

2190008 let01
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London Borough of Camden
Planning Department
5 Pancras Square
London
N1C 4AG

Central London
46 - 48 Foley St
London W1W 7TY
020 7499 5888

Wimbledon
241 The Broadway
London SW19 1SD
020 8544 0033

Nottingham
1 Sampsons Yard
Halifax Place
Nottingham NG1 1QN
087 0460 0061

elliottwood.co.uk

Dear Nora-Andreea Constantinescu

The Hall School, Hampstead – Planning Application 2019/1325/P – BIA Audit D1

As the project Structural and Civil Engineers appointed for the proposed redevelopment works at The Hall School, Elliott Wood (EW) submitted the Basement Impact Assessment (BIA) as part of the planning application; 2019/1639/P, in April 2019. Subsequently Campbell Reith (CR) have conducted a BIA Audit on behalf of Camden Council. CR have issued technical comments in their audit report revision D1 dated May 2019 and this letter sets out our responses to the points raised.

In this letter we provide a summary of the queries in the BIA Audit, below are the two subject areas that have been queried with responses and clarifications:

1. **GMA does [not] consider removal of permanent props from the existing basement wall (Refer to CR Audit – 4.8)**

The profile of the existing basement wall suggests it could have been designed as a cantilever. Archive drawings show that the wall from basement to the ground level is 375mm thick and above this is 250mm thick (see attached Archive drawing). If this is the case, when the wall is cut down the remaining section will continue to act as it does in the existing case.

However, as we are currently unable to prove this by knowing the amount of reinforcement in the basement, therefore we have taken a conservative approach and assumed the wall was designed as a propped cantilever. Since the *BIA 2190008 Hall School - EW Planning Report 190311* was issued in April 2019 we have added in a permanent prop at ground level to keep the proposed condition of the wall as similar as possible to the existing. A beam now spans along the top of the wall and connects into the columns that support the floors above the basement, this system will provide lateral restraint to the top of the wall.

There will be a change in stiffness from the existing condition to the proposed case therefore the capping beam will be pre-loaded in order to minimise movement once the temporary props have been removed.

The GMA issued with the planning application considers the correct restraints to the existing basement wall and we believe provides a satisfactory analysis.

Attached is an updated S/0900 Lower Ground Floor plan which includes notes about the beam being installed to prop the top of the existing basement wall.



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2. Confirm that the proposed monitoring regime will limit damage to surrounding buildings to Burland Category 1
 - a. EWP (para 9.10) refer to stopping work once any cracking >2mm is observed in adjoining structures. This exceeds Category 1 damage as defined by Burland

The EW Planning Report has been updated to say for any cracking in the adjacent structures >1mm all works will stop, this now complies with Burland damage category 1 and was a mistake on our part. It should have always read >1mm.

- b. EWP's Monitoring Report sets amber trigger levels for movement to adjacent structures at 13mm horizontal and 7mm vertical. These exceed the predicted movements and it should be confirmed that if such movements occurred, they would not result in damage worse than Burland category 1

CR to note that in EW's Movement Monitoring Report the trigger levels are based on movement adjacent to the contig pile wall, and not movement to adjacent properties as suggested in the text of the Audit, as this aligns with GEA's analysis.

The monitoring regime has been revised following CR's comments. We have changed the Amber trigger levels to match the predicted movement stated in GEA's Ground Movement Analysis (GMA) dated February 2019. The red trigger levels are now movement adjacent to the piled wall that would cause neighbouring buildings to exceed Burland category 0 damage and experience category 1 damage. The level of movement to induce this damage has been analysed by GEA and is confirmed in the attached e-mail from them.

The requirements from Camden Council are that neighbouring buildings experience no more than Category 1 damage, therefore this approach is conservative. When construction starts, if the red trigger levels are reached, we have some leeway before inducing damage above Category 1 to the neighbouring structures.

I trust the above response in conjunction with the updated information and additional report from GEA provide sufficient information to answer the queries in the audit that the scheme in question satisfies the criteria of Camden Council

Yours sincerely



Suzanna Cooper

For and on behalf of Elliott Wood Partnership Limited

Enc. 2190008-EWP-ZZ-B1-DR-S-0900-P3
BIA 2190008 Hall School - EW Planning Report P3 190605 (appendices not included)
2190008 rep Movement Monitoring
GEA Report dated 05/06/2019
Sections AA & BB_Feb88 (Archive Drawing)

C.C Elizabeth Brown – Campbell Reith