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36 Avenue Road
NW8 6HS

Detailed Basement Construction Plan

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219088
Detailed Basement Construction Plan

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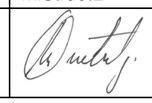
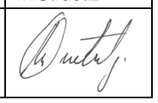
		Remarks:	Preliminary Issue				
Revision:	P1	Prepared by:	Gary Povey BSc CEng MIStructE	Checked by:	Miroslav Antelj MEng CEng MIStructE	Approved by:	Miroslav Antelj MEng CEng MIStructE
Date:	20.02.19	Signature:		Signature:		Signature:	

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One

Introduction

1.1

Elliott Wood Partnership Ltd are appointed to prepare the Basement Construction Plan as required by the Agreement relating to land known as 36 Avenue Road , London NW8 6HS pursuant to Section 106 of the Town and Country Planning Act 1990 (as amended), Section 16 of the Greater London Council (General Powers) Act 1974, Section 111 of the Local Government Act 1974, Section 1(1) of the Localism Act 2011 and Section 278 of the Highways Act 1980 dated 11 May 2018.

1.2

This report should also be read in conjunction with the planning permission ref: 2015/3328/P

1.3

In this report the word Agreement has been used to relate to the Agreement described above and it refers specifically to Section 2.11 page 8 of the agreement. This report has been prepared at the request of our Client as part of a clarification of the responses to the section mentioned above.

The detailed basement construction plan demonstrates that sufficient provisions have been considered in the structural design and construction information for the basement development to minimise any impact on neighbouring properties, including structural stability and groundwater environment.

1.4

This report is not for the use or reliance on, of any third party.

Two

Detailed Basement Construction Plan – Responses to S106

2.11 Detailed Basement Construction Plan Clauses

2.11.1

Elliott Wood Partnership Ltd are appointed to act as the Clients' Consulting Structural and Civil Engineers for the proposed development known as 36 Avenue Road, London NW8 6HS. The appointment was written on 20 February 2019 and confirmed on behalf of the Client, on …. The appointment is for the design of the structural permanent works design. Cranston Consulting have been appointed to provide the temporary works and piling design has been provided by Piledesigns Ltd.

Refer to Appendix A for appointment letters and client's confirmation.

2.11.2

Clause 2a

The structural design has been undertaken in accordance with the terms of the Agreement. A site-specific soil investigation has been carried out by Site Analytical Services Ltd in June 2014 and the structural design has been developed based on the ground conditions and recommendations given by SAS.

The site investigation completed by SAS encountered the anticipated geological stratum of a thin layer of made ground overlying London Clay to depth.

Groundwater was not encountered during the site investigation or during the monitoring phase. However, a water level of 2/3 height of the basement has conservatively been assumed in the design of the permanent works.

Sample testing indicated the underlying clay to be of moderate susceptibility to shrinkage and swelling movements. Consequently, heave protection has been utilised beneath the basement suspended slab to minimise potential heave pressure. The suspended basement slab and internal tension piles have been designed to resist the heave protection fail load as well as hydrostatic uplift.

To enable the safe construction of the basement it is proposed that a contiguous bored piled wall is used to the perimeter of the basement using a continuous flight auger (CFA) piling rig. There is also some lengths of basement wall that are to be constructed in an underpinning type sequence and in two or three stages. The use of a CFA contiguous piled wall has also been adopted to minimise the impact on the adjoining buildings and infrastructure particularly at 38 Avenue Road. Temporary propping and waling beams are to be utilised to laterally restrain the contiguous piled walls and underpins in temporary case as the excavation progresses down to formation level. In the permanent case the piled wall will be propped by the basement and ground floor slabs.

Preliminary pile design was completed by Piledesigns Limited using the Wallap software to establish likely pile diameter in accordance with BS EN 1997-1. The ground movement assessment was prepared by a qualified Geotechnical Engineer Applied Geotechnical Engineering(AGE) using X-Disp software licensed from the OASYS suite of programmes by Arup and using soil properties obtained from the site investigation.

Refer to Appendix B for Desk Study and Basement Impact Assessment Report.

Clause 2b

The ground movement assessment by AGE concluded that the predicted damage is limited to no more than the 'very slight' damage category with reference to the Burland Category of Damage table. The recommendation for a robust monitoring regime will be adopted to ensure movement monitoring is recorded and the results reviewed in line the with movement assessment and temporary works design.

On this basis, the damage that may result from the development would fall within accepted limits.

Refer to Appendix B for Desk Study and Basement Impact Assessment.

Clause 2c

Elliott Wood Partnership Ltd have completed the permanent works structural design in accordance with the Agreement. The design of piles has been completed by Piledesigns Limited and has been undertaken in accordance with the Agreement. The temporary works design has been provided by Cranston Consulting in accordance with the Agreement.

Clause 2c(i)

Detailed structural appraisals and condition survey of the neighbouring properties at 38 and 34 Avenue Road and 1 Radlett Place will be carried out by a suitably qualified Chartered Surveyor appointed by the Client and these surveys will be carried out prior to commencement on site. The appointment letters and scope of their appointment is attached.

Refer to appendix G for appointment letters for the Chartered Surveyor

Clause 2c(ii)

Elliott Wood Partnership Ltd have completed the basement construction method statement, sequencing drawings and structural monitoring proposals. These have been produced to ensure the safety and stability of neighbouring properties throughout the construction phase with appropriate monitoring control and contingency measures that will be adopted by the Contractor.

The piling design and piling method statement have also been produced in accordance with the sequencing drawings and temporary works proposal to ensure the safety and stability of neighbouring properties throughout the construction phase.

Refer to Appendix C for basement construction method statement, temporary works sequence drawings, piling method statement and monitoring proposals.

Clause 2c(iii)

Detailed design drawings, specification and calculations for permanent construction works were prepared by Elliott Wood Partnership Ltd, these consider local ground condition and local water environment as well as structural condition of the neighbouring properties.

Temporary works design has been prepared by Cranston Consulting which also considers these matters.

Refer to Appendix D for permanent works drawings, calculations and specification. Refer to Appendix E for temporary works design. Refer to Appendix F for pile design.

Clause 2c(iv)

Elliott Wood Partnership Ltd will undertake regular site visits to monitor that works on site are being constructed generally in accordance with their drawings and specification. They will also review and monitor the temporary works installation during the construction phase.

Refer to Appendix A for Information on Appointments.

Clause 2c(v)

The Client will provide confirmation that they will employ an appropriate person to regularly maintain the basement as well as the internal and external drainage throughout the life of the property. There are no groundwater diversions proposed so this will not need to be maintained. In any case, we have also allowed in our design of the permanent works in the basement for any build-up of water in the ground due to defective drains to be appropriately accommodated in the short term until a repair is made. The structural stability of the Property will therefore be unaffected even if the drains become defective.

The BIA submitted with the Planning Application and contained in Appendix B notes that the local hydrogeology is unaffected by the basement and that, therefore, there is no impact on the structural stability of the neighbouring properties due to groundwater. There is also no impact on the structural stability of the neighbouring properties due to the proposed on-site drainage system.

Refer to appendix I for confirmation letters from the client's representative with regards to maintenance.

Clause 2c(vi)

Groundwater monitoring will be carried out prior to implementation and retained with monitoring continuing during the construction until the project completion. The existing monitoring points will continue to be used for this monitoring. This monitoring will be maintained until Practical Completion of the structure.

For location of proposed groundwater monitoring, refer to appendix H.

Clause 2c(vii)

A construction management plan has been completed by Clayton Business Limited which sets out construction traffic planning and procedures for informing local residents of planned construction traffic.

The Contractor's qualified Site Manager will contact other construction sites in the immediate vicinity and will attempt to ensure that deliveries are coordinated with neighbouring contractors where appropriate, having regard to the approved traffic routing for this development and others in the vicinity.

They will liaise with immediate neighbours to advise them of significant variations to the normal delivery pattern and consult with them regarding any mitigation methods where practicable.

2.11.3

Clause 3

A second independent suitably certified engineer (Adam Atkinson MEng CEng MIStructE) has been appointed to act for the Client. Elliott Wood Partnership Ltd can confirm that Adam Atkinson has had no prior involvement in the proposed development or in the formation of the Detailed Basement Construction Plan and is therefore completely independent of the project.

Refer to Appendix A for details of the certifying second independent engineer.

2.11.4

Clause 4

The second independent suitably certified engineer will prepare a 2-page review report to the Council confirming that the design plans have been formulated in strict accordance with the terms of the Agreement.

Their review is attached to this document at Appendix A.

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Appendices

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A Appointment Letters and Client's Confirmation

B Site Investigation and Basement Impact Assessment Report

C Basement Construction Method Statement, Temporary Works Sequencing and Structural Monitoring

D Structural drawings, Calculations and Specification

E Temporary Works Design

F Pile Design

G Condition Survey of Neighbouring Properties

H Ground Water Monitoring

Confirmation of Ongoing Maintenance

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