Ashton Bennett

Campbell Reith Hill LLP,
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December 4th 2019

For the attention of G Kite and E M Brown

Dear Sirs,

20 Leighton Road, NW5 2QE, Ref 2019/3051/P and 2019/3938/L

Further to your audit of the Basement Impact Assessment for the above named site dated November 2019, we reply to your audit with further details.

Re Audit Discussion:

Ground Movements.

The predicted ground movements for the neighbouring properties on either side of No 20, which will suffer tensile stress, have been calculated as falling within Category 1, as required by Camden. These were included in Appendix C of our BIA Report 3348 and are attached with this letter.

Horizontal movement is the driver for structural cracking to the house, No 20. The predicted ground movements for the house itself are 7.6mm of horizontal movement. ie 3.8mm horizontal movement from the inward movement of the two side walls during excavation and underground wall construction. This represents a horizontal compressive strain over the house width of 8m of 0.095%.

The methodology used is a conservative approach, as the methodology in CIRIA C760 is designed for large basements with embedded walls and not for underpins which will exert smaller movements

For tensile strain this would fall into the lower end of Burlands Category 2 for damage to buildings.

However, the house would suffer compression not tension, so the figure cannot be compared to horizontal strain figures in the 'Classification of Damage to Walls', categorisation by Burland et al, as these figures give damage for 'limiting tensile strain' only.

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Compressive strength of brickwork is at least 20 times stronger than tensile strength of brickwork.

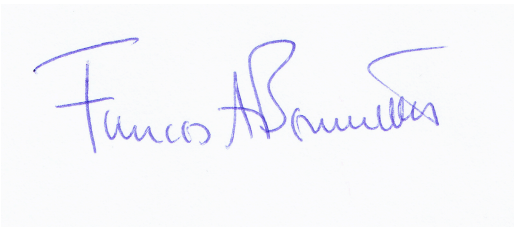
If tensile strain would cause 'cracks which are easily filled, redecoration probably required, several slight fractures showing inside the building and cracks externally may need repointing for water tightness, doors and windows may stick slightly', then compressive strain is unlikely to cause this level of damage as the brickwork is 20 times stronger under compression than under tension. Damage would therefore be expected to be very slight or negligible.

The evidence for compressive strength of brickwork being 20 times its tensile strength is from 'Compression and Tensile Strength of common materials', by the Engineering Tool Box (2008) and figures referenced are attached to this letter. We have used figures for bricks, common quality.

We trust our revised explanation above will now answer your query regarding damage to the Grade II Listed house and look forward to receiving confirmation of acceptance.

Thank you for your consideration,

Kind Regards,



Yours faithfully,
Frances A Bennett
For and on behalf of Ashton Bennett Limited

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