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> 25 January 2012 Ref: JI/3871

## By email only

Mr C Nicholls 106 Frognal Camden London NW3 6XU

Dear Mr Nicholls

## Re: Proposed Basement Extension, 106 Frognal, Camden, London NW3 6XU

Further to receipt of the Geology, Hydrogeology & Hydrology Report prepared by Geo-Environmental dated 19 January 2012, we write to assess the structural stability implications.

This letter should be read in conjunction with the above mentioned report and Ings Engineering drawing 3871/SK5.

The main items of structural importance within the report are as follows. The likely ground conditions are clayey sands and sandy clays. The ground water level is likely to be 8.0m below ground level (ie below proposed formation level). Localised seepages may occur and should be considered. Ponding of water may occur at the base of excavations.

Therefore, we consider that the structural considerations and construction method should address the implications of localised water seepage with associated instability and ponding.

The structural calculations and layout drawings address the permanent structural stability of 106 Frognal and neighbouring properties of the development.

To minimise water seepage and ensure ground stability of neighbouring gardens and structures during the excavations and formation of the retaining walls, we recommend that propped sacrificial sheet piling is installed to the perimeter of the basement retaining walls, with the exception of the area adjacent basement to 104 Frognal. The sheet piling will retain the ground insitu in the temporary condition until the structural retaining walls are constructed. Sump pumps may be required to remove any water seepage and ponding water. The area of retaining wall adjacent to No 104 should be excavated and constructed in a sequenced method (as indicted on SK5) to ensure the temporary integrity of the boundary construction. As the basement of 104 is of a similar depth, there is not any undermining of the building structure to consider.

We consider that the above recommendations together with the method statement and details on drawing 3871/SK5 will eliminate the potential structural stability issues highlighted within the Geo-Environmental report.

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We trust the above is suitable for your needs, but if you require any further information, please do not hesitate to contact me.

Yours sincerely

Jonathan Ings BEng (Hons) CEng MIStructE

c.c. Lewis & Co Planning – Mr S Bareham KTA Limited – Mr K Thornton