

**1A West Hampstead Mews
London NW6 3BB**

**Basement Impact Assessment
Audit**

For

London Borough of Camden

Project Number: 12066-13
Rev: F1

July 2015

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Document History and Status

Revision	Date	Purpose/Status	File Ref	Author	Check	Review
D1	July 2015	Comment	EMBts12066-13-200715-D1.doc	E Brown	E Brown	E Brown
F1	July 2015	Final	EMBts12066-13-310715-F1.doc	E Brown	E Brown	E Brown

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Document Details

Last saved	28/07/2015 13:00
Path	EMBts12066-13-310715-F1.doc
Author	E M Brown, BSc MSc CGeol FGS
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Project Number	12066-13
Project Name	1A West Hampstead Mews, London NW6 3BB
Planning Reference	2015/1949/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 1A West Hampstead Mews, London NW6 3BB (planning reference 2015/1949/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 review it against an agreed audit check list.
- 1.4. It has been confirmed that the development site does not involve a listed building nor is it in the neighbourhood of listed buildings.
- 1.5. The BIA has confirmed that the proposed basement will be located within the London Clay and that the surrounding slopes are stable.
- 1.6. It is accepted that groundwater will not be affected by the excavation and mitigation measures should effectively control potential variations to the groundwater regime.
- 1.7. The proposed basement will be excavated and constructed utilising established techniques.
- 1.8. The proposed development lies outside any Local Flood Risk Zone and so it is accepted that the risk of surface water flooding the buildings is very low.
- 1.9. As the new basement will be located beside the party walls of the adjacent properties, it is has been necessary to undertake a detailed Ground Movement Assessment and instigate a movement monitoring regime on adjacent properties during construction. The GMA indicated that damage should not exceed Category 1 and this is accepted. Minimising the horizontal deflection of the underpins is essential. Monitoring and propping details should be agreed with the party wall surveyor.
- 1.10. There are no outstanding issues with respect to the BIA.

2.0 INTRODUCTION

2.1. CampbellReith was instructed by London Borough of Camden (LBC) on 17 June 2015 to carry out a Category B Audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 1A West Hampstead Mews, Camden Reference 2015/1949/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) 4: Basements and Lightwells.
- Camden Development Policy (DP) 27: Basements and Lightwells.
- Camden Development Policy (DP) 23: Water

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 the "*Conversion of one residential unit into two 1 bedroom self-contained duplex flats with part excavation of basement.*"

The Audit Instruction also confirmed that the basement proposals did not involve a listed building nor does the site neighbour listed buildings.

2.6. CampbellReith accessed LBC's Planning Portal on 17 June 2015 and gained access to the following relevant documents for audit purposes:

- Basement Impact Assessment
- Hydrogeological and Ground Movement Report
- Planning application set of drawings
- Location plan
- Site investigation drawing

To date, no comment from third parties have been received.

3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	Yes	The authors of the BIA and of the Hydrogeological and Ground Movement Assessment have sufficient combined credentials.
Is data required by Cl.233 of the GSD presented?	Yes	Hydrogeological and Ground Movement Assessment Section 2
Does the description of the proposed development include all aspects of temporary and permanent works which might impact upon geology, hydrogeology and hydrology?	Yes	BIA Section 4.1 and 5.0.
Are suitable plan/maps included?	Yes	BIA and drawings.
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?	Yes	Hydrogeological and Ground Movement Assessment Section 3
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Hydrogeological and Ground Movement Assessment Section 3
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Hydrogeological and Ground Movement Assessment Section 3
Is a conceptual model presented?	Yes	Hydrogeological and Ground Movement Assessment Section 9.2
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	Yes	Hydrogeological and Ground Movement Assessment Section 4
Hydrogeology Scoping Provided?	Yes	Hydrogeological and Ground Movement Assessment Section 4

Item	Yes/No/NA	Comment
Is scoping consistent with screening outcome?		
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Hydrogeological and Ground Movement Assessment Section 4
Is factual ground investigation data provided?	Yes	Herts and Essex SI Report
Is monitoring data presented?	Yes	Groundwater monitoring in the SI
Is the ground investigation informed by a desk study?	Yes	Hydrogeological and Ground Movement Assessment Section 6
Has a site walkover been undertaken?	Yes	Herts and Essex SI visit in February 2015
Is the presence/absence of adjacent or nearby basements confirmed?	Yes	It is stated that there is no basement present in vicinity of proposal.
Is a geotechnical interpretation presented?	Yes	Hydrogeological and Ground Movement Assessment Section 6
Does the geotechnical interpretation include information on retaining wall design?	Yes	Hydrogeological and Ground Movement Assessment Section 6.5
Are reports on other investigations required by screening and scoping presented?	Yes	Herts and Essex SI Report
Are baseline conditions described, based on the GSD?	Yes	Hydrogeological and Ground Movement Assessment Section 2
Do the base line conditions consider adjacent or nearby basements?	Yes	It is stated that there are none
Is an Impact Assessment provided?	Yes	Hydrogeological and Ground Movement Assessment Section 10
Are estimates of ground movement and structural impact presented?	Yes	Hydrogeological and Ground Movement Assessment Section 10
Is the Impact Assessment appropriate to the matters identified by screen and scoping?	Yes	

Item	Yes/No/NA	Comment
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	Yes	Hydrogeological and Ground Movement Assessment Section 12
Has the need for monitoring during construction been considered?	Yes	Hydrogeological and Ground Movement Assessment Section 12
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 been maintained?	Yes	Subject to limiting horizontal movements of the underpins controlled by monitoring
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?	Yes	
Does report state that damage to surrounding buildings will be no worse than Burland Category 2?	Yes	Estimated to be Burland Category 1.
Are non-technical summaries provided?	Yes	Hydrogeological and Ground Movement Assessment Section 11

4.0 DISCUSSION

- 4.1. The BIA has been carried out by an established firm of structural engineers, Symmetrys, who have employed the services of Card Geotechnics to undertake much of the work needed to form the BIA. The authors and reviewers from both organisations have suitable qualifications including the reviewer of the hydrogeology section at Card who is a chartered geologist.
- 4.2. The proposed basement will generally be excavated with the sides supported by L-shaped underpins. This is an acceptable methodology using established techniques.
- 4.3. It is acknowledged that the basement is founded within the London Clay, which extends to within 1.6 metres of the existing site surface. We accept that the minor seepages detected in the London Clay do not constitute a continuous water flow and the groundwater will not be affected by the excavation.
- 4.4. The BIA has shown that the surrounding slopes to the development are stable.
- 4.5. The BIA indicates that although the basement extends beneath the existing garden soft landscaping will be provided above this part of the basement. It is accepted that will not significantly alter the existing surface water drainage conditions.
- 4.6. The BIA includes an assessment of whether the development is likely to be affected by surface water flooding, and as the nearest historical flooding was 40m away the risk is accepted as being very low.
- 4.7. It is stated that the neighbouring properties do not have basements although no evidence is presented. However, in the absence of subterranean groundwater flow, the assumption of shallow foundations to the neighbouring structures is conservative as they are more susceptible to ground movement.
- 4.8. The basement extends beneath part of the footprint of the building and so is adjacent to only part of the party walls on either side. The Ground Movement Assessment indicated that damage would not exceed Category 1 and shows that minimising the horizontal deflection of the underpins is essential. The proposals requiring temporary propping to the underpins should be adopted. It is thus necessary to instigate a movement monitoring regime on the adjacent properties during construction.

5.0 CONCLUSIONS

- 5.1. The BIA has been carried out by an established firm of structural engineers, Symmetrys, who have employed the services of Card Geotechnics to undertake much of the work needed to form the BIA. The authors and reviewers from both organisations have suitable qualifications.
- 5.2. The proposed basement will generally be excavated with the sides supported by L-shaped underpins.
- 5.3. The BIA has shown that the surrounding slopes to the development are stable.
- 5.4. The BIA indicates that although the basement extends beneath the existing garden soft landscaping will be provided above this part of the basement.
- 5.5. The BIA includes an assessment of whether the development is likely to be affected by surface water flooding, and as the nearest historical flooding was 40m away the risk is accepted as being very low.
- 5.6. The basement extends beneath part of the footprint of the building and so is adjacent to part of the length of the party walls on either side of the property. The Ground Movement Assessment assumes shallow foundations and indicated that damage would not exceed Category 1. This conclusion is accepted as being reasonable. The GMA shows that minimising the horizontal deflection of the underpins is essential. The proposals requiring temporary propping to the underpins should be adopted.
- 5.7. It is necessary to instigate a movement monitoring regime on the adjacent properties during construction. The monitoring and propping arrangement are to be agreed with the party wall surveyor.
- 5.8. There are no outstanding issues with respect to the BIA.

Appendix 1: Residents' Consultation Comments

None

Appendix 2: Audit Query Tracker

Audit Query Tracker

Query No	Subject	Query	Status	Date closed out
1	Stability	Proposals for propping and movement monitoring to be adopted.	To be agreed with party wall surveyor.	N/A

Appendix 3: Supplementary Supporting Documents

None

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