Gledsdale Associates
Consulting Structural Engineers

11 Glenilla Road
London
NW3 4AJ

Basement Impact Assessment

Client:
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BASEMENT IMPACT ASSESSMENT

For the purpose of the proposed Planning application on this site we have formulated this supporting document relating to the proposed basement development.

The aim of this study is to assess if the proposed basement will have a detrimental impact on the surroundings with respect to groundwater and land stability and in particular to assess whether the development will affect the stability of neighbouring properties, local and regional hydrogeology and whether any identified impacts can be appropriately mitigated by the design of the development.

The conclusions and recommendations made in this report are limited to those that can be made on the basis of the research carried out. The results of the research should be viewed in the context of the work that has been carried out and no liability can be accepted for matters outside of the stated scope of the research.

The project is based on an architectural scheme provided by the client.

1. INTRODUCTION

Gledsdale Associates is a Structural Engineering Consultancy, serving clients in all sectors of the building construction industry.

Gledsdale Associates was originally formed in 1992 and has developed into its present form as a firm of consulting engineers with expertise in Structural and Civil Engineering Services.

We have gained experience in all forms of housing developments ranging from large developments of apartments to housing for both private and public sector clients. We have extensive experience in both Educational and Healthcare projects and have also been appointed by Local Authorities on a term commission basis. Projects include both new build developments and conversions or extensions of existing structures.

With regard to the Company's association with retro-fit basements, we have been working within this field for a number of years and have completed projects in various places including Camden, the Wentworth Estate in Surrey, Bexley, Royal Borough of Kensington and Chelsea. The company has extensive experience in underpinning and retro-fit basement construction.

Owner
Ian Gledsdale – B Eng,C.Eng.,M.I.Struct.E.

Professional Indemnity/Liability Insurance
Appropriate PI insurance is carried by the company

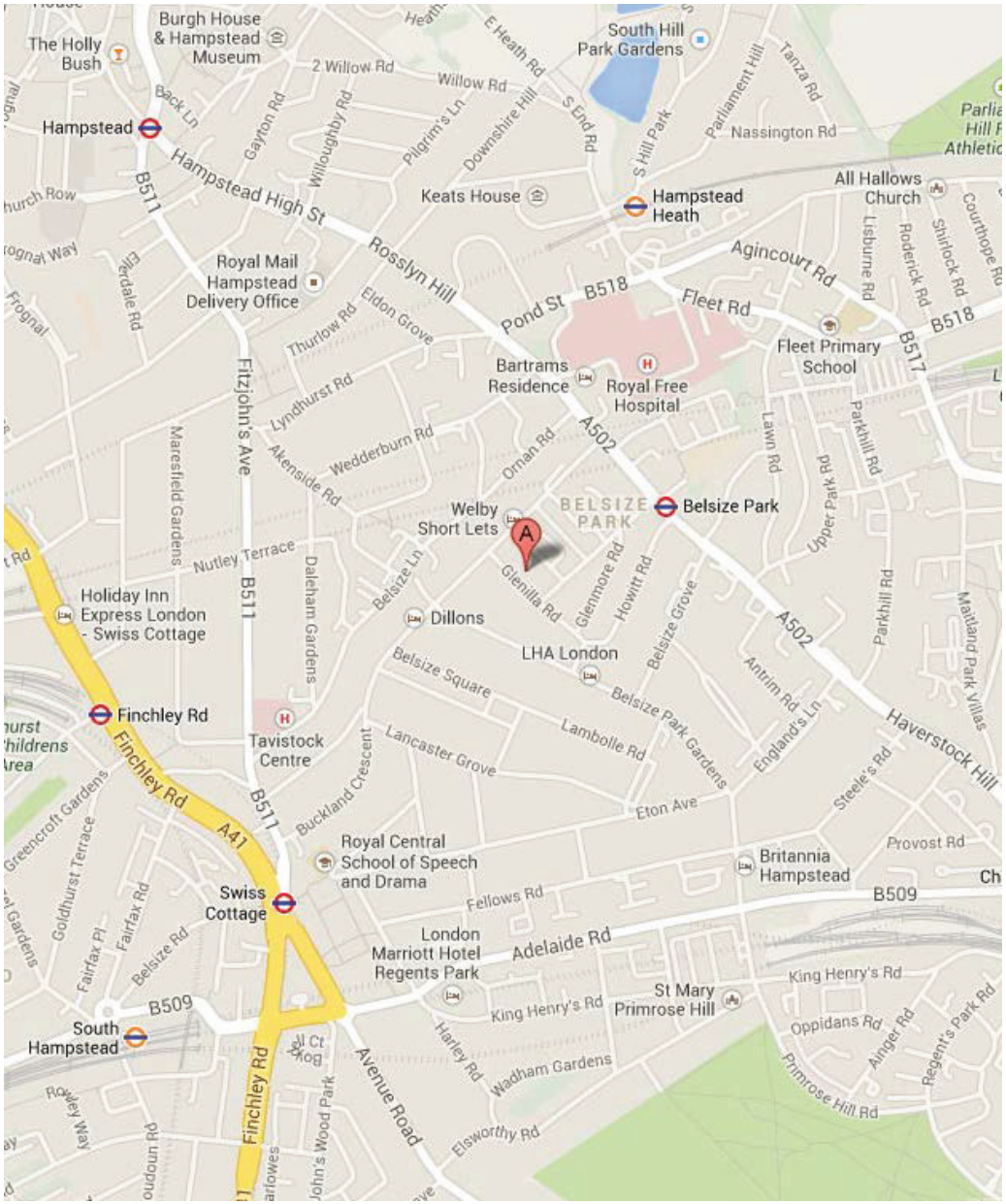


Fig1. Map showing location of no 11. Source Google Maps online

2. THE SITE

Topography: the property is situated on flat to gentle gradient road and downhill is towards a south-eastern direction away from Belsize Avenue. The slope is approximately 1:150 or less.

The property sits within a rectangular site orientated on a slight north-east/south-west axis. The Site has an approximately 7m wide frontage on Glenilla Road and extends north-eastwards from the road by approximately 23m. The property has an enclosed flat garden area at the back. The building is a mid ter-raced house with a single storey rear extension and shares building party walls on either side with No's 9 & 13. The building already has an existing 1.9m deep basement with a small footprint that can be accessed internally, the original external access having been bricked up.

The site is surrounded by residential properties, none of the existing terraced houses along Glenilla Road have any signs of structural damage or slope movement.

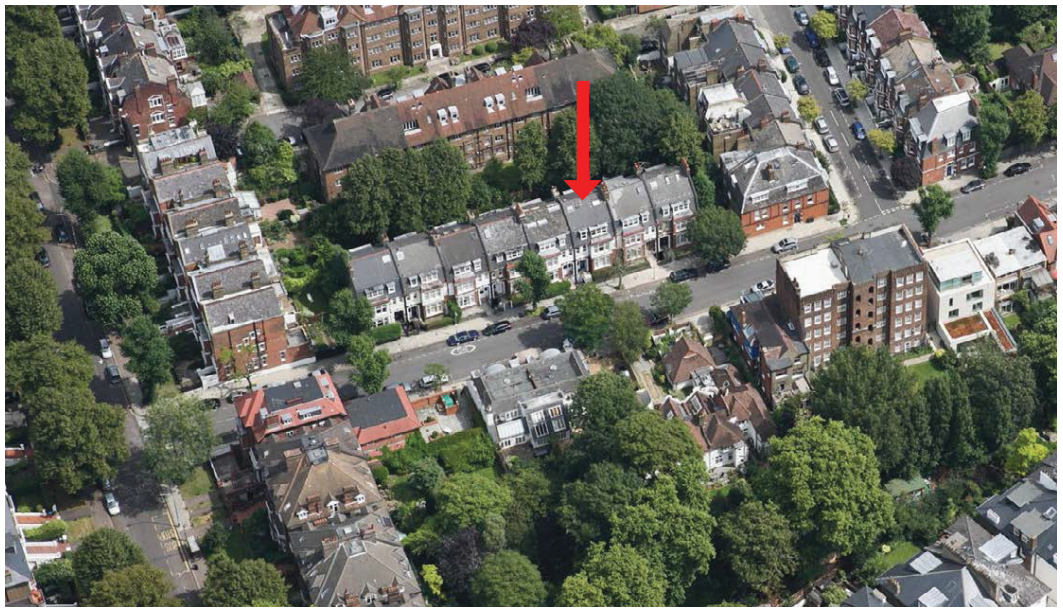


Fig2. Aerial photo's showing location of no 11. Source Bing Maps online

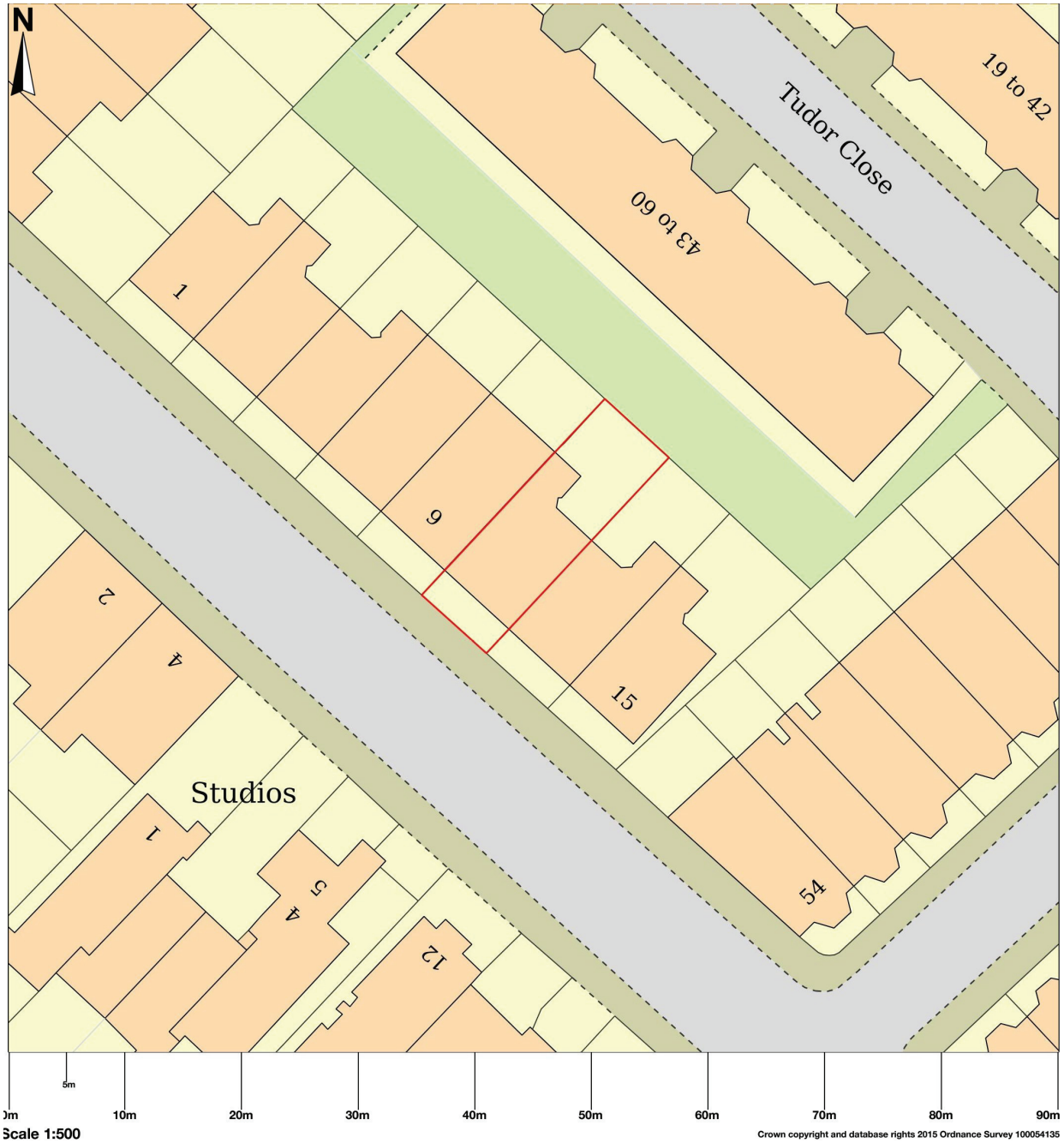
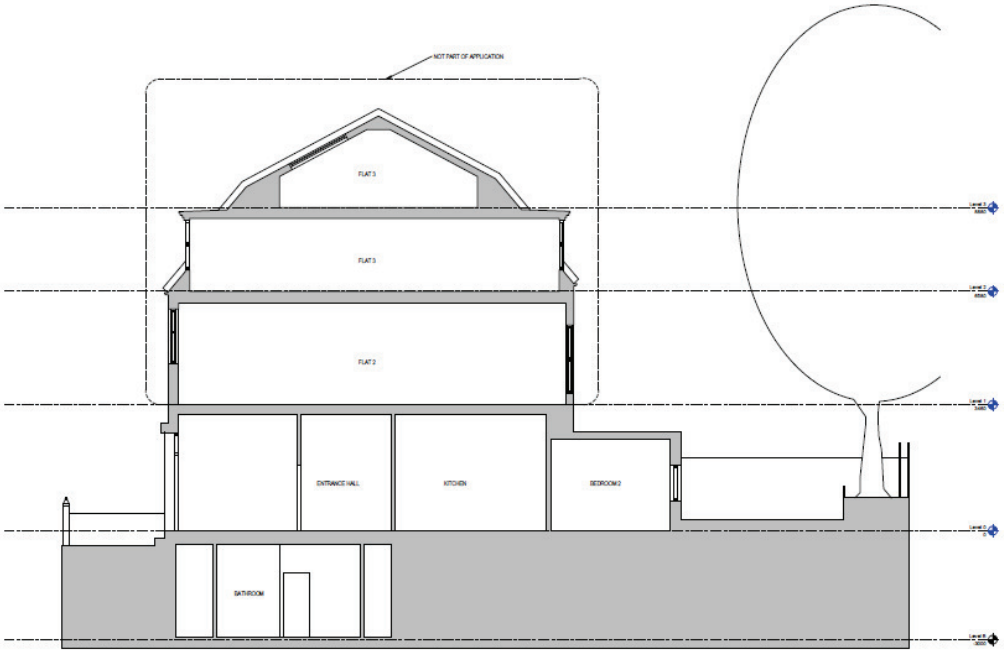


Fig3. Site location plan.

3. THE PROPOSAL

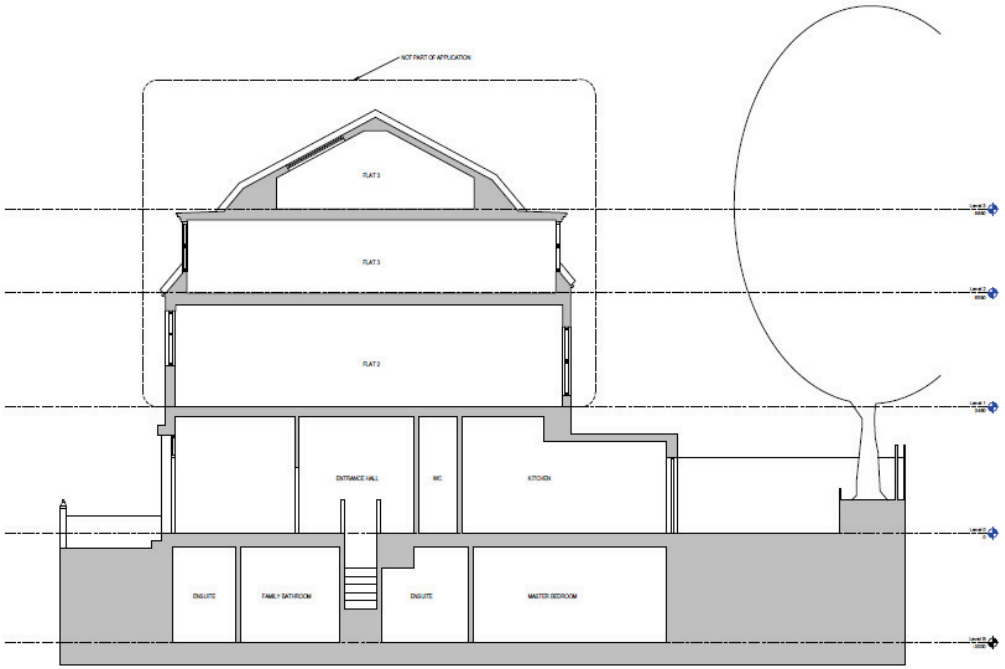
An extension is proposed that would form a single level basement beneath the entire existing building footprint extending to approximately 3.0m below the level of the existing ground floor and protruding into a part of the rear garden with light wells to the front gar-den/entrance area and back garden area.

Existing section:



1 SECTION AA - EXISTING
SCALE: 1:50

Proposed section:



1 SECTION AA - PROPOSED
SCALE: 1:50

4. EXISTING BUILDING
The existing building is a three storey terraced house with a partial basement and a single storey rear extension.

The existing structure was originally constructed at the very early part of the 20th century as a row of terraced houses along a short section of the road. The row of houses are similar in construction with a recognisable Edwardian character. Note neither this property nor any of the adjoining properties are listed on the Statutory List of Buildings of Special Architec-tural or Historic Interest.

The external and party walls are of solid masonry which extends down to a corbelled brick footings; the internal load bearing walls at ground floor level are also of masonry but at first floor level and above the walls are of timber studwork.

The ground floor area consists of a ventilated suspended timber joist floor All the upper floors are constructed from suspended timber joists dating back to the original period of construction.

The top floor is accommodated within a pitched mansard roof space

5. GEOLOGICAL, HYDROGEOLOGICAL AND HYDROLOGICAL OVERVIEW:

In order to gain an overview and better understanding of the potential impact of a basement development at 11 Glenilla Road; we carried out a brief study considering the local context of the geological, hydrogeological and hydrological conditions to the Site.

5.1 GEOLOGY

The British Geological Survey map for the area; reference sheet 256; indicates that the Site sits on London Clay layer with a thickness of 100meters or more.

Camden Geological, Hydrogeological and Hydrological Study as carried by ARUP dated 18/11/2010 confirms that the overlying or near-surface soil strata to the Site is London Clay; see Figures 8 & 9 confirming this.

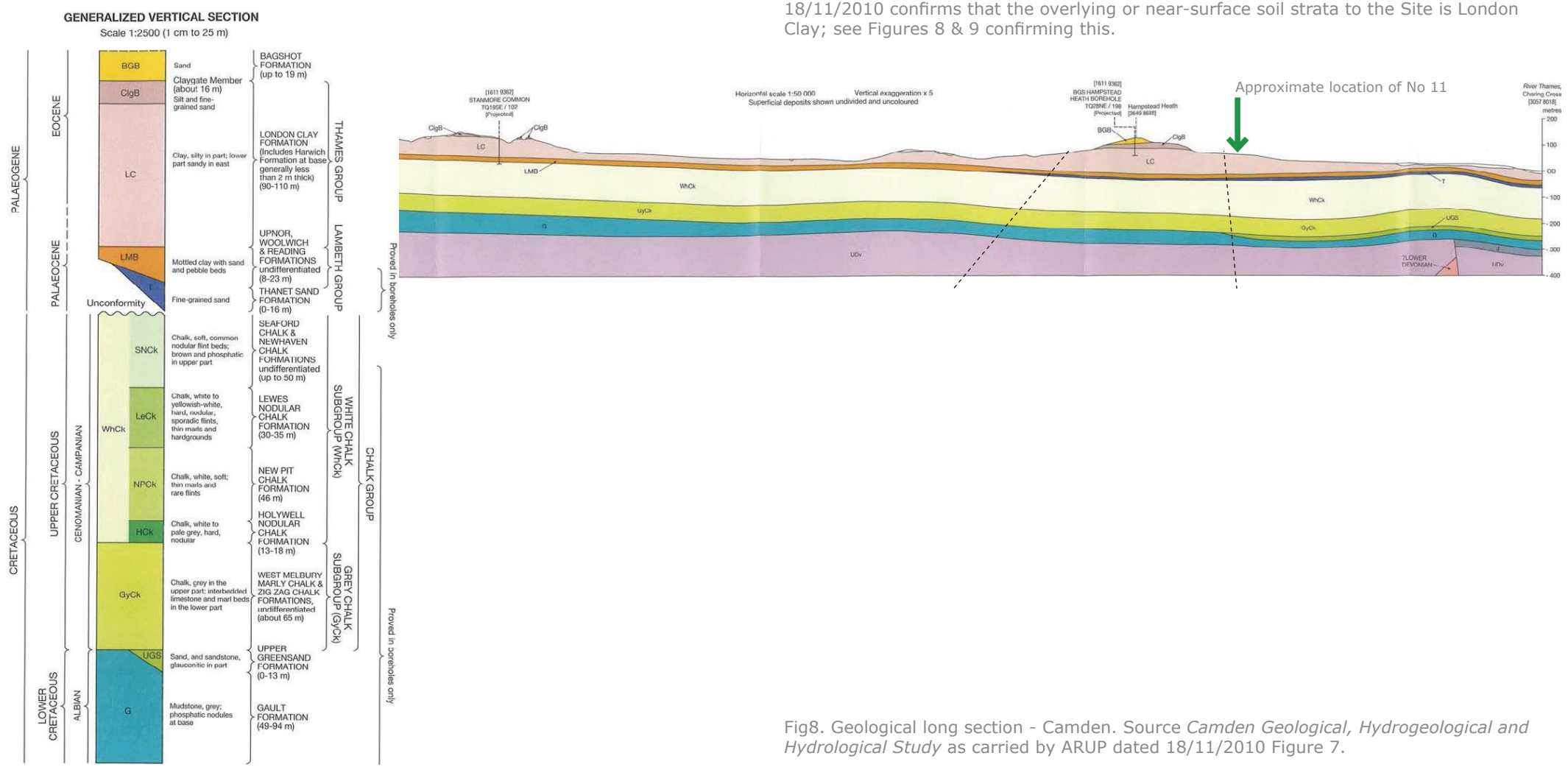


Fig8. Geological long section - Camden. Source *Camden Geological, Hydrogeological and Hydrological Study* as carried by ARUP dated 18/11/2010 Figure 7.

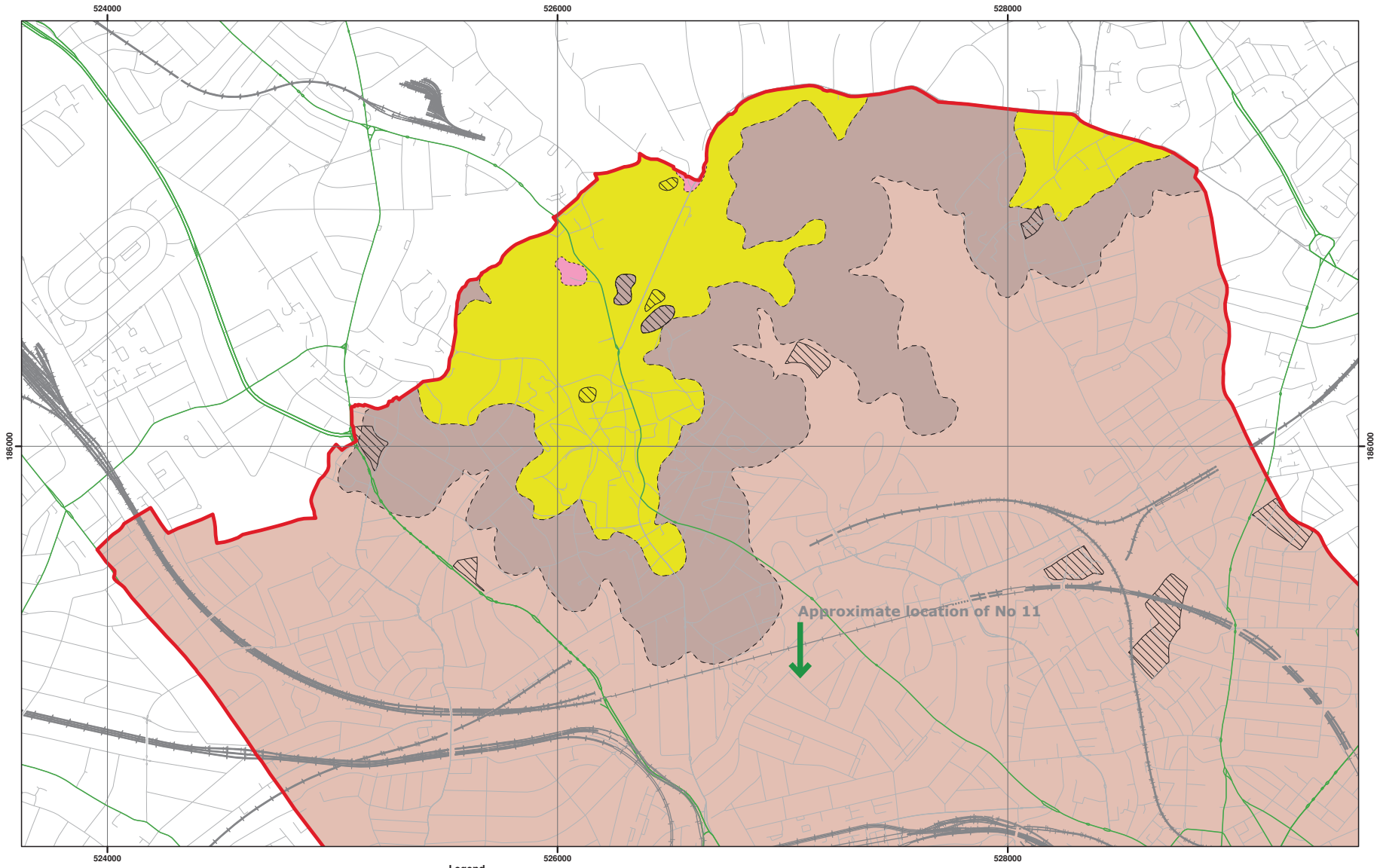


Fig9. Geological Map - North Camden. Source *Camden Geological, Hydrogeological and Hydrological Study* as carried by ARUP dated 18/11/2010 Figure 4.

5.2 HYDROGEOLOGY

The London Clay Formation is considered in hydrogeological terms to be an "unproductive stratum" meaning a rock or drift deposit with low permeability that has negligible significance for water supply or river base flow.

As noted from the above study under Geology the site sits on the London Clay strata, although groundwater is contained within the clayey soil no significant water flow can be expected.

Camden Geological, Hydrogeological and Hydrological Study as carried by ARUP dated 18/11/2010 confirms that the overlying or near-surface soil strata to the Site is London Clay; see Figure 10 confirming this.

The influence of the proposed basement on the local groundwater flow of the area is not significant and therefore not considered further.

5.3 HYDROLOGY

The following figures show the culverted rivers and the surface water features present in London Borough of Camden, see Figures 11 and 12 respectively.

The diagrams confirm that the Site does not fall within any of these features and the proposed development should not have a significant affect on surface water flow or surface drainage in the area. The general lie of the land and size of the property means that surface flows are unlikely to accumulate at the proposed Site.

5.4 FLOODING

This scheme is in Flood Risk Zone 1 according to Environment Agency mapping and, therefore, the specific related requirement of DP27 does not apply. Also see Figure 13.

5.5 TOPOGRAPHY

The slope angle of the Site is slight as indicated in Figure 14.