

5. Conclusions and Recommendations

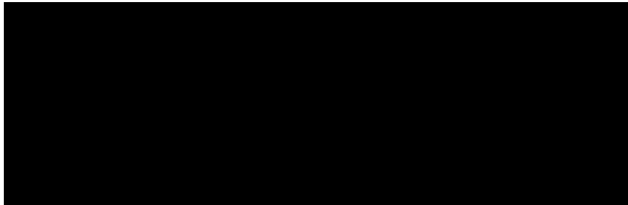
- 5.1 Considering the height and thickness of the wall, and taking into account the degree of lean on the west garden wall, it is my overarching view that the wall is structurally unstable, as the centre line of gravity passes through the outside face of the wall when drawn in section. In these cases, the wall cannot be justified by calculation based on their static condition, even before considering wind loading and the level of retained soil. On this basis, I recommend that remedial works are carried out.
- 5.2 The cause of the wall leaning outwards towards the west is most likely due to several factors, such as, the large yew tree's roots pushing against the wall to the north, the vegetation and medium shrubs at the centre of the wall, and that the wall was measured to be retaining on the east side within No.78's property.
- 5.3 Considering the extent of the lean and the fact that out of plumb measurements were measured all the way to the bottom third of the wall, it is recommended that the wall is taken down to approximately 300mm above ground level for the majority of the wall, say for 3m inwards on either side of the north and south ends, and rebuilt up to a maximum height of 1.9m. I note that, if it is built straight to a height of 1.9m it should not need buttresses in line with general guidelines for this location; however, retained soil would need to be taken into account if not dealt with as described further in the below points, and this would require additional support. If you wish for the wall's height to be greater than 1.9m and similar to existing, then brickwork buttresses at approx. 5m centres would be required. It was noted that the adjoining owner of No.76 does not wish to have buttresses protruding into his property, therefore the buttresses should be flush on the western face and tied into the adjacent flint walls on the other side by tooth bonding the brickwork into the flint wall.
- 5.4 The careful dismantling of the wall and re-erecting with buttresses will unfortunately not be sufficient to guarantee structural stability of the wall, when considering the surroundings. Therefore, the additional following recommendations are provided:
 - 5.4.1 Excavate and lower the ground level in the garden of No.78 to suit the finished level of No.76 so that there is no retaining soil, particularly at the north-west corner by the yew tree.

5.4.2 Remove any vegetation that could potentially grow on the flint wall.

5.4.3 It is my understanding that the yew tree has a TPO and therefore cannot be removed at this stage. While the tree is in place, it will require regular and thorough maintenance, pruning, removal of dead leaves from building up, etc. It should be noted that even with best efforts, the tree will likely cause some degree of movement to any reinstated structure in the future. To mitigate the effects of the tree in future, an application can be made to remove the tree as it is causing the damage to the flint wall.

I trust the above is clear, but should you have any comments or queries, please feel free to contact me.

Yours sincerely,



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on behalf of PHILIP GOACHER ASSOCIATES

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