above the front door lintel measuring 2-3mm wide. The cracks are approximately 8 courses long.

Right Hand Gable

- No damage was noted to this elevation of the property.

Left Hand Gable

- There is a diagonal crack 1mm wide below the landing window. The crack is approximately 12 courses long.
- The wall is fairly vertical.

Rear Elevation

- The wall is fairly vertical.
- All the repaired cracks have not re-opened.
- There is a diagonal crack 1mm wide to the right hand elevation of the utility room. The crack is approximately 6 course long above the window lintel.

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FIGURE 3

Photograph of crack repairs completed at the rear elevation of the house.

CATEGORY

It is common practice to categorise the structural significance of the damage in accordance with the classification given in Table 1 of Digest 251 produced by the Building Research Establishment¹. In this instance, the damage falls into Category 2.

Category 0	"aesthetic damage"	< 0.1mm
Category 1	"aesthetic damage"	0.1 - 1mm
Category 2	"aesthetic damage"	>1 but < 5mm
Category 3	"serviceability damage"	>5 but < 15mm
Category 4	"serviceability damage"	>15 but < 25mm
Category 5	"stability damage"	>25 mm

Extract from Table 1, B.R.E. Digest 251

Classification of damage based on crack widths.

Note: Actual categorisation can vary due to 'local' effects

DRAINS

The drainage system of the house is not deemed to be influencing any structural movement at the property. The need for underpinning was caused by drainage defects to the rear and left hand elevations of the house. These drains were replaced in plastic in 1996.

¹ Building Research Establishment, Garston, Watford. Tel: 01923.674040



FIGURE 4

Crack repairs to the front of the property.

DISCUSSION

My client's purchased the property in 1998. A survey of the property at that time did mention the complete underpinning to the property carried out the previous year. The previous owner's insurers appointed structural engineers, Curtins who designed structural repairs at the property. Drainage repairs were completed in summer 1996 and following a short period of monitoring the house was totally underpinned in 1997.

The cracks externally were repaired with masonry stitch bars and the areas re-pointed. The internal damage was plastered and those rooms re-decorated. Since that time neither the external or internal cracking has reoccurred. There are two lintel failures evident at the property but that damage is not structurally significant. Those cracks can be re-pointed.

My survey of this property established that the underpinning work has been successful. There are no signs of ongoing foundation movement to any of the load-bearing walls of the house.

INSURANCE

The property throughout is in a good structural condition and building insurance should be obtained without financial penalty following the 1997 underpinning and associated drainage works.

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