PRICE & MYERS

14A Hampstead Hill Gardens London

Construction Method Statement

Prepared by: **Peter Dash BEng CEng MIStructE**

Job Number: **28806**

Date	Revision	Notes/Amendments/Issue Purpose
March 2021	3	For Planning

Consulting Engineers
37 Alfred Place
London WC1E 7DP

020 7631 5128
mail@pricemyers.com
www.pricemyers.com

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Appendices:

1 Introduction

This report has been prepared in support of the Planning application for a new house at 14A Hampstead Hill Gardens. This report should be read in conjunction with the full ground investigation (ref STS5065 – G01) and Basement Impact Assessment (ref STS5065 – BIA) produced by Soiltechnics. The proposals involve the demolition of two small free-standing garages and the construction of a new three storey house with a basement level. The new house will be modest in scale and is also freestanding.

Figure 1: Site photo

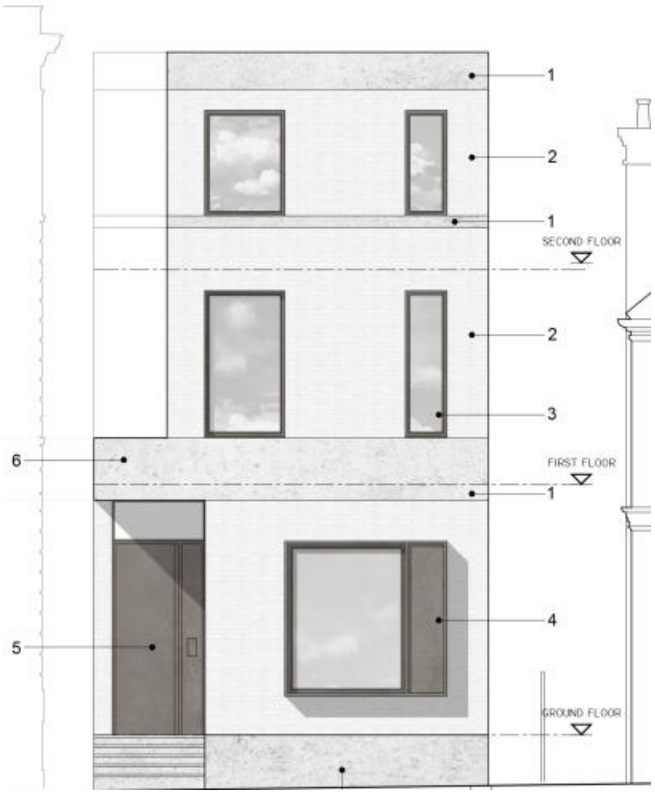

Figure 2: Proposed front elevation

2 The Site

The Basement Impact Assessment by Soiltecnics contains a full desktop study and description of the site and its history but, in brief, the site is currently occupied by two prefabricated garage structures which will be dismantled and removed as part of the proposals. Historic maps indicate the existing house at 14 Hampstead Hill Gardens was built around the late 1800s, with the garages added around 1940.

Figure 3: OS Six Inch, 1888-1913

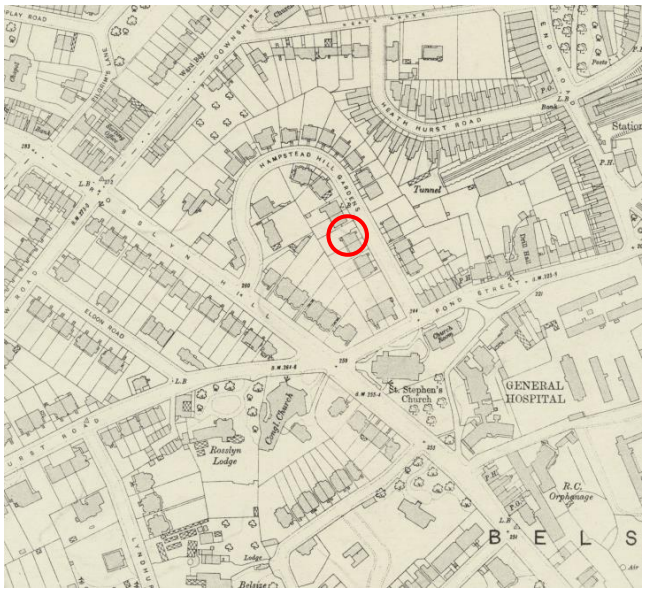

Figure 4: OS 25 Inch, 1892-1914

The British Geological Survey maps show that the site is expected to be underlain by the London Clay Formation, close to the border with the Claygate Beds in an area of 'Head propensity', suggesting the potential presence of unmapped superficial deposits.

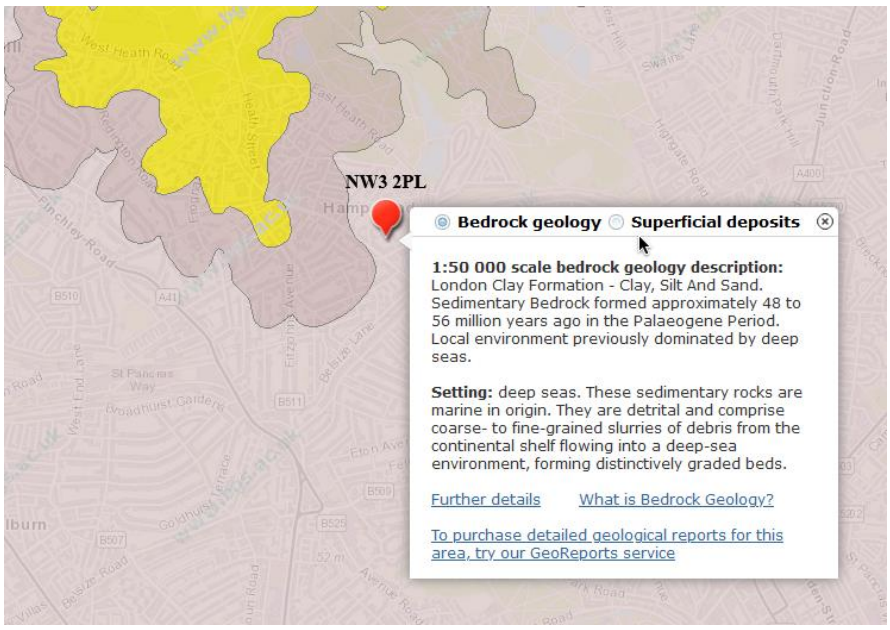

Figure 5: Extract from 1: 50,000 British Geological Survey map

In brief the ground conditions discovered on site were:

- Made ground to 0.5-0.88m depth, over
- Head deposits of variable strength and typically comprising low strength clays to around 4.2m depth, over
- London Clay formation

The Head deposits discovered are inherently variable in nature and so the site investigation recommends that foundations are founded in the London clay formation which is what the sequence drawings indicate.

3 Railway Tunnel

The site sits around 14m above the Hampstead heath tunnel, which was built in 1859 and is one of the oldest tunnels within the Anglia region.

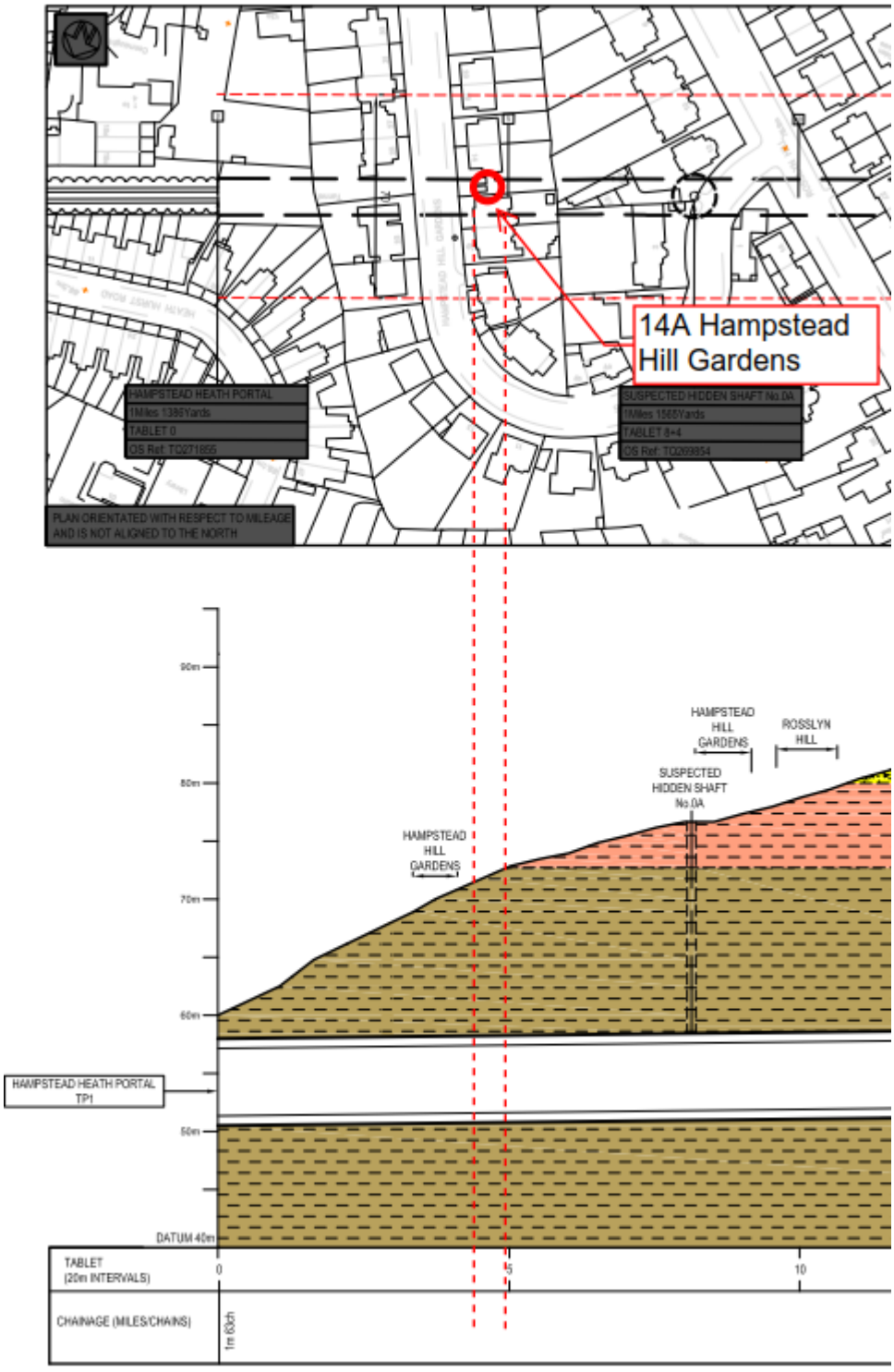

Figure 6: Extract from Network Rail drawing J1343/Hampstead Heath/01

We have been in contact with Network Rail and a Basic Asset Protection Agreement has been signed to allow the site investigation to be undertaken safely. We have held a number of meetings with the various stakeholders at Network Rail and they are aware of the nature and extent of the proposals.

Detailed geotechnical analysis of the scheme to determine the strains on the tunnel structure during the construction process, and in the final permanent state, as well as surveying and monitoring before and during the works will be required. Network Rail have agreed that this work should be carried out during the next, detailed design, phases of the project if planning approval is granted.

4 Proposed Construction Methodology

See Appendix A for sketches showing the proposed construction sequence for the new basement. Care has been taken to ensure that the new retaining walls are fully propped at all times in both the temporary and permanent cases to ensure that potential movements are minimised.

Substructure

The basement structures will be formed in an underpinning construction method with reinforced concrete basement and ground floor slab to form a stiff concrete box. The retaining wall underpins will be over-dug so that they bear within the London clay formation and the basement designed to span between the new foundations. This method has been chosen to avoid any piling due to the relatively shallow depth of the Network Rail tunnel.

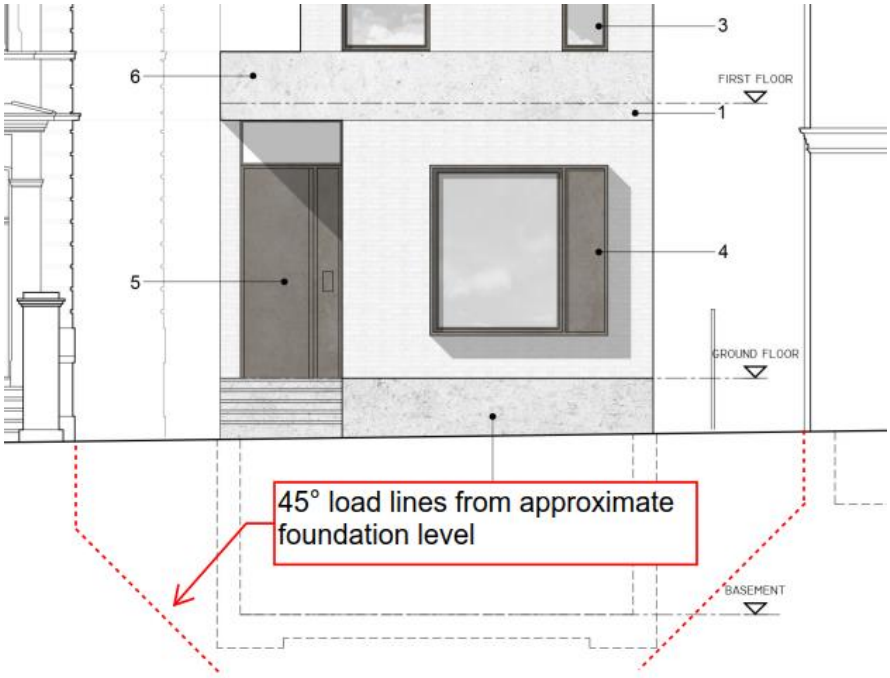

Figure 7: New basement in relation to neighbouring foundation levels

The sketches in Appendix A show the proposed sequence, however in brief the proposed methodology is:

1. Form retaining wall in an underpinning sequence, ensuring that pins are kept fully shored at all times.
2. Prop top of retaining wall.
3. Excavate and prop wall above basement slab level.
4. Pour basement slab.
5. Pour ground floor slab.

Superstructure

The superstructure design will be traditional loadbearing masonry with timber joists and isolated steel beams where required.

Damage Classification

Ground movement analyses have been undertaken by Soiltechnics to assess the impact on the adjoining properties from the proposed works. Those analyses demonstrate that with appropriate controls (which will be enforced), the potential damage to adjoining properties can be limited to Burland Category 1, in accordance with planning guidance.

5 Design Criteria

Codes and Standards

The works will be designed in accordance with the relevant British Standards and Eurocodes with appropriate National Annexes.

Design Life

Category 4 to BS EN 1990 – Building structures and other common structures: 50 years.

Loadings

Area	Imposed Load (kN/m²)
Floors	2.5
Roofs	0.75
Retaining - surcharge	10

Disproportionate Collapse

Class 1 to Building Regulations Part A3 - no special measures required.

Calculations

Conservative geotechnical parameters for soil density, cohesion and an accidental scenario of retained water level will be adopted for the design. Heave of the clays will also be considered.

A preliminary check of the retaining walls is attached in Appendix B.

Appendix A
Construction Sequence Sketches

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Date	Dec 2020	Eng	PD	Chd	
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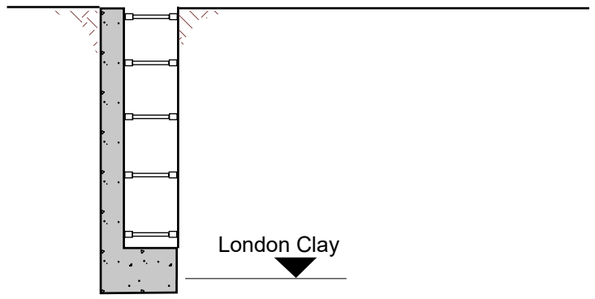
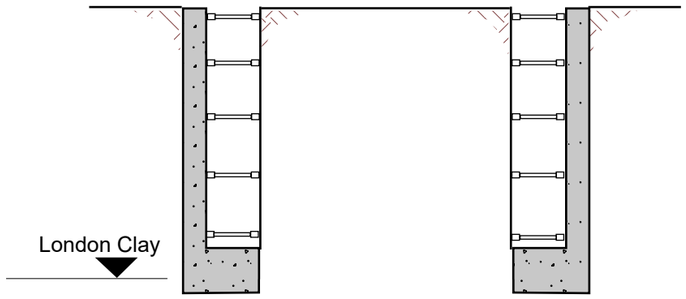
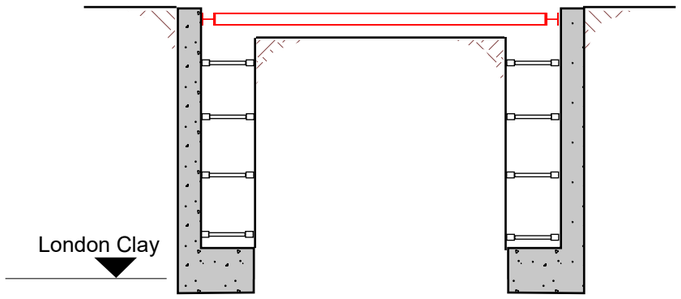


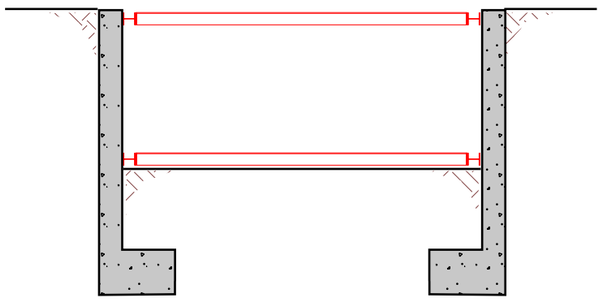
1
Form retaining wall in underpinning sequence.
Ensure excavations are fully shored at all times.



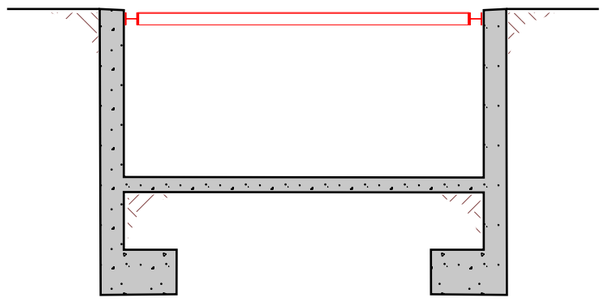
2
Complete retaining wall in underpinning sequence. Ensure excavations are fully shored at all times.



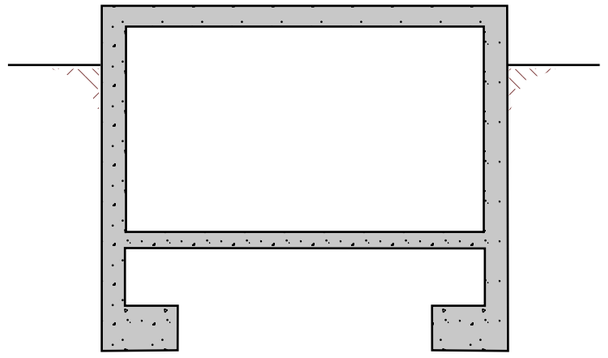
3
Prop top of walls all around



4
Excavate to above basement slab level and prop walls



5
Pour basement slab and remove base prop once slab has reached required strength



6
Pour ground floor slab and remove top prop once slab has reached required strength

Indicative Basement Construction Sequence

(~ 1:100 @ A3)

Indicative only, not for construction.
Construction sequence must ensure that wall is continuously propped at top and base by either temporary or permanent works.