Title and description:	Report on structural damage caused by trees to 30 VALLEY ROAD, CHANDLERS FORD SO53 1GP
Client:	Dr Ezad
Issue No. 1	Issue date: 04/06/2024

Prepared by:

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For and on behalf of Romsey Structural Engineering Ltd

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Report on Structural Damage Caused by Trees at 30 Valley Road, Chandlers Ford SO53 1GP

1.0 Introduction

1.1 Our brief, communicated via an email on 21/05/2024, was to assess and report on structural damage caused by trees at 30 Valley Road, Chandlers Ford SO53 1GP. Concerns have been raised regarding the potential impact of nearby trees on the adjacent single storey garage structure and failed retaining walls with bank collapse behind and to the side of the garage structure.

1.2 I conducted the inspection of the property on 21/05/2024.

2.0 Limitations

2.1 This report is based solely on findings from a visual inspection. No invasive procedures, such as opening up or exposing the building fabric, were performed.

2.2 No inspections were made of the roof structure as you have told me you are going to replace the roof.

2.3 This report focuses exclusively on the risk to the masonry walls from the issues identified in section 1.1. A comprehensive structural inspection of the entire structure was not conducted.

3.0 Geology

3.1 According to the British Geological Survey, the site is underlain by Alluvium, consisting of clay, silt, sand, and gravel. These sedimentary superficial deposits formed between 11.8 thousand years ago and the present during the Quaternary period.

4.0 Proximity of Trees to Single-Storey Garage Structure

The problematic trees are detailed on Page Sk01 overleaf and in Figure 1 below. The ground slopes sharply up to the boundary, and the trees of concern include one Oak tree and two Scots Pines. Tree roots are visibly penetrating the bank and extending under the garage foundations.

Figure 1: Photographs of the side wall of the garage and the trees adjacent

5.0 Failed retaining wall structure to rear of garages

5.1 I am told that the existing retaining wall structure had failed and the bank had collapsed against the rear wall of the garages. This caused concerns for collapse of the garage wall as it is not structurally designed to act as a retaining wall. There were further issues with water impregnation with the bank leaning against the garage walls.

5.2 Works had been started to reinstate the retaining wall however have been stopped as the roots of these trees as identified above are now causing an obstruction. The retaining walls cannot be completed without destroying or damaging the tree roots extensively.

Figure 2: Photographs showing retaining wall to rear of garage and bank/roots collapsed against rear left corner.

6.0 Conclusions & Recommendations

6.1 The garage wall facing the trees shows significant degradation. This is likely due to several factors, including the age of the walls and the close proximity of mature trees.

6.2 A quick assessment indicates that the centreline of the freestanding wall at the top is outside the base wall width, presenting a high risk of failure.

6.3 The degradation of the garage wall is likely to continue due to the ongoing impact of the three trees. The garage is structurally unsound and poses a collapse risk.

6.4 It is recommended that the garage be rebuilt, as the extent of degradation renders repair uneconomical.

6.5 The three trees shaded on Sk01 (one Oak and two Scots Pines) pose a significant threat to the structural integrity of the garage. Given their roots are going directly under the foundation slab at where the walls are moving and given the steep slope of the ground they are growing on, these trees also present a potential hazard, particularly from overturning during storm-force winds.

6.6 Root damage has already compromised the garage and will continue to do so unless the trees are removed.

6.7 The retaining walls must be completed to the back and side of the garages to allow for the rebuilding of the garages and to protect the rebuilt garage from the risk of the bank collapsing and to prevent any water ingress into the rebuilt walls

6.8 The roots from the Oak and Scots Pines must be removed and the soil around them removed to allow for the completion of the above retaining walls, this will likely affect the stability of the trees and it is recommended the trees be removed.

I trust this report meets your current needs. Please feel free to contact me if you require further assistance.

Yours sincerely

[redacted]

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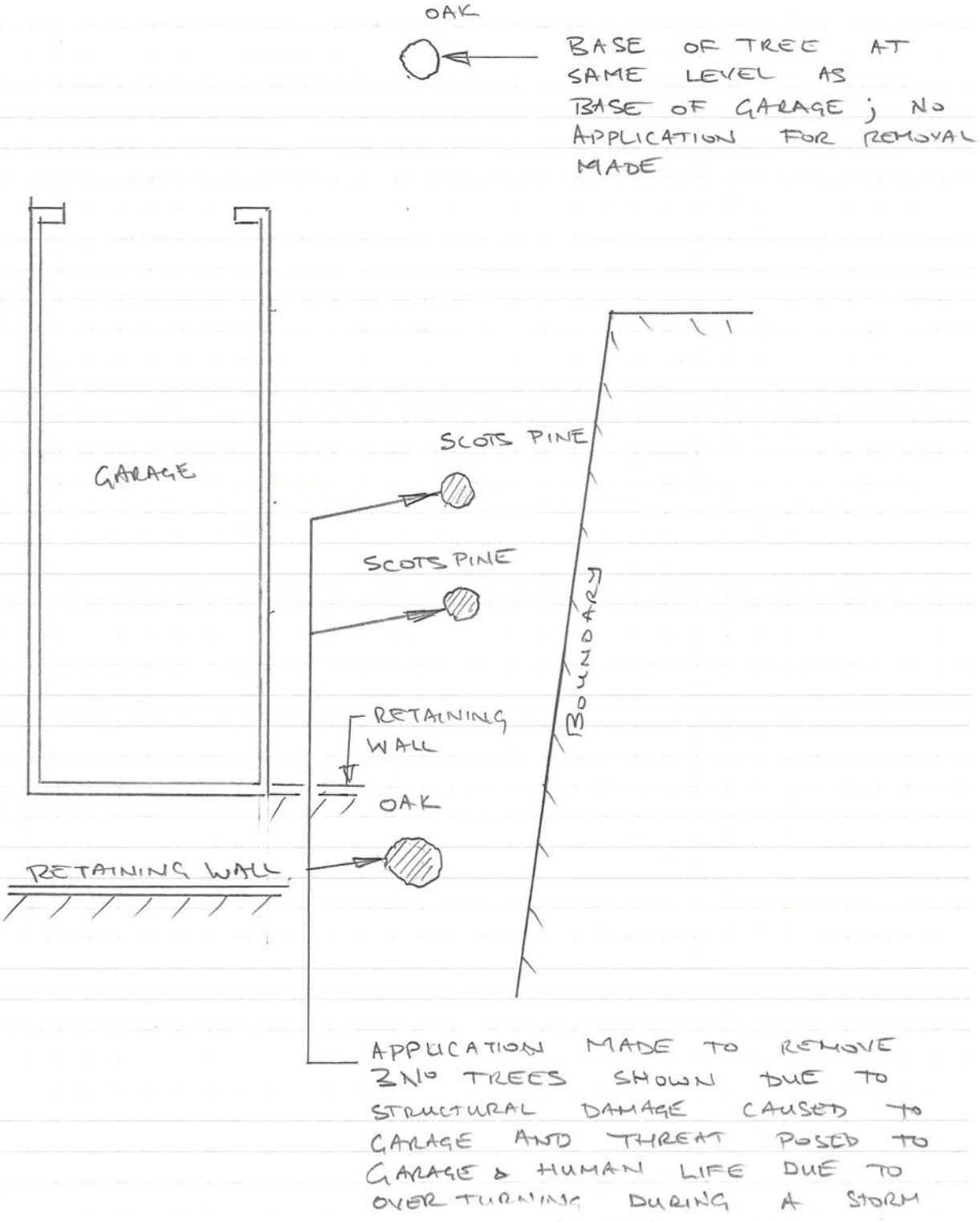
	VALLEY RD	7360	21.05.24	SK01



PLAN VIEW SHOWING PROXIMITY OF TREES TO GARAGE