

Heath House, North End Way,  
London NW3 7ET

Basement Impact Assessment  
Audit

For  
London Borough of Camden

Project Number: 12727-59

Revision: D1

June 2018

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**Document History and Status**

Revision	Date	Purpose/Status	File Ref	Author	Check	Review
D1	June 2018	Comment	GKemb12727-59-210618-Heath House-D1.docx	GK	HS	RM

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**Document Details**

Last saved	21/06/2018 16:00
Path	GKemb12727-59-210618-Heath House-D1.docx
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Project Number	12727-59
Project Name	Heath House
Planning Reference	2017/7075/P

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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 Heath House, North End Way, London NW3 7ET (planning reference 2017/7075/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.
- 1.4. The BIA has been prepared by Galbraith Hunt Pennington Ltd with a Geotechnical & Geoenvironmental Report produced by STATS Ltd. Considering the combined input of authors from both engineering firms, appropriate qualifications / experience in accordance with LBC guidance has been demonstrated.
- 1.5. The proposed development comprises the excavation of a new swimming pool and plant rooms at lower ground floor level within the northeast corner room of the existing Heath House. The property is Grade II listed.
- 1.6. The BIA includes the majority of the information required from a desk study in line with LBC guidance.
- 1.7. The Northern Line tunnels run below Heath House. Correspondence should be provided to confirm that TfL are aware of the proposed development and whether an asset protection agreement will be required.
- 1.8. A site investigation was undertaken by STATS Ltd in July 2008. The ground conditions comprise Made Ground underlain by the Bagshot Formation. Groundwater was not encountered. There will be no impact to the wider hydrogeological environment.
- 1.9. Geotechnical interpretation is provided, including retaining wall design parameters. An outline structural scheme is provided indicating the basement will be constructed by underpinning.
- 1.10. No ground movement analysis (GMA) has been undertaken, as Heath House is remote from other structures. TfL may require an impact assessment of the Northern Line tunnels, which should be confirmed.

- 1.11. An outline methodology for structural monitoring with trigger levels is provided. It is accepted that if construction is controlled so that movements are maintained within the limits specified, damage to Heath House should be Category 1 or less.
- 1.12. It is accepted that there will be no increase in the impermeable site area. The site is located within the Critical Drainage Area Group 3-010 and within the Hampstead Chain Catchment but is not located within a Local Flood Risk Zone and is at very low risk of flooding. There will be no impact to the wider hydrological environment.
- 1.13. Non-technical summaries should be provided within any revisions to the BIA submitted.
- 1.14. Queries and matters requiring further information or clarification are summarised in Appendix 2. Until the requested additional information has been presented, the BIA does not meet the criteria of CPG Basements.

## 2.0 INTRODUCTION

- 2.1. CampbellReith was instructed by London Borough of Camden (LBC) on 13 February 2018 to carry out a Category B Audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for Heath House, North End Way, London NW3 7ET, Camden Reference 2017/7075/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.
- 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 (CPG): Basements.
  - Camden Development Policy (DP) 27: Basements and Lightwells.
  - Camden Development Policy (DP) 23: Water.
  - The Local Plan (2017): 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 planning portal describes the proposal as: "*Excavation plus associated wall underpinning works to form a new swimming pool and plant room at lower ground floor level within northeast corner room of existing building*".

It is understood that Planning Permission (ref 2008/0661/P) for the subject site has already been approved and partly implemented for a new west wing comprising a new basement floor.

The planning portal also confirmed the site lies within Hampstead Conservation Area and is a Grade II listed building.

2.6. CampbellReith accessed LBC's Planning Portal on 6<sup>th</sup> March 2018 and gained access to the following relevant documents for audit purposes:

- Basement Impact Assessment (ref 12221A) dated November 2017 by Galbraith Hunt Pennington Ltd including:
  - Phase I Environmental Study (ref 35974-01) dated October 2007 by STATS Ltd.
  - Geotechnical and Geoenvironmental Report (ref 35974-02) dated July 2008 by STATS Ltd.
- Structural report on existing floor construction dated 2013 by Galbraith Hunt Pennington Ltd.
- Level monitoring of existing walls dated February 2018 by Galbraith Hunt Pennington Ltd.
- Site location plan and proposed sections dated 2017 by Clive Chapman Architects.

### 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?	No	The site is within the TfL exclusion zone of the adjacent Northern Line and therefore consultation with TfL should be undertaken.
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?	No	Screening has not identified that the Northern Line is located below the site.
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Considering the scale of the development, limited to below the existing building footprint, and the underlying conditions, the assessment is accepted.
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Considering the scale of the development, limited to below the existing building footprint, and the underlying conditions, the assessment is accepted.
Is a conceptual model presented?	No	Considering the scale of the development, the underlying conditions, and the remote location from other structures, the description presented is accepted.



Item	Yes/No/NA	Comment
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	No	Screening has not identified that the Northern Line is located below the site.
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?	Yes	
Is monitoring data presented?	Yes	Groundwater monitoring undertaken on 23 and 30 April 2008 recorded dry conditions.
Is the ground investigation informed by a desk study?	Yes	
Has a site walkover been undertaken?	Yes	
Is the presence/absence of adjacent or nearby basements confirmed?	N/A	Site is remote from other properties.
Is a geotechnical interpretation presented?	Yes	
Does the geotechnical interpretation include information on retaining wall design?	Yes	
Are reports on other investigations required by screening and scoping presented?	No	Consultation with TfL should be undertaken.
Are baseline conditions described, based on the GSD?	Yes	

Item	Yes/No/NA	Comment
Do the base line conditions consider adjacent or nearby basements?	N/A	
Is an Impact Assessment provided?	Yes	
Are estimates of ground movement and structural impact presented?	No	This may be required by TfL.
Is the Impact Assessment appropriate to the matters identified by screen and scoping?	No	Impacts to TfL Northern Line tunnels to be confirmed.
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	No	Impacts to TfL Northern Line tunnels to be confirmed.  Structural movement monitoring and proposed trigger levels should ensure damage to Heath House <Category 1.
Has the need for monitoring during construction been considered?	Yes	Structural movement monitoring and proposed trigger levels should ensure damage to Heath House <Category 1.
Have the residual (after mitigation) impacts been clearly identified?	No	Impacts to TfL Northern Line tunnels to be confirmed.
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	No	Impacts to TfL Northern Line tunnels to be confirmed.
Has the scheme avoided adversely affecting drainage and run-off or causing other damage to the water environment?	Yes	
Has the scheme avoided cumulative impacts upon structural stability or the water environment in the local area?	No	Impacts to TfL Northern Line tunnels to be confirmed.
Does report state that damage to surrounding buildings will be no worse than Burland Category 1?	Yes	Structural movement monitoring and proposed trigger levels should ensure damage to Heath House <Category 1.

<b>Item</b>	<b>Yes/No/NA</b>	<b>Comment</b>
Are non-technical summaries provided?	No	

## 4.0 DISCUSSION

- 4.1. The BIA has been prepared by Galbraith Hunt Pennington Ltd with a Geotechnical & Geoenvironmental Report produced by STATS Ltd. Considering the combined input of authors from both engineering firms and the scale of the proposed works, appropriate qualifications / experience in accordance with LBC guidance has been demonstrated.
- 4.2. The proposed development comprises the excavation of a new swimming pool and plant rooms at lower ground floor level within the northeast corner room of the existing building of Heath House. The proposed section drawings indicate that the swimming pool will extend to a depth of 2m below the existing lower ground floor level. This work forms part of a previously approved application to extend the lower ground floor on the west side of the existing building and construction of a single/three storey wing comprising a garage and living accommodation. The property is Grade II listed.
- 4.3. The BIA includes the majority of the information required from a desk study in line with LBC guidance.
- 4.4. The Northern Line tunnels run below Heath House. The BIA has not identified the presence of the tunnels or assessed potential impacts to the tunnels. Correspondence should be provided to confirm that TfL are aware of the proposed development and whether an asset protection agreement will be required. It is likely that TfL will require a ground movement assessment to be carried out unless the depth of the tunnel is accepted as being beyond the potential zone of influence of the works.
- 4.5. A site investigation was undertaken by STATS Ltd in July 2008. The ground conditions comprise Made Ground underlain by the Bagshot Formation. Groundwater was not encountered during the investigation nor during subsequent monitoring in April 2008. There will be no impact to the wider hydrogeological environment.
- 4.6. Geotechnical interpretation is provided, including retaining wall design parameters and foundation bearing capacities. An outline structural scheme is provided indicating the basement will be constructed by underpinning in a hit and miss sequence. Underpinned foundations will be taken down to the natural Bagshot Formation.
- 4.7. No ground movement analysis (GMA) has been undertaken, as Heath House is remote from other structures. TfL may require an impact assessment of the Northern Line tunnels, which should be confirmed.
- 4.8. An outline methodology for structural monitoring with trigger levels is provided. It is accepted that if construction is controlled so that movements are maintained within the first trigger level

specified, damage to Heath House should be Category 1 or less. It should be ensured that the proposed trigger levels are strictly adhered to in order to ensure work ceases should ongoing movement be detected.

- 4.9. It is accepted that there should be no impact to the wider hydrogeological environment. However, the site is within the Hampstead Chain Catchment. The development's drainage strategy should be presented to evidence the assessments included within the BIA.
- 4.10. It is accepted that there will be no increase in the impermeable site area. The site is located within the Critical Drainage Area Group 3-010 and within the Hampstead Chain Catchment but is not located within a Local Flood Risk Zone and is at very low risk of flooding. There will be no impact to the wider hydrological environment.
- 4.11. Non-technical summaries should be provided within any revisions to the BIA submitted.
- 4.12. Queries and matters requiring further information or clarification are summarised in Appendix 2.

## **5.0 CONCLUSIONS**

- 5.1. The qualifications of the authors are in accordance with LBC guidelines.
- 5.2. The BIA includes the majority of the information required from a desk study in line with LBC guidance.
- 5.3. The Northern Line tunnels run below Heath House. Correspondence should be provided to confirm that TfL are aware of the proposed development and whether an asset protection agreement will be required.
- 5.4. The ground conditions comprise Made Ground underlain by the Bagshot Formation. Groundwater was not encountered. There will be no impact to the wider hydrogeological environment.
- 5.5. Geotechnical interpretation is provided, including retaining wall design parameters. An outline structural scheme is provided indicating the basement will be constructed by underpinning.
- 5.6. No ground movement analysis (GMA) has been undertaken, as Heath House is remote from other structures. TfL may require an impact assessment of the Northern Line tunnels, which should be confirmed.
- 5.7. An outline methodology for structural monitoring with trigger levels is provided. It is accepted that if construction is controlled so that movements are maintained within the limits specified, damage to Heath House should be Category 1 or less.
- 5.8. There will be no impact to the wider hydrological environment.
- 5.9. Non-technical summaries should be provided within any revisions to the BIA submitted.
- 5.10. Queries and matters requiring further information or clarification are summarised in Appendix 2. Until the requested additional information has been presented, the BIA does not meet the criteria of CPG Basements.

## **Appendix 1: Residents' Consultation Comments**

None

## **Appendix 2: Audit Query Tracker**



Audit Query Tracker

Query No	Subject	Query	Status/Response	Date closed out
1	Stability	Consultation with TfL regarding Northern Line tunnels should be provided.	Open	

### **Appendix 3: Supplementary Supporting Documents**

None

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