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Our ref: 16.280
24th July 2017

Ornan Court
2 Ornan Road
London
NW3 4PT

Further Supplementary BIA report based on Campbell Reith Audit Query – Tracker March 2017

The audit query tracker is situated in Appendix 2 of the Campbell Reith preliminary report. We have previously provided information based on Campbell Reith numbering and sub paragraphs. Further clarification has been required and we enclose a response from Site Analytical Services dated 24th July 2017, together with an accompanying drawing of the external retaining walls and site photographs of the building in relation to the embankment and road.

As required the following items have been re-addressed.

1. Desk Study

As indicated the desk study and CSM are in accordance with the appropriate guidance at the time of writing of the report.

2. Stability – Shrink Swell Movements

The effect of shrink swell movements has been assessed within the site investigation and laboratory data.

5. Stability Assessment of on-site Retaining Structures

The effect on the surrounding retaining walls has been indicated to the very slight or less. There is no risk of instability as a result of the basement works.

6. Stability - Ground movement, Damage impact and Structural Monitoring

The assessment is within the original basement impact assessment document and has been assessed as very slight. A structural monitoring proposal has already been forwarded as required.

Conclusion

Once again it is therefore concluded that the considerable amount of structural and hydrogeological information already provided for this assessment more than justifies the construction of a basement on this particular site. There should be no further requirements for detailed structural information and the BIA should be accepted in order for the planning approval to be obtained at the earliest opportunity. Despite assertions that the original BIA is no longer relevant, as indicated in the Planning Inspector's report, Building Control Inspectors will ensure that the construction is carried out to a high standard. As previously stated party wall procedures will be applied where necessary.

M A Redston

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Your Ref: Our Ref: 14/22662

Client : Ornan Court Limited
Date : 24th July 2017

Project Title : Ornan Court, 2 Ornan Road, London, NW3 4PT

This document has been prepared as a response to Campbell Reith's comments as part of the review process.

1. Desk Study - the outstanding requirement is the conceptual site model (CSM). The other requirements have been addressed (historical land use, confirmed utility assets outside the zone of influence, outline construction programme, non-technical summary paragraphs). The CSM should indicate the existing and proposed developments in the context of the ground and groundwater conditions, and the neighbouring structures / retaining walls, with potential impacts and risks identified.

The desk study produced for this project was been produced in line with the current UK guidance at the time of writing, primarily the Contaminated Land Research (CLR) Reports and most importantly CLR Report 11. It was produced in order to assess the potential for contamination at the site. It was not prepared to assess the potential impact of the proposed development "...in the context of the ground and groundwater conditions, and the neighbouring structures / retaining walls...". These elements of the proposed development were considered during the production of the Basement Impact Assessment (BIA) document, specifically within section 2.7 'Results of the Basement Impact Assessment Screening' and within 'Table 1: Summary of Screening Results', that is contained in Section 2.7.

2. Stability - shrink swell movements are reported to be '<25mm within 1m of the property' within the Supplementary BIA, whereas the statement from Site Analytical Services states that 'at 3.2m depth any variations (in moisture content) are likely to be un-noticed'. A conclusion as to whether shrink swell is assessed as likely or not should be provided, with an assessment of impact if applicable. For instance, if <25mm of ground movement is considered likely, how does this affect the ground movement assessment?

Although it is mentioned that shrink swell movements are reported to be '<25mm within 1m of the property, this is unlikely to have an impact of the structure. The ground movement assessment notes the following items as Causes of ground movement outside the excavation

The analysis considers three causes of ground movement outside the excavation, these are:-
i) Vertical ground movement due to vertical changes in load resulting from building works and excavation
ii) Vertical and horizontal movement due to installation of underpins
iii) Vertical and horizontal movement due to deflection of underpins resulting from removal of support from in front of underpins by excavation.

The ground movement assessment is undertaken as the final stage of the investigation and has all of the site investigation and laboratory data and as such already takes this into account.

3, 4, 5 closed

6. Stability - assessment of on-site retaining structures - the supplementary BIA provides outline information on the current repair / upgrade works of the retaining walls that 'will considerably reduce the likelihood of any collapse of these walls in the future'. Some further information should be provided to justify this response, such as dimensions of the retained height and details of the retaining structure. These structures should also be assessed within the quantitative Ground Movement Assessment to indicate if they will be affected by ground movements, and if so what the impacts of those movements will have. It is noted that on page 2 of the Supplementary BIA (4.14) that retained structures are outside the zone of influence of the development, however Fig 2 of the SAS report suggests retaining structures within 5m of the development.

We have previously assumed the comments relate only to the boundary wall with Haverstock Hill (<1m retained height) and that with Ornan Road (approx. 1.2m retained height). retained heights measured by the engineer.

Of the boundary walls Ornan Road is closer to the dig (Approx. 6.8m) and is not affected by trees. The Bin area walls lie at approx. 3.8m from the dig. The nearest part of retaining wall is part of the restoration and will be removed during the basement works.

The Haverstock Hill wall is on an outward tilt, most likely resulting from the three mature trees that grow immediately adjacent to it within the property, the 'horizontal bars' installed within the wall are intended to help in this respect. The seasonal movement due to the trees will dwarf any movement from the dig so this wall not considered further.

The Ornan Road wall is predicted to settle a maximum of 1.2mm in the short term due to the dig, recovering to 0.4mm total settlement in the long term. The wall is discontinuous and will not suffer in-plane horizontal strain as a result of the works. By inspection the damage Category is 'very slight' or less. There is no risk of instability as a result of predicted ground movements arising from the dig.

The Bin Area wall is predicted to settle 2.5mm in the short-term due to the dig, recovering to 1.6mm total settlement in the long term. The wall is short, buttressed and appears robust. It will not suffer in-plane horizontal strain as a result of the works. By inspection the damage Category is 'very slight' or less. There is no risk of instability as a result of predicted ground movements arising from the dig.

7. Stability - Ground movement, damage impact and structural monitoring - the Supplementary BIA states that 'damage is unlikely to be greater than Category 1 and no ground movement is expected during the works'. This assessment is not accepted and ground movements will be generated by underpinning. A quantitative assessment of ground movements and damage impacts should be presented, with structural monitoring proposals to include trigger values and contingency actions, as applicable.

An assessment of the ground movement has been carried out and can be found within Appendix D of the Basement Impact Assessment.

Although it is noted with the supplementary BIA that there is no movement, the ground movement assessment notes a Burland Scale category 1 'very slight' which limits movement to <1mm and it is our understanding that this is acceptable under the current ~Camden guidelines.

Yours sincerely

On behalf of Site Analytical Services Limited

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Google Maps 229 Haverstock Hill

Image capture: Jul 2016 © 2017 Google United Kingdom

London, England

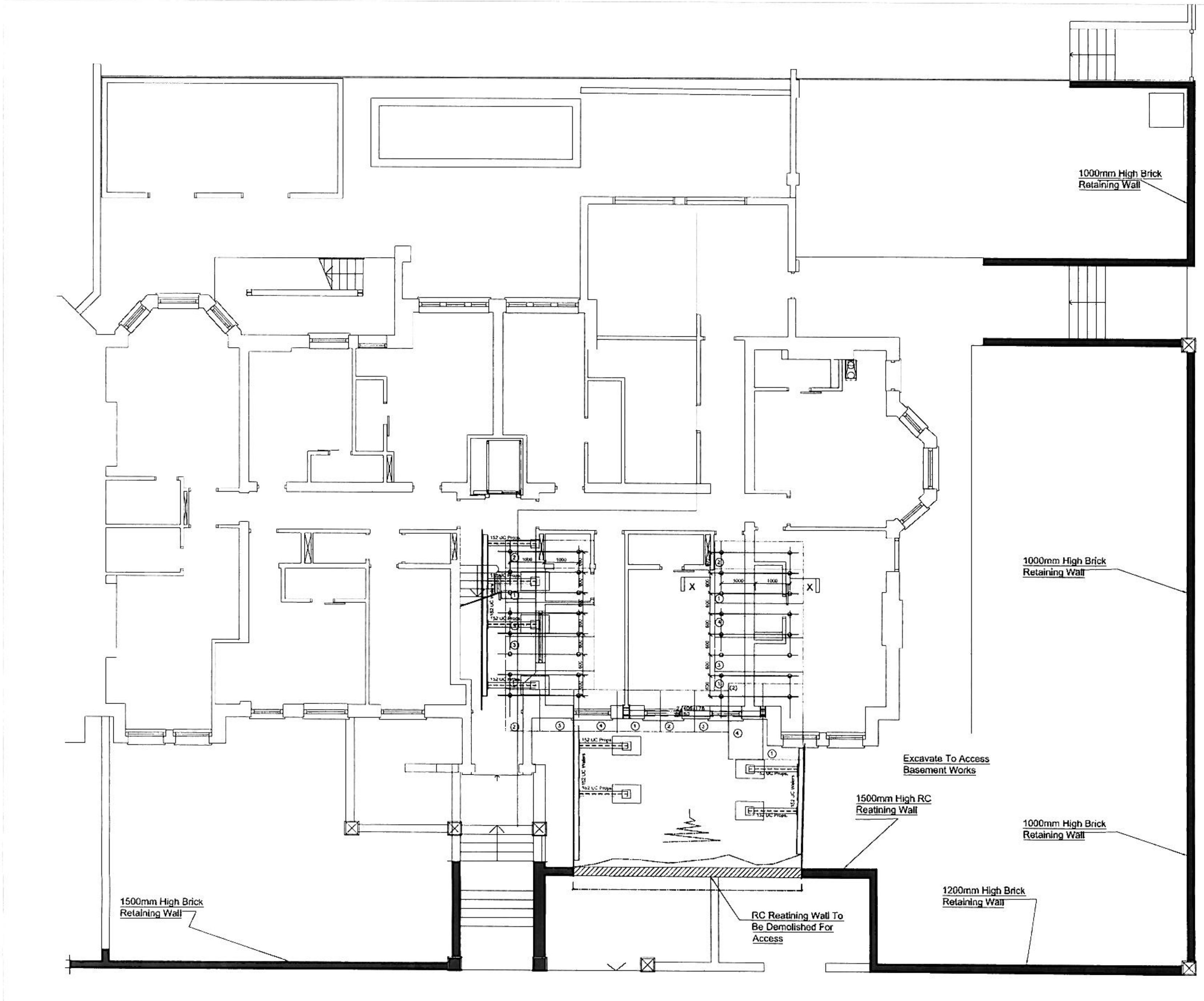
Street View - Jul 2016

Google Maps 63 Ornan Rd

Image capture: Jul 2016 © 2017 Google United Kingdom

London, England

Street View - Jul 2016



Title: Retaining Wall Locations

Preliminary

Rev	Date	Description	App

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Date: 26.04.2016
Eng: GD
Scale: 1:50@A1
Job No: 16.780
Sheet No. Rev: RW1

Project: Oman Court, Belsize Park, NW3