AFP ANDREW FIREBRACE PARTNERSHIP
STRUCTURAL AND CIVIL ENGINEERING CONSULTANTS
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AK/26/0626

20 October 2026

[redacted]
9 Bell Lane
Fenstanton
Huntingdon
PE28 9JX

[redacted]

Dear Mrs Downing

9 Bell Lane, Fenstanton – Garden Wall

In accordance with your instructions, we visited the above property on 6 October 2026. The purpose of our visit was to visually inspect and report on cracking identified in the brickwork garden wall on the south boundary of your property close to a mature ash tree.

This Engineer's report only deals with the above mentioned aspects and our liability in respect of this report is limited to you as our Client. For the purposes of the Contracts (Rights of Third Parties) Act 1999 we confirm that no third party rights are conferred or are intended to be conferred.

Our inspection comprised a visual examination of the exposed surfaces carried out from ground level. We have not inspected any parts of the structure which are covered, unexposed or inaccessible and cannot therefore report that such parts are free from defect.

The wall was inspected on each side where accessible and clearance of vegetation had been undertaken. No intrusive investigations or testing works were carried out.

Our inspection of the northern wall face confirmed the wall is 225mm thick built in red facing bricks set in a sand:cement mortar and laid in Flemish bond. The wall is topped with a brick on edge soldier course and has an overall height of 2125mm measured from ground level.

The wall is stiffened by 440mm wide brick piers that project 110mm from the face of the wall. The piers are provided at regular spacings along the wall length in the order of 5.7m spacings.

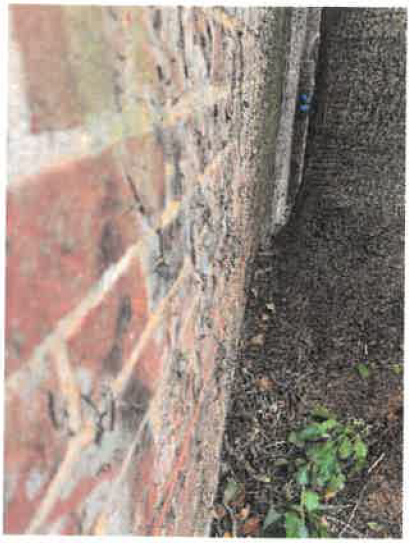
Ground levels appear to be relatively consistent along the length of the wall although there will undoubtedly be some variation. In addition to this it appears that ground levels on the south (neighbours) side of the wall appear to be at a similar level.

Our inspection has identified that movement and cracking has occurred in close proximity to the ash tree. Since the wall was built the ash tree has grown/matured to the extent that we believe it is now approaching full mature height.

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The base of the tree trunk is now in contact with wall and there is no obvious evidence of an arch or lintel having been built within the wall to span over the tree trunk and its roots, as indicated upon the sketch you have provided. It is possible that arch/lintel may be present beneath ground level although this cannot be confirmed without exposure.





It appears that the tree growth has caused the wall to bow and lean in a southerly direction. The bow was recorded by string line between piers and found to be in the order of 50mm. The extent of the lean was found to be in the order of 10-15mm over a 1200mm spirit level generally. The pier to the right of the tree leans up to 25mm over a 1200mm length.

Horizontal and stepped cracking is present within the wall and piers consistent with an upward force being imposed by the tree. The crack widths range between 1.0 and 3.0mm. The cracking has formed along mortar joint lines rather than through individual bricks indicating that it is the bond of the mortar jointing that has failed rather than the bricks themselves.



A wider vertical crack is present directly opposite the tree, the width of which could not be accurately determined but appeared to be in the order of 5-6mm.

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Based upon the visible evidence, the observed movement appears to be localised to the section of wall immediately affected by the ash tree. No evidence was noted during our inspection to suggest foundation-related subsidence, widespread settlement, or differential ground movement affecting the remainder of the wall.

This cracking pattern is consistent with localised distortion and displacement of the wall associated with the progressive radial growth of the adjoining tree and/or the influence of associated root growth.

The condition of the mortar pointing was found to be weathered in places. It is thought that the ivy growth over the wall (now partially removed) is the main culprit for this. Local deterioration of the mortar joints may also have reduced the wall's ability to accommodate minor movement without cracking.

Close inspection of the wall on the south face was not possible due to the tree root protection zone enforced in the adjoining property. Viewing was however possible from a distance. Visually it appears that the cracking is more developed on this face where tension forces imposed by the movement are greater. We estimate that the vertical crack width is in the order of 10mm or so and that the stepped cracking to the right up to 5.0 to 6.0mm in width.



From our assessment of the lean and cracking we do not believe that there is any immediate risk to the overall stability of the wall. The extent of the lean remains within the centroid of the wall and is therefore considered statically stable. The wall is not excessively tall and is stiffened

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by the intermediate piers. Wind loading is not thought to be a concern in a sheltered location such as at this site.

However, continued growth of the tree is likely to result in further distortion and progressive cracking of the affected section of wall unless the interaction between the tree and the wall is addressed. Consideration should therefore be given to obtaining arboricultural advice regarding the future management of the ash tree and the potential implications of continued trunk and root growth upon the wall structure.

We would recommend that repair works be undertaken to the cracks within the wall. The repairs would consist Helibar crack stitch repairs to both sides of the wall along with raking out and repointing of the weathered/eroded mortar joints.

It should be noted that crack stitching and repointing will address the symptoms of movement but will not prevent recurrence if the underlying cause of the movement remains active.

Where significant future growth of the tree is anticipated, more extensive localised rebuilding of the affected section of wall may ultimately prove necessary. Any rebuilding works should incorporate suitable provision to accommodate the tree and its future growth, subject to arboricultural constraints.

Following removal of the remaining vegetation, the wall should be periodically inspected for evidence of ongoing movement, including increases in crack width, further leaning, or additional distortion. In the absence of any planned tree management works, a further engineering review in approximately 12 months would be prudent in order to assess whether movement has stabilised or remains progressive.

We trust that our report above provides the information you require and that you will contact us if we can be of further assistance to you. We would be pleased to prepare details of the structural repairs we consider necessary. In the meantime, we attach our invoice numbered 6126 to reflect our input and this report.

Yours sincerely

[redacted]

Enc



Photograph 1

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Photograph 2



Photograph 3



Photograph 4



Photograph 5