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St Pancras Commercial Centre, London NW1 0BY

Basement Impact Assessment Audit

For

London Borough of Camden

Project Number: 12727-79
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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 St Pancras Commercial Centre, London NW1 0SE (planning reference 2019/4201/P). The basement is considered to fall within Category C 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 Basement Impact Assessment (BIA) has been carried out by AKT II Consulting Structural and Civil Engineers. It has been demonstrated, in the revised submissions, that the BIA authors hold appropriate qualifications in accordance with LBC guidance.

1.5. Screening and scoping assessments have been presented in the revised submissions.

1.6. Site investigation data indicates the ground conditions to comprise areas of deep Made Ground over the London Clay formation. Interpretative geotechnical information is provided in the revised submissions.

1.7. Numerous basement construction techniques and options were presented in the original BIA. The revised submissions confirm the basement will be formed to approximately 9m below ground level utilising secant piled retaining walls. Outline structural information is provided. This should be confirmed in a Basement Construction Plan (BCP) prior to construction.

1.8. The revised submissions provide a conceptual site model.

1.9. A Ground Movement Assessment (GMA) has been undertaken which predicts a maximum of Category 1 damage (Very Slight) to neighbouring buildings. The range of movements and damage impacts are within the range expected, considering the depth, scale and construction methodology proposed. A revised GMA should be provided within a BCP once the structural scheme is confirmed.

1.10. Utilities information is provided. Impacts to surrounding utilities / underground infrastructure assets should be assessed and asset protection agreements entered into with asset owners, as applicable.

1.11. It is accepted that the development will not impact the wider hydrogeological environment.

1.12. There will be no change in impermeable site area due to the proposed development and no impact on the wider hydrological environment. It is proposed to adopt attenuation SUDS. A final drainage design should be agreed with LBC and Thames Water.

1.13. The site is at very low risk of surface water flooding. Standard flood risk mitigation measures should be adopted in the final design.

1.14. An outline construction programme has been provided.

1.15. Queries and requests for further information are discussed in Section 4 and summarised in Appendix 2. Considering the revised submissions, the BIA meets the criteria of CPG Basements.

2.0 INTRODUCTION

2.1. CampbellReith was instructed by London Borough of Camden (LBC) on 18 September 2019 to carry out a Category C Audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for St Pancras Commercial Centre, 63 Pratt Street, London NW1 0BY (Reference 2019/4201/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 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;

c) avoid cumulative impacts upon structural stability or the water environment in the local area, and;

d) 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 *"Demolition of existing buildings (Class B1c/B8); erection of 3x buildings ranging in height from 5 to 7 storeys above ground and a single basement level comprising a mixed use development of light industrial floorspace (Class B1c/B8), office floorspace (Class B1), 32x self-contained dwellings (Class C3), flexible retail floorspace (Class A1/A3); associated access and servicing, public realm, landscaping, vehicular and cycle parking, bin storage and other ancillary and associated works"*

2.6. CampbellReith accessed LBC's Planning Portal on 11 October 2019 and gained access to the following relevant documents for audit purposes:

- AKT II, Basement Impact Assessment Report, Revision B, 13 September 2019 (BIA)
- Soiltechnics, Ground Investigation Report, ref. STQ4646-G01 Revision 0, dated April 2019 and May 2019 (GIA)
- Planning Application Drawings consisting of

  Location Plan

  Existing Plans

  Proposed Plans

- Caruso St John, Design & Access Statement, Revision D, dated 7 August 2019
- Blackburn & Co, Construction Management Plan (Outline Construction Programme), dated August 2019
- AKT II, Flood Risk Assessment, dated August 2019
- Planning Comments and Responses

2.7. CampbellReith were provided with the following relevant documents for audit purposes between November 2019 and January 2020:

- AKT II, Comments to CampbellReith re Audit D1, 5 November 2019 (BIA)
- AKT II, Basement Impact Assessment Report, Revision C, 25 November 2019 (BIA)
- Soiltechnics, Interim Ground Investigation Report, ref. STQ4836-G01 Revision 1, dated 22 October 2019 (GIA)
- Letter from Thames Water 22 October 2019
- AKT II, Basement Impact Assessment Report, Revision D, 9 December 2019 (BIA)
- AKT II, Basement Impact Assessment Report, Revision D, 11 December 2019 (BIA)

3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	Yes	Rev D 11/12/19
Is data required by Cl.233 of the GSD presented?	Yes	Rev D 11/12/19
Does the description of the proposed development include all aspects of temporary and permanent works which might impact upon geology, hydrogeology and hydrology?	Yes	Rev D 11/12/19
Are suitable plan/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?	Yes	Rev c
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Rev C
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Rev C
Is a conceptual model presented?	Yes	Rev C
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	Yes	Rev C

Item	Yes/No/NA	Comment
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Rev C
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Rev C
Is factual ground investigation data provided?	Yes	
Is monitoring data presented?	Yes	
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?	Yes	Rev C
Is a geotechnical interpretation presented?	Yes	Presented in the GIR
Does the geotechnical interpretation include information on retaining wall design?	Yes	Rev D
Are reports on other investigations required by screening and scoping presented?	Yes	Rev C
Are the base line conditions described, based on the GSD?	Yes	Rev D
Do the base line conditions consider adjacent or nearby basements?	Yes	Rev C
Is an Impact Assessment provided?	Yes	Rev D – BCP recommended.

Item	Yes/No/NA	Comment
Are estimates of ground movement and structural impact presented?	Yes	Rev D – BCP recommended.
Is the Impact Assessment appropriate to the matters identified by screen and scoping?	Yes	Rev D – BCP recommended.
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	Yes	Rev D – BCP recommended.
Has the need for monitoring during construction been considered?	Yes	General suggestions made in 8.2.2 of BIA
Have the residual (after mitigation) impacts been clearly identified?	Yes	Rev D – BCP recommended.
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	Yes	Rev D – BCP recommended. Asset protection agreements to be entered into, as applicable.
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	Rev D – BCP recommended.
Does report state that damage to surrounding buildings will be no worse than Burland Category 1?	Yes	Rev D – BCP recommended.
Are non-technical summaries provided?	Yes	

4.0 DISCUSSION

4.1. The BIA has been carried out by AKT II Consulting Structural and Civil Engineers. It has been demonstrated, in the revised submissions, that the BIA authors hold appropriate qualifications in accordance with LBC guidance.

4.2. The proposed development will comprise the demolition of the existing buildings and the construction of three buildings between 5- and 7-storeys high with a shared single-storey basement covering the entire footprint of the site. The revised submissions confirm the basement will be formed to approximately 9m below ground level utilising secant piled retaining walls.

4.3. LBC guidance, provided within CPG Basements, indicates the requirements of a BIA. Screening and scoping form key parts of the BIA process and have been presented for review in the revised submissions. Desk study information has been provided.

4.4. A Ground Investigation Report was provided and has been updated in the revised submissions. Made Ground is identified to depths of between 5.10m and 5.80m bgl, below which lies the London Clay Formation extending to a depth of 41.00m bgl, below which lies the Thanet Formation. A perched water table was identified within the Made Ground at a depths between 4.13m and 5.28m bgl.

4.5. A concrete obstruction was encountered within the Made Ground and asbestos contamination was identified. The BIA indicates that the extent of contamination is to be further investigated in the following stages. The contaminated land assessment has not been considered within this audit.

4.6. Its noted that limited interpretative geotechnical information was provided in the original Soiltechnics report, including a shear strength design line and indicative bearing pile capacities. In the revised submissions, appropriate outline geotechnical information has been provided.

4.7. Numerous basement construction techniques and options were presented in the original BIA. The revised submissions confirm the basement will be formed to approximately 9m below ground level utilising secant piled retaining walls. Outline structural information is provided. This should be confirmed in a Basement Construction Plan (BCP) prior to construction.

4.8. The revised submissions provide a conceptual site model upon which the Screening, Scoping and Impact Assessments have been based.

4.9. A Ground Movement Assessment (GMA) has been undertaken which predicts a maximum of Category 1 damage (Very Slight) to neighbouring buildings. The range of movements and damage impacts are within the range expected, considering the depth, scale and construction

methodology proposed. A revised GMA should be provided within a BCP once the structural scheme is confirmed.

4.10. The revised BIA identifies a number of utilities and below ground assets that surround the site, including the culverted River Fleet, and identifies the need for third party approvals prior to commencing construction. It also identifies the need for liaison with the Highways Agency regarding the public highways surrounding the site. Asset protection criteria should be agreed with asset owners.

4.11. It is accepted that the development will not impact the wider hydrogeological environment. The perched water within the Made Ground should be considered within the temporary works strategy, to ensure stability during construction.

4.12. There will be no change in impermeable site area due to the proposed development and no impact on the wider hydrological environment. It is proposed to adopt attenuation SUDS in accordance with best practice. A final drainage design should be agreed with LBC and Thames Water.

4.13. The site is at very low risk of surface water flooding. Standard flood risk mitigation measures should be adopted in the final design and are discussed within the BIA submissions.

4.14. An outline construction programme has been provided.

5.0 CONCLUSIONS

5.1. In the revised submissions, the BIA authors hold appropriate qualifications in accordance with LBC guidance.

5.2. Screening and scoping assessments are presented in the revised submissions.

5.3. The ground conditions comprise Made Ground over the London Clay formation. Interpretative geotechnical information is provided in the revised submissions.

5.4. The revised submissions confirm the basement will be formed to approximately 9m below ground level utilising secant piled retaining walls. Outline structural information is provided. This should be confirmed in a Basement Construction Plan (BCP) prior to construction.

5.5. A Ground Movement Assessment (GMA) has been undertaken which predicts a maximum of Category 1 damage (Very Slight) to neighbouring buildings. A revised GMA should be provided within a BCP once the structural scheme is confirmed.

5.6. Impacts to surrounding utilities / underground infrastructure assets should be assessed and asset protection agreements entered into with asset owners, as applicable.

5.7. It is accepted that the development will not impact the wider hydrogeological environment.

5.8. There will be no impact on the wider hydrological environment. It is proposed to adopt attenuation SUDS. A final drainage design should be agreed with LBC and Thames Water.

5.9. The site is at very low risk of surface water flooding. Standard flood risk mitigation measures should be adopted in the final design.

5.10. Queries and requests for further information are summarised in Appendix 2. Considering the revised submissions, the BIA meets the criteria of CPG Basements.

Appendix 1: Residents' Consultation Comments

None

Appendix 2: Audit Query Tracker

Audit Query Tracker

Query No	Subject	Query	Status	Date closed out
1	BIA Format	It should be demonstrated that the BIA authors hold appropriate qualifications in accordance with LBC guidance.	Closed	January 2020
2	BIA Format	Screening and scoping assessments should be presented.	Closed	December 2019
3	BIA Format	The construction methodology, depth and type of retaining wall and the proposed basement formation level should be confirmed, and used as the basis of a conceptual model in the context of potential stability, hydrological and hydrogeological impacts.	Closed – BCP recommended	January 2020
4	Land Stability	Interpretative geotechnical information should be provided including retaining wall parameters.	Closed	December 2019
5	Land Stability	The ground movement assessment (GMA) should be confirmed once construction methodology and levels are confirmed, including an assessment of impacts to surrounding highways, underground infrastructure and buildings within the zone of influence, as applicable.	Closed – BCP recommended	January 2020

Appendix 3: Supplementary Supporting Documents

None

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