20 April 2015

Our ref J14395/MC/1

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Dear Alex

Re: AUDIT OF BASEMENT IMPACT ASSESSMENT FOR 81 & 81A BAYHAM STREET, LONDON NW1 0AG (2015/0023/P)

Further to your instruction, we have now completed our audit of the Basement Impact Assessment (BIA) relating to the proposed basement construction at the above site and this letter forms our report on the review.

1.0 INTRODUCTION

1.1 Brief

Geotechnical and Environmental Associates Limited (GEA) has been instructed by London Borough of Camden (LBC) to undertake an independent audit of a BIA for the above site and an assessment of the completeness of the submission in satisfying the requirements of Camden Planning Guidance 4.

Specifically LBC has requested that GEA provide an opinion on whether:

1. *The submission contains a Basement Impact Assessment, which has been prepared in accordance with the processes and procedures set out in Camden Planning Guidance 4 (2013).*

2. *The methodologies have been appropriate to the scale of the proposals and the nature of the site.*

3. *The conclusions have been arrived at based on all necessary and reasonable evidence and considerations, in a reliable, transparent manner, by suitably qualified professionals, with sufficient attention paid to risk assessment and use of conservative engineering values/estimates.*

4. *The conclusions are sufficiently robust and accurate and are accompanied by sufficiently detailed amelioration/mitigation measures to ensure that the grant of planning permission would accord with DP27, in respect of*

   a. maintaining the structural stability of the building and any neighbouring properties

b. avoiding adversely affecting drainage and run-off or causing other damage to the water environment and

c. avoiding cumulative impacts on structural stability or the water environment in the local area.

1.2 Proposed Development

The site comprises Nos 81 & 81A which, in February 2015 are understood to have comprised a pair of two-storey buildings with a single-storey extension to its southeastern side (No 81b). The majority of the site was occupied by these buildings, with a narrow yard to the southeast. The buildings are located on the southwestern side of Bayham Street and adjoined to the northwest by a four-storey building. A rear extension of No 15 Pratt Street adjoins the site to the southwest and a relatively new four-storey residential block was present immediately beyond the southeastern edge of the site, alongside the yard area and it is understood that this block has a lower ground level.

The proposed redevelopment is understood to comprise a five-storey building with a single level basement.

1.3 Documentation

A BIA has been prepared by Ellis & Moore Consulting Engineers, referenced Basement Impact Assessment for Bayham Street, dated 16 February 2015. The BIA report also incorporates a Desk Study Report by Ground Engineering (report ref C13515, dated February 2015).

2.0 AUDIT OF THE BASEMENT IMPACT ASSESSMENT

2.1 Qualifications and Procedure

This audit has been undertaken by Steve Branch, a Chartered Geologist (CGeol) specialising in engineering geology and geotechnical engineering for over 28 years with specific extensive knowledge and experience of the ground and groundwater conditions in the London Borough of Camden, in conjunction with Martin Cooper, a Chartered Civil Engineer (CEng) and Member of the Institution of Civil Engineers (MICE) with over 25 years of experience in the geotechnical industry.

The review has been carried out by reviewing the BIA in the light of the following documents:

- Camden geological, hydrogeological and hydrological study; Guidance for subterranean development, Issue 01, November 2010 ('The Arup report')
- Camden Planning Guidance, basements and lightwells, CPG4, 2013.
- Camden Development Policy DP27: Basements and lightwells

2.2 Overview

The requirements of a BIA are set out in CPG4 and fully detailed in Section 6 of the 'Arup Report'. A BIA requires five Stages, as follows:

- Stage 1 – Screening
- Stage 2 – Scoping
- Stage 3 – Site Investigation and study
- Stage 4 – Impact assessment
- Stage 5 – Review and decision making (undertaken by LBC).

The Contents page of the BIA by Ellis & Moore lists each of these stages as being included in the report, however in "Section 1.0 Brief" of the report it lists the stages as comprising Screening, Scoping, Desk Study and Impact Assessment, thus removing reference to a site investigation from Stage 3 and consequently being incorrect.

The BIA is authored by L A McDonald, a Chartered Engineer, but no reference is made to the author's credentials with respect to the qualification requirements detailed in CPG4. The author does not in any case meet the requirements for the groundwater assessment and there has apparently been no involvement from a Chartered Geologist. It is therefore concluded that the report does not meet the requirements in this respect.

The first stage of the BIA methodology is screening, where matters of concern are investigated and the requirement for a full BIA is established. Three main issues are required to be considered: surface flow and flooding, slope stability, and subterranean flow. Each of these issues is covered by a separate screening flowchart (included as Figures 1 to 3 in CPG4) to assist the screening process, whereby a series of questions are posed regarding the site and the proposed development. In "Section 2.0 – Screening" the Ellis & Moore BIA refers to a Basement Impact Assessment "having been requested" to determine if the proposed works will result in possible flooding either due to ground or surface water. The remainder of the BIA limits itself to consideration of groundwater only, with no reference to surface water or land stability.

The Screening section of the report only provides answers to the questions included in the Subterranean (groundwater) Screening Assessment flowchart.

The "Stage 2 – Scoping" section of the report is restricted by the stated limited scope of the Screening assessment and therefore only deals with groundwater issues. This section may be adequate, although there is not a clear assessment of potential impacts and their possible consequences.

The report does not include any assessment of potential impacts relating to surface water or land stability and has therefore not met the requirements of Stages 1 and 2 of CPG4.

A desk study has been carried out as Stage 3 and this has been used as the basis for Stage 4 – Impact Assessment. Some generic comments are made on the means of forming the excavation and the methodology may be appropriate if the assumptions regarding groundwater and soil conditions are found to be accurate. However, without any site-specific ground investigation the efficacy of the proposed construction methodology cannot be established.

A proposal is made for a ground investigation comprising a number of trial pits and a single 5 m deep borehole: it is not considered that this would represent an appropriate level of ground investigation for this site.

On the basis of the above the report falls short of satisfying the requirements of CPG4 and further work is required.

2.3 Further Information Required

The BIA document reviewed provides little or no description of the topographical and environmental setting of the site, although more information is provided in the desk study report. Consideration has only been given to groundwater impacts of the proposed development, but the author is not qualified to have carried out this part of the assessment.

The following items, whilst not forming an exhaustive list, are considered to be essential in forming a properly reasoned and justifiable basement impact assessment.

- Detail of the proposed basement in terms of extent and levels.
- A complete Basement Impact Assessment, including the surface water and slope stability elements of the assessment, completed by appropriately qualified personnel in accordance with CPG4.
- A clear and logical progression through the stages of the BIA, including data from a site investigation, with monitoring of groundwater levels, to inform the assessment stage of the BIA.
- An assessment of ground movements resulting from the basement construction, including an assessment of damage category and proposals for monitoring and mitigation as necessary.
- An assessment of effects on groundwater and any required mitigation measures.
- Formulation of a detailed construction methodology and sequence.

3.0 SUMMARY

Our review has found that the BIA report is not sufficient, does not provide a sufficient assessment of the impacts of the proposed basement and needs to be rewritten in the light of a detailed proposal and on the basis of a site investigation. The report has been deliberately limited by the author and further information could be sought to determine the reason for only considering one aspect of the BIA procedure although, in any case the groundwater assessment carried out has not been completed by an appropriately qualified author.

We trust that the foregoing comments are sufficient for your needs. Plainly, further work is required but we would be pleased to discuss our comments in more detail if required and to provide any additional assistance that may be necessary.

Yours sincerely
GEOTECHNICAL & ENVIRONMENTAL ASSOCIATES

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