

RADA, 16 – 18 Chenies Street,
London WC1E 7EX

Basement Impact Assessment
Audit

For
London Borough of Camden

Project Number: 12985-39

Revision: D1

April 2019

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1.0 NON-TECHNICAL SUMMARY

- 1.1. CampbellReith was instructed by London Borough of Camden, (LBC) to carry out an audit on the Basement Impact Assessment submitted as part of the Planning Submission documentation for (planning reference 2018/6045/P). The basement is considered to fall within Category B as defined by the Terms of Reference.
- 1.2. The Audit reviewed the Basement Impact Assessment for potential impact on land stability and local ground and surface water conditions arising from basement development in accordance with LBC's policies and technical procedures.
- 1.3. CampbellReith was able to access LBC's Planning Portal and gain access to the latest revision of submitted documentation and reviewed it against an agreed audit check list. CampbellReith previously audited a basement scheme at the site (ref 12066-88, March 2016).
- 1.4. The proposed development site is currently occupied by the Royal Academy of Dramatic Arts (RADA). The proposal involves the extension of the existing basement.
- 1.5. The proposed scheme is considered to broadly reflect the previously audited scheme. The conclusions of the previous audit are accepted with regard to hydrology and hydrogeology, and the policy criteria of LBC have been met. As such, this audit will only address the change in proposed basement area and construction methodology, and consider the subsequent impacts to stability.
- 1.6. Damage impact to neighbouring structures, adjacent highways and pavements and utilities assets due to the revised scheme are all assessed as Negligible to Very Slight. These should be discussed with the relevant authority responsible for each asset and asset protection criteria agreed, as applicable.
- 1.7. The requirements of CPG Basements have been met.

2.0 INTRODUCTION

2.1. CampbellReith was instructed by London Borough of Camden (LBC) on 12 February 2019 to carry out a Category B Audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for RADA, 16 – 18 Chenies Street, London WC1E 7EX, Camden Reference 2018/6045/P. CampbellReith previously audited a basement scheme at the site (ref 12066-88, March 2016) in relation to planning application reference 2015/5759/P.

2.2. The Audit was carried out in accordance with the Terms of Reference set by LBC. It reviewed the Basement Impact Assessment for potential impact on land stability and local ground and surface water conditions arising from basement development. The proposed scheme is considered to broadly reflect the previously audited scheme. As such, this audit will only address the amendment, which is an increase in proposed basement area and change to construction methodology, and consider the subsequent impacts to stability.

2.3. A BIA is required for all planning applications with basements in Camden in general accordance with policies and technical procedures contained within:

- Guidance for Subterranean Development (GSD). Issue 01. November 2010. Ove Arup & Partners.
- Camden Planning Guidance: Basements. March 2018.
- Camden Development Policy (DP) 27: Basements and Lightwells.
- Camden Development Policy (DP) 23: Water.
- Local Plan Policy A5 Basements.

2.4. The BIA should demonstrate that schemes:

- a) maintain the structural stability of the building and neighbouring properties;
- b) avoid adversely affecting drainage and run off or causing other damage to the water environment; and,
- c) avoid cumulative impacts upon structural stability or the water environment in the local area;

and evaluate the impacts of the proposed basement considering the issues of hydrology, hydrogeology and land stability via the process described by the GSD and to make recommendations for the detailed design.

2.5. LBC's Audit Instruction described the planning proposal as: "*Variation of condition 2 (approved drawings) and condition 4 (green roof details) of planning permission 2015/5759/P dated*

14/08/2018 for the "demolition of part of rear of 16 and 18 Chenies Street; alterations, extensions (including at basement level) and general refurbishment to 16-18 Chenies Street to create Richard Attenborough Theatre, new refectory, bar and kitchen, library, exhibition space, ancillary offices and student accommodation"; namely, reduction in the number of theatre seats, reduction in student rooms, relocation of green roof, creation of basement extensions, access ramp and associated internal and external alterations."

2.6. CampbellReith accessed LBC's Planning Portal on 4 March 2019 and gained access to the following relevant documents for audit purposes:

- Supplementary Ground Investigation Report (ref J15215A) dated October 2018 by Geotechnical & Environmental Associates Ltd (GEA).
- Construction Method Statement (ref 3769/SH/HPA) dated October 2018 by Haines Phillips Architects.
- Existing, Demolition and Proposed Drawings (issue PPL1) dated October 2018 by Haines Phillips Architects.
- Ground Movement Assessment (ref J1525) dated October 2018 by GEA.
- Supplementary Letter (ref J15215/MC/GMA 1) from GEA to CampbellReith dated 25th March 2019.
- Consultation Responses (none relevant to basement stability issues).

3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	Yes	
Is data required by Cl.233 of the GSD presented?	Yes	Accepted from previous BIA.
Does the description of the proposed development include all aspects of temporary and permanent works which might impact upon geology, hydrogeology and hydrology?	Yes	
Are suitable plans/maps included?	Yes	
Do the plans/maps show the whole of the relevant area of study and do they show it in sufficient detail?	Yes	
Land Stability Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	N/A	Stability issues addressed in GMA
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	N/A	
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	N/A	
Is a conceptual model presented?	Yes	GMA

Item	Yes/No/NA	Comment
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	Yes	GMA
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	N/A	
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	N/A	
Is factual ground investigation data provided?	N/A	Accepted from previous BIA.
Is monitoring data presented?	N/A	Accepted from previous BIA.
Is the ground investigation informed by a desk study?	N/A	Accepted from previous BIA.
Has a site walkover been undertaken?	N/A	Accepted from previous BIA.
Is the presence/absence of adjacent or nearby basements confirmed?	Yes	
Is a geotechnical interpretation presented?	Yes	GMA / previous BIA
Does the geotechnical interpretation include information on retaining wall design?	Yes	Accepted from previous BIA.
Are reports on other investigations required by screening and scoping presented?	N/A	
Are baseline conditions described, based on the GSD?	Yes	

Item	Yes/No/NA	Comment
Do the base line conditions consider adjacent or nearby basements?	Yes	
Is an Impact Assessment provided?	Yes	
Are estimates of ground movement and structural impact presented?	Yes	
Is the Impact Assessment appropriate to the matters identified by screen and scoping?	Yes	Stability only.
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	Yes	Propping / sequencing.
Has the need for monitoring during construction been considered?	Yes	
Have the residual (after mitigation) impacts been clearly identified?	Yes	
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	Yes	
Has the scheme avoided adversely affecting drainage and run-off or causing other damage to the water environment?	N/A	Accepted from previous BIA.
Has the scheme avoided cumulative impacts upon structural stability or the water environment in the local area?	Yes	
Does report state that damage to surrounding buildings will be no worse than Burland Category 1?	Yes	Maximum of Category 1.
Are non-technical summaries provided?	Yes	Conclusion of GMA

4.0 DISCUSSION

- 4.1. The proposed development site is currently occupied by the Royal Academy of Dramatic Arts (RADA). The proposal involves the extension of the existing basement.
- 4.2. CampbellReith previously audited a basement scheme at the site (ref 12066-88, March 2016) in relation to planning application reference 2015/5759/P.
- 4.3. The proposed scheme is considered to broadly reflect the previously audited scheme. The conclusions of the previous audit are accepted with regard to hydrology and hydrogeology, and the policy criteria of LBC have been met. As such, this audit only considers impacts to stability.
- 4.4. Drawings indicating the existing site conditions, the proposed demolition works and the proposed final development have been provided for review. Existing basements will be extended by means of a combination of contiguous piling and underpinning methodologies.
- 4.5. At 16 Chenies Street the existing external walls will be underpinned by 0.9m, bearing within the River Terrace Deposits. Internally, the basement depth is variable, with a maximum depth of 3.65m below ground level (bgl). The basement slab will be supported on piles and be independent of the existing foundations.
- 4.6. At the rear of 18 Chenies St a contiguous bored pile wall will be utilised. The basement depth will be 3.3m, with piles extending to a maximum of 9.0m bgl. It is proposed that the piles will cantilever in the temporary case and be permanently propped by the basement and ground floor slabs.
- 4.7. The ground movement assessment (GMA) considers movements generated by heave, installation of retaining walls and excavation in front of the walls, in accordance with CIRIA C760. The assessment adopts a 'low stiffness wall' approach, which is considered appropriate. Calculations and contour plots are presented. Using the software XDisp, the neighbouring properties have been assessed for potential damage due to the proposed works in accordance with the Burland Scale. Monitoring of the adjacent structures prior to and during construction is recommended by the GMA in order to check the prediction of ground movements, with the precise monitoring strategy suggested to be developed under the obligations of the Party Wall Act.
- 4.8. To supplement the original GMA presented, a letter confirming damage impacts was received following discussion with the Applicant's Engineer.
- 4.9. Damage impact to neighbouring structures, adjacent highways and pavements and utilities assets due to the revised scheme are all assessed as Negligible to Very Slight (Category 0 to Category

- 1). These should be discussed with the relevant authority responsible for each asset and asset protection criteria agreed, as applicable.

5.0 CONCLUSIONS

- 5.1. The proposed development site is currently occupied by the Royal Academy of Dramatic Arts (RADA). The proposal involves the extension of the existing basement.
- 5.2. CampbellReith previously audited a basement scheme at the site (ref 12066-88, March 2016) in relation to planning application reference 2015/5759/P.
- 5.3. The proposed scheme is considered to broadly reflect the previously audited scheme. The conclusions of the previous audit are accepted with regard to hydrology and hydrogeology, and the policy criteria of LBC have been met. As such, this audit only considers impacts to stability.
- 5.4. Damage impact to neighbouring structures, adjacent highways and pavements and utilities assets due to the revised scheme are all assessed as Negligible to Very Slight. These should be discussed with the relevant authority responsible for each asset and asset protection criteria agreed, as applicable.
- 5.5. The requirements of CPG Basements have been met.

Appendix 1: Residents' Consultation Comments

None pertinent to the BIA

Appendix 2: Audit Query Tracker

None

Appendix 3: Supplementary Supporting Documents

Supplementary Letter from GEA to CampbellReith dated 25th March 2019

25 March 2019

Your ref: 12985-39:16-18 Chenies St, RADA
Our ref: J15215/MC/GMA 1



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Dear Graham

Re: RADA, 16-18 CHENIES STREET, LONDON

Thank you for confirming that our Ground Movement Analysis Report for the above site (ref J15215 Issue 4, dated July 2017), is acceptable.

We have extended the analysis to consider some additional buildings that are further from the site but for which you have requested confirmation of damage categories. Calculations of damage category using the Burland Scale have been undertaken manually using the contour plots provided within the GMA report and the results for these buildings are as follows.

- 12-14 Chenies St Cat 0 Negligible
- 19-30 Alfred Place Cat 0 Negligible
- 1-16 Rosetti Court Cat 0 Negligible
- 19-21 Ridgmount St Cat 0 Negligible

For clarification, the walls referred to in our report as the 'Law Infill Building' refer to Nos 23 to 25 Ridgmount Street.

We trust that the above provides the information required for you to confirm that you are satisfied with the responses to all of your audit questions.

Yours sincerely
GEOTECHNICAL & ENVIRONMENTAL ASSOCIATES

A handwritten signature in black ink, appearing to read 'M Cooper', is written over a light blue horizontal line.

Martin Cooper

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