20105/JO

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2 Fellows Road
LONDON
NW3 3LP

19 October 2020

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OSBORNE EDWARDS

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REF: 2 FELLOWS ROAD. FRONT GARDEN WALL. NORTH.

Thank you for asking us to visit and inspect the northern boundary, front garden wall at your property.

GENERALLY:

The wall appears to be the same age as the property, therefore dating from the mid to late1800's. It is badly distorted both in plan and elevation and it is generally leaning in towards your site. There are three small buttresses in the wall and several areas appear to have been re-built in the past. It has a timber post and ply fence above it, fixed from the neighbours side.

Ground levels on each side of the wall are similar, though slightly raised in your neighbours garden' We estimate the depth of retained soil is approximately 450mm for the majority of the wall, deepening to approximately 1600mm for a short length near your house where the garden steps down to lower ground floor level.

It is possible the ground level in your neighbours garden was once higher, but this is not certain.

In your neighbours garden, near the junction of the wall with the footpath there is an Ash tree.

OBSERVATIONS:

General distortion in the wall is long-standing and not new. I estimate it is out of plumb by as much as 100mm. The general impression is of the base of the wall leaning slightly and the top half both bulging out and undulating in plan.

The section of wall near the house, where the amount of retained wall is greatest, is generally plumb. The wall here seems to be restrained from movement by the buttressing effect of both the main building and of the retaining wall between the garden and the lower ground floor level.

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There are areas of new masonry and areas where the wall has been re-pointed.

Near the Ash tree there are recent cracks indicating that movement here is related to the presence of the tree. Cracks are diagonal and vertical. The wall leans away from your site in the immediate vicinity of the tree.

We attach photographs showing the existing damage and general condition of the wall.

COMMENT:

As a rule of thumb, once a one-brick wall has moved more than 30mm to 35mm out of vertical it is deemed unstable. In reality, most walls can distort more than 30mm without collapse even though risks remain. In this case the distortion is far greater and remedial action is needed in the near future.

It is possible the bulge is caused by expansion. The wall is braced at each end, at one end by the flank wall of your house, and at the other by the return in the wall alongside the footpath. Longitudinal expansion is prevented by this bracing and the only way expansion can happen is by the wall moving outwards and bowing/bulging.

The Ash tree is very close to the wall and the roots are certain to pass under the wall foundation. Water will be taken from the soil by the tree as it grows, and this will differ in volume during the wet and dry seasons. There will be a consequential expansion and shrinkage in the soil and we believe these seasonal changes are causing damage to the wall near the tree. We do not see this changing if the tree remains in place.

The ply and timber fence increases the height of the wall by approximately 750mm. It is possible the additional wind load is being transferred from the fence to the wall and causing some of the movement.

RECOMMENDATIONS:

We suggest below two approaches to the recommendations. Firstly, where the remedial action ignores work that may be needed for other reasons, and secondly, where your neighbours wish to do work to the wall other than a straightforward repair.

OPTION A:

We recommend the tree is removed, followed by strengthening of existing buttresses by adding depth to them. One or two more buttresses are also to be added along the wall to provide evenly spaced additional lateral support.

Where the wall is cracked near the tree , the brickwork will need to be rebuilt. If cracks remain ties can be added to strengthen the wall locally.

The existing ply and post fence should ideally be detached from the brickwork and re-added as an independent structure to avoid wind load transfer onto the brickwork.

Very little other work is needed.

I attach a sketch showing the proposed buttressing and area of new brickwork.

OPTION B:

1 Your neighbour is keen to keep the tree.
2 Your neighbour wishes to raise the wall in brick by approximately 10 or more courses.

It is my opinion that the presence of the tree and/or the possibility of adding height to the wall will have safety issues for you for the future if the wall is kept, and this should form part of the discussion with your neighbour.

The tree will continue to have an effect on the soil and the wall even for a newly built wall, and additional height and weight added to a distorted wall could easily cause serious instability quite quickly.

My recommendation in this situation would be to replace the wall, possibly using salvaged bricks and with a new foundation, but if the tree is to remain it could cause new damage to the wall whether it be repaired or new. However, as the proposals here are driven by changes your neighbours wish to make, I assume the design and options will be developed by them and discussed with you.

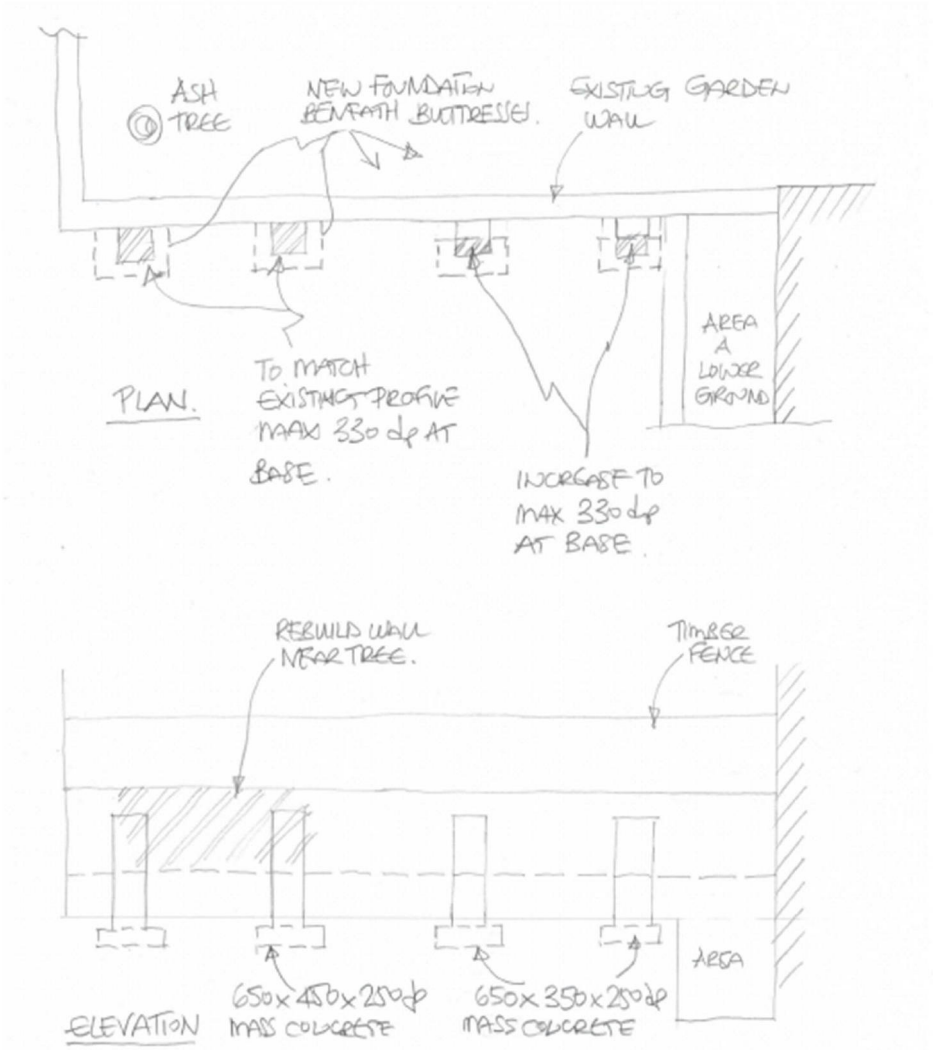
I will be happy to inspect and comment upon their proposals in due course.

Please let me know if you have any queries.

Yours Sincerely

Jacqui Osborne
For Osborne Edwards Limited.

View of wall



Osborne Edwards Ltd CONSULTING STRUCTURAL ENGINEERS OMNIBUS BUSINESS CENTRE 39/41 NORTH ROAD LONDON N7 9DP TELEPHONE 020 7226 2444	PROJECT TITLE 2 FELLOWS ROAD		JOB NO 2010S
	DRG TITLE FRONT GARDEN WALL NORTH.		DRG NO SK2.1
	SCALE 1:50	DATE OCT '20	REV

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General view facing wall

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General view along wall

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View of rear of wall behind Ash tree.

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