

London

1–5 Offord Street

London N1 1DH

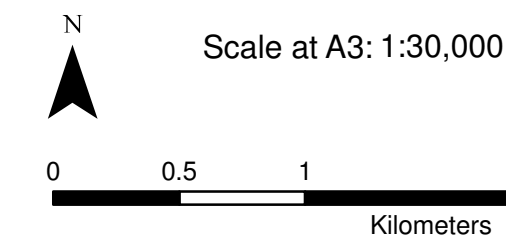
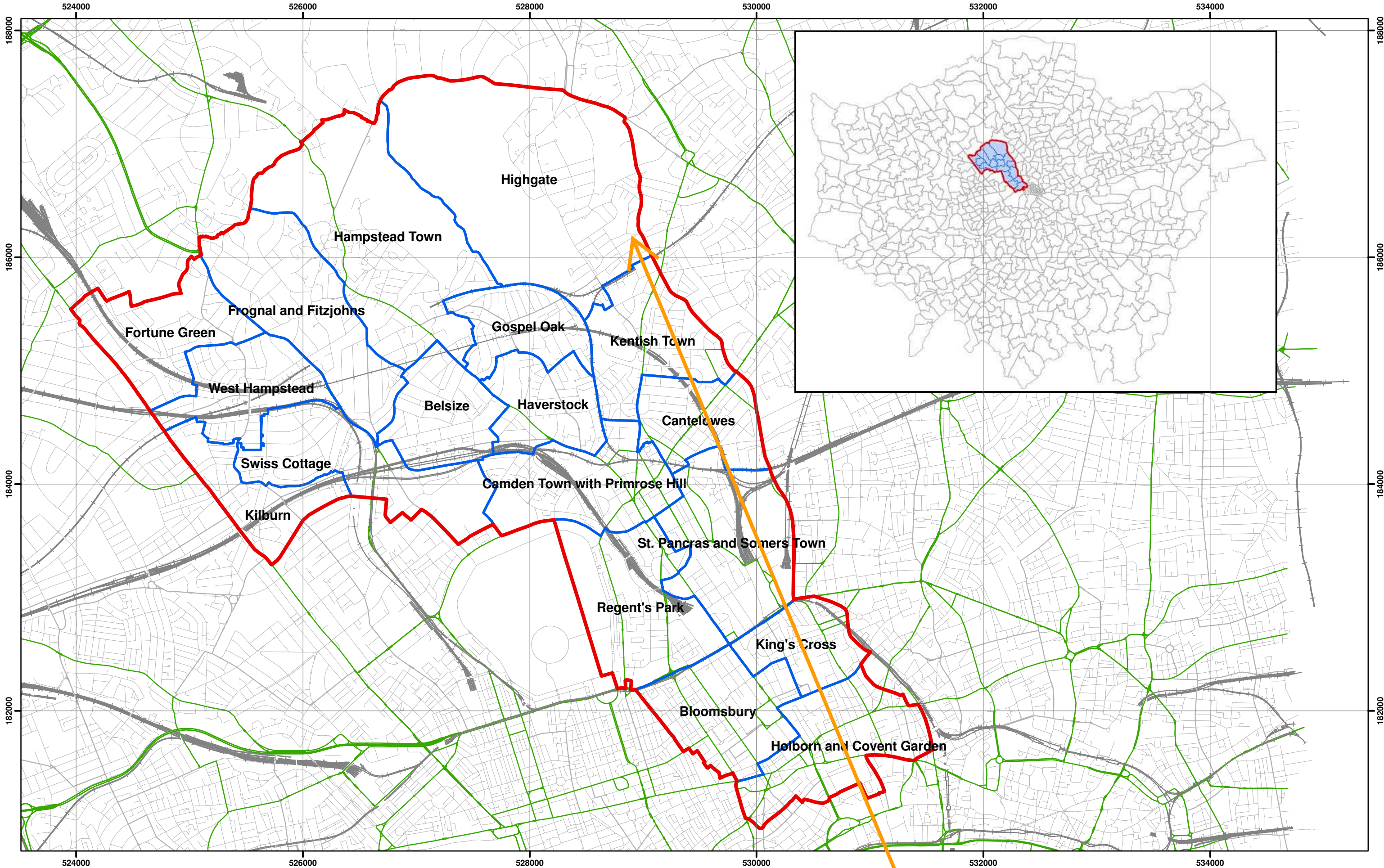
Telephone 020 7700 6666

design@conisbee.co.uk

www.conisbee.co.uk

APPENDIX D

HYDRO-GEOLOGICAL MARK UPS (FROM ARUPS REPORT)

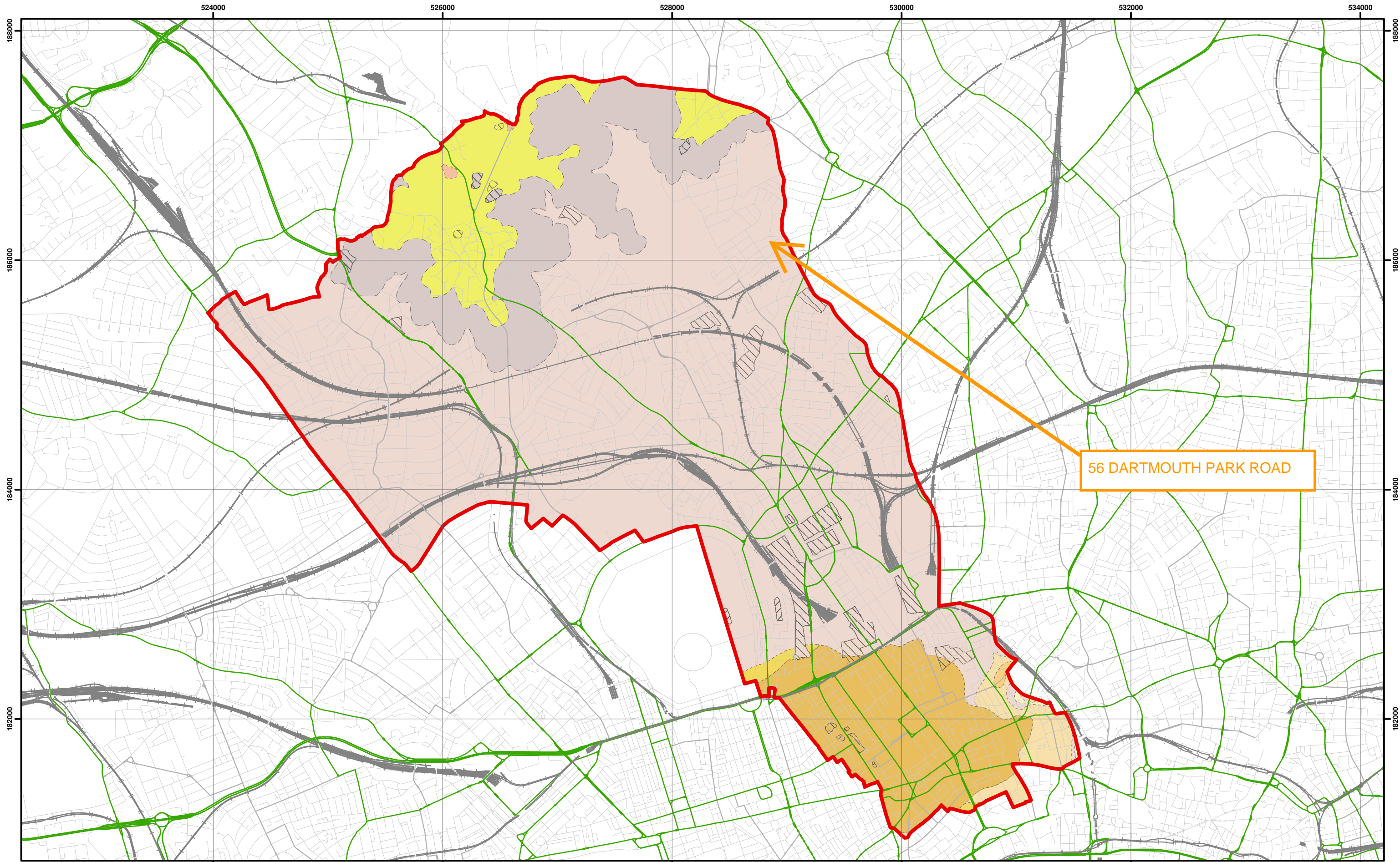


Coordinate System:
British National Grid
GCS_OSGB_1936

- Legend**
- London Borough of Camden
 - Camden Wards
 - Railway Lines
 - A Roads

56 DARTMOUTH PARK ROAD

**Camden Geological, Hydrogeological
and Hydrological Study**
Camden Administrative Boundaries



Data source - BGS Mapping - Scale 1:10,000



Scale at A3: 1:30,000

Coordinate System:
British National Grid
GCS_OSGB_1936

Legend

- London Borough of Camden
- +— Railway Lines
- A Roads
- MADE GROUND
- WORKED GROUND
- ALLUVIUM
- HACKNEY GRAVEL FORMATION
- LANGLEY SILT FORMATION
- LYNCH HILL GRAVEL FORMATION
- STANMORE GRAVEL FORMATION
- BAGSHOT FORMATION
- CLAYGATE MEMBER
- LAMBETH GROUP
- LONDON CLAY FORMATION

NB: Geological boundaries are largely indicative based on available geological mapping data

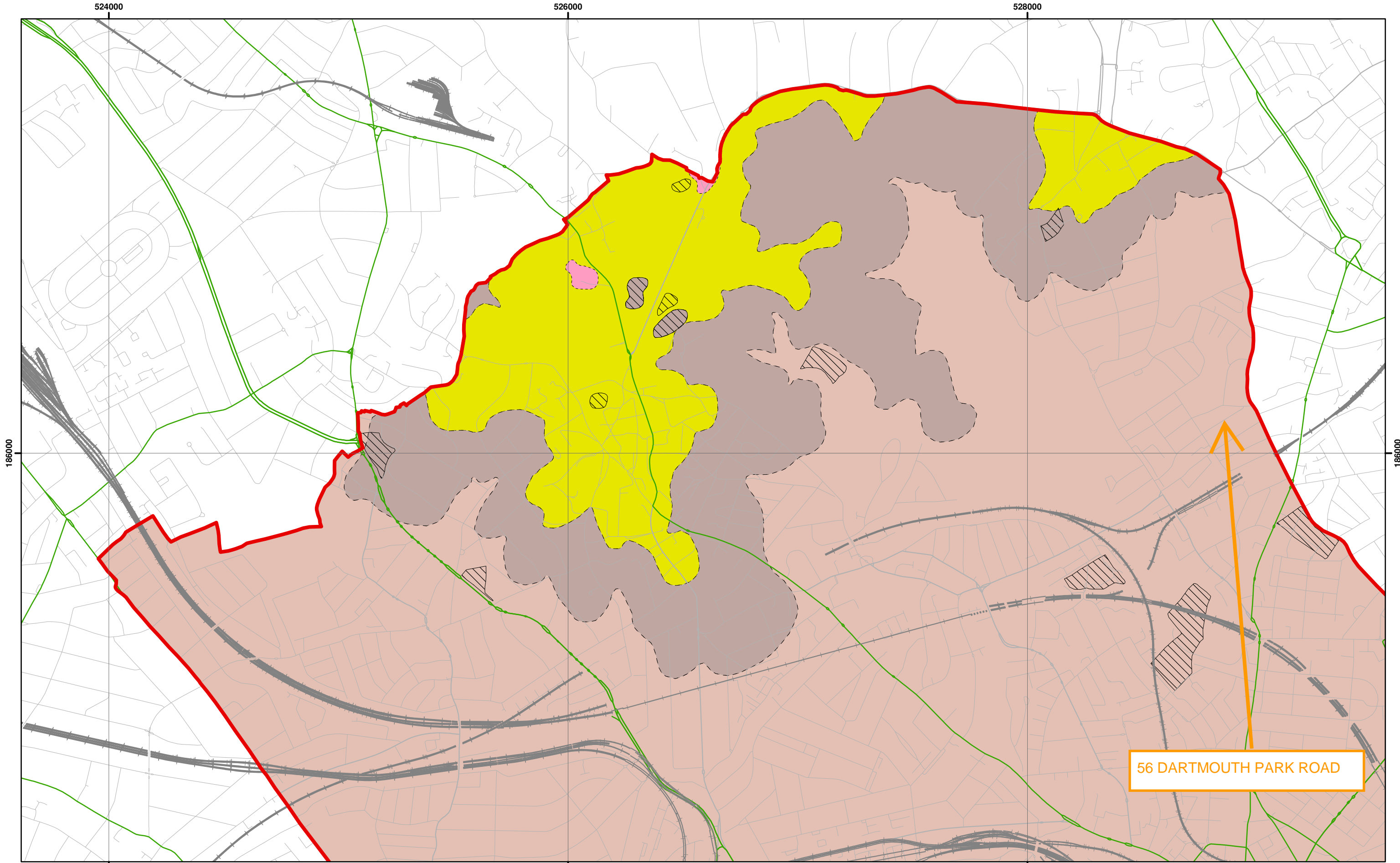
**Camden Geological, Hydrogeological
and Hydrological Study**
Camden Geological Map

213923

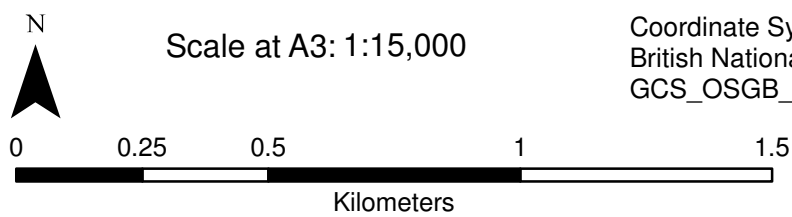
FIGURE

3





Data Source: BGS Mapping - Scale 1:10,000



Coordinate System:
British National Grid
GCS_OSGB_1936

Legend

- | | | | |
|--------------------------|-----------------------------|-----------------------------|-------------------------|
| London Borough of Camden | BGS 1:10K Artificial Ground | BGS 1:10K Drift Geology | BGS 1:10K Solid Geology |
| Railway Lines | MADE GROUND | ALLUVIUM | BAGSHOT FORMATION |
| A Roads | WORKED GROUND | HACKNEY GRAVEL FORMATION | CLAYGATE MEMBER |
| | | LANGLEY SILT FORMATION | LAMBETH GROUP |
| | | LYNCH HILL GRAVEL FORMATION | LONDON CLAY FORMATION |
| | | STANMORE GRAVEL FORMATION | |

**Camden Geological, Hydrogeological
and Hydrological Study**
North Camden Geological Map

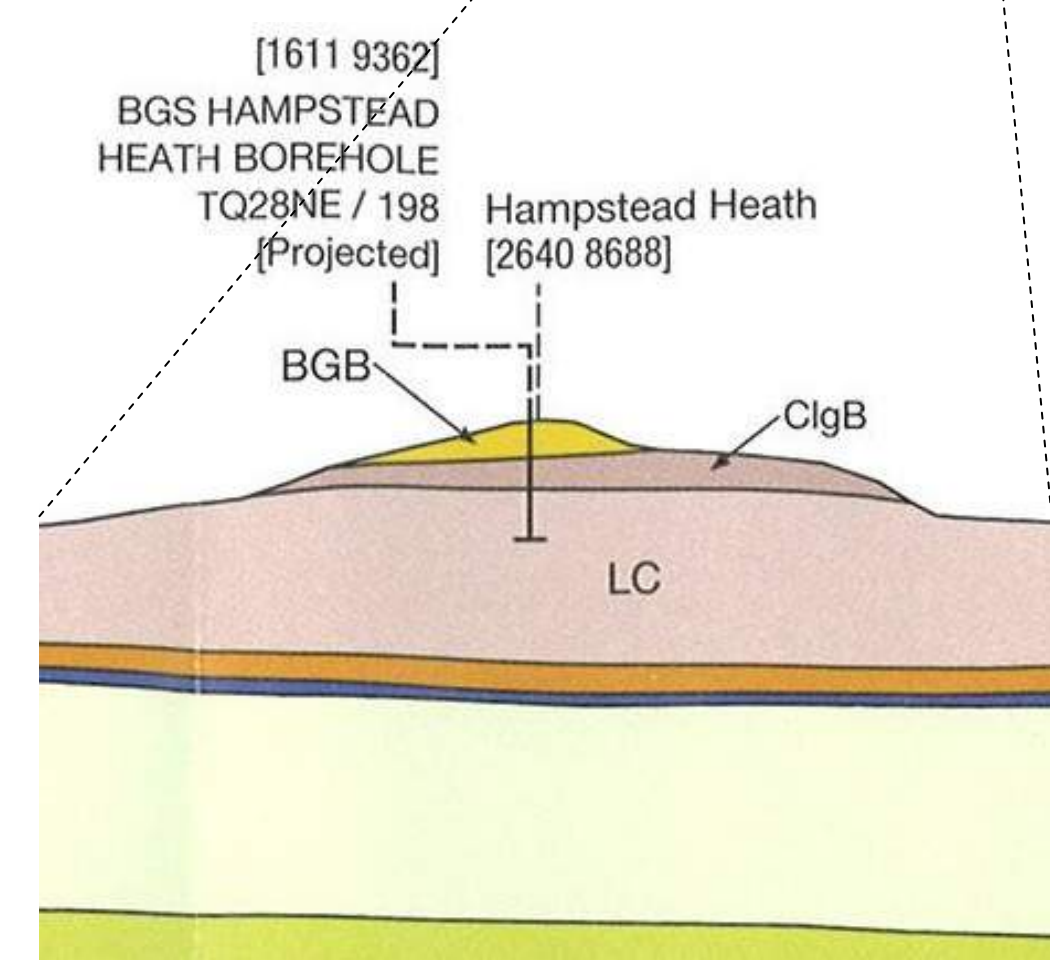
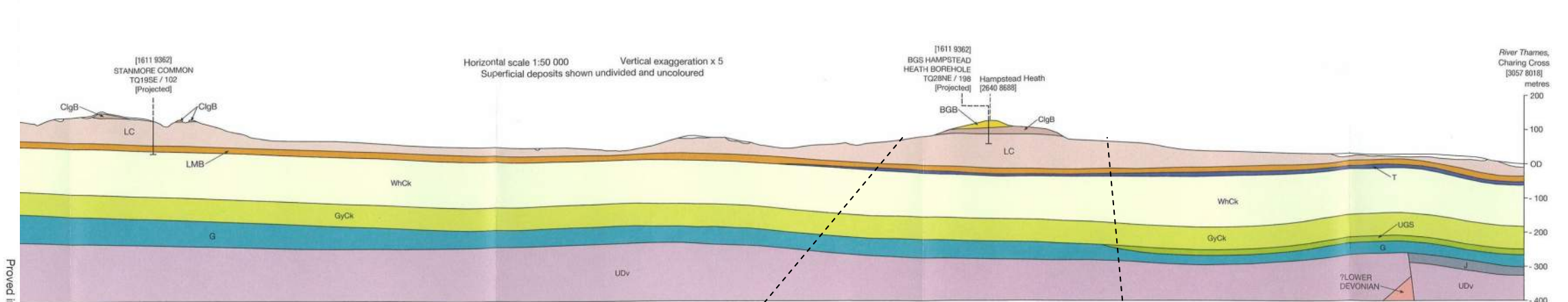
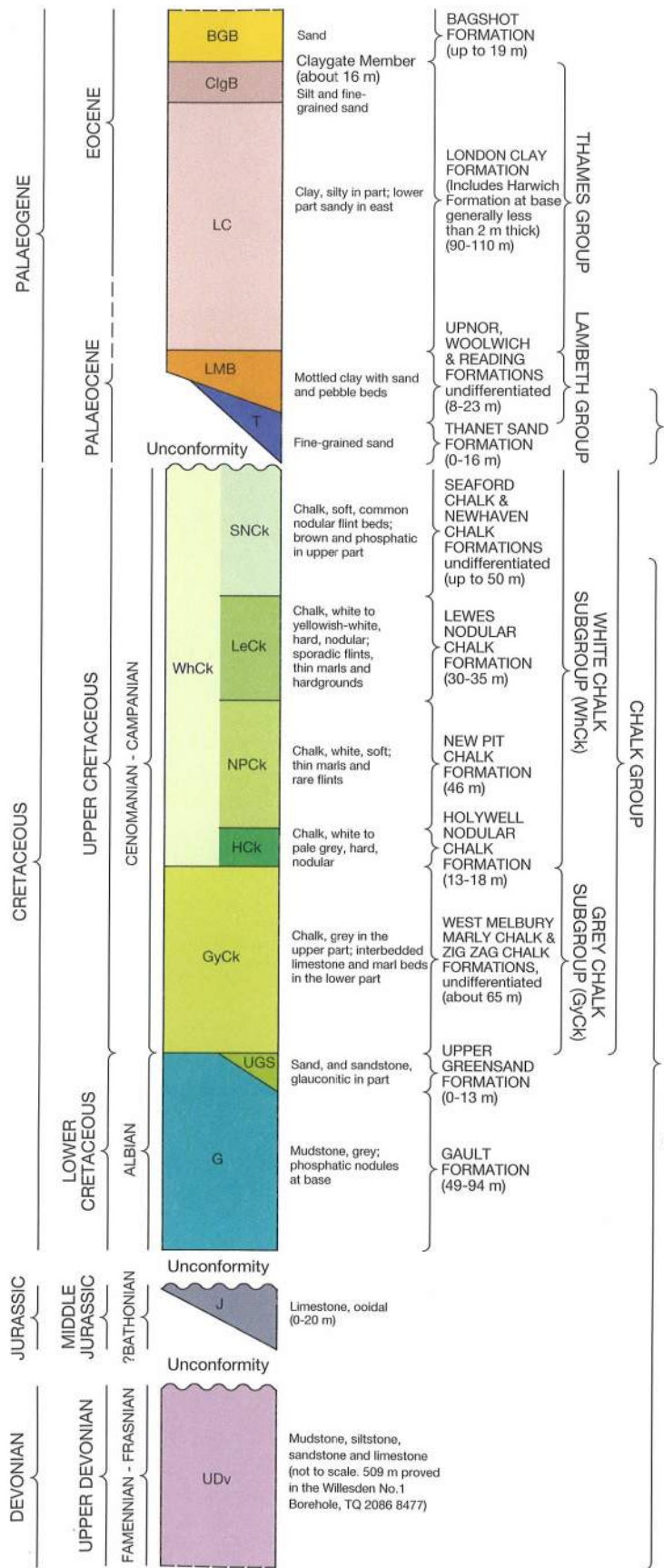
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FIGURE **4**

NB. Geological boundaries are largely indicative based on available geological mapping data

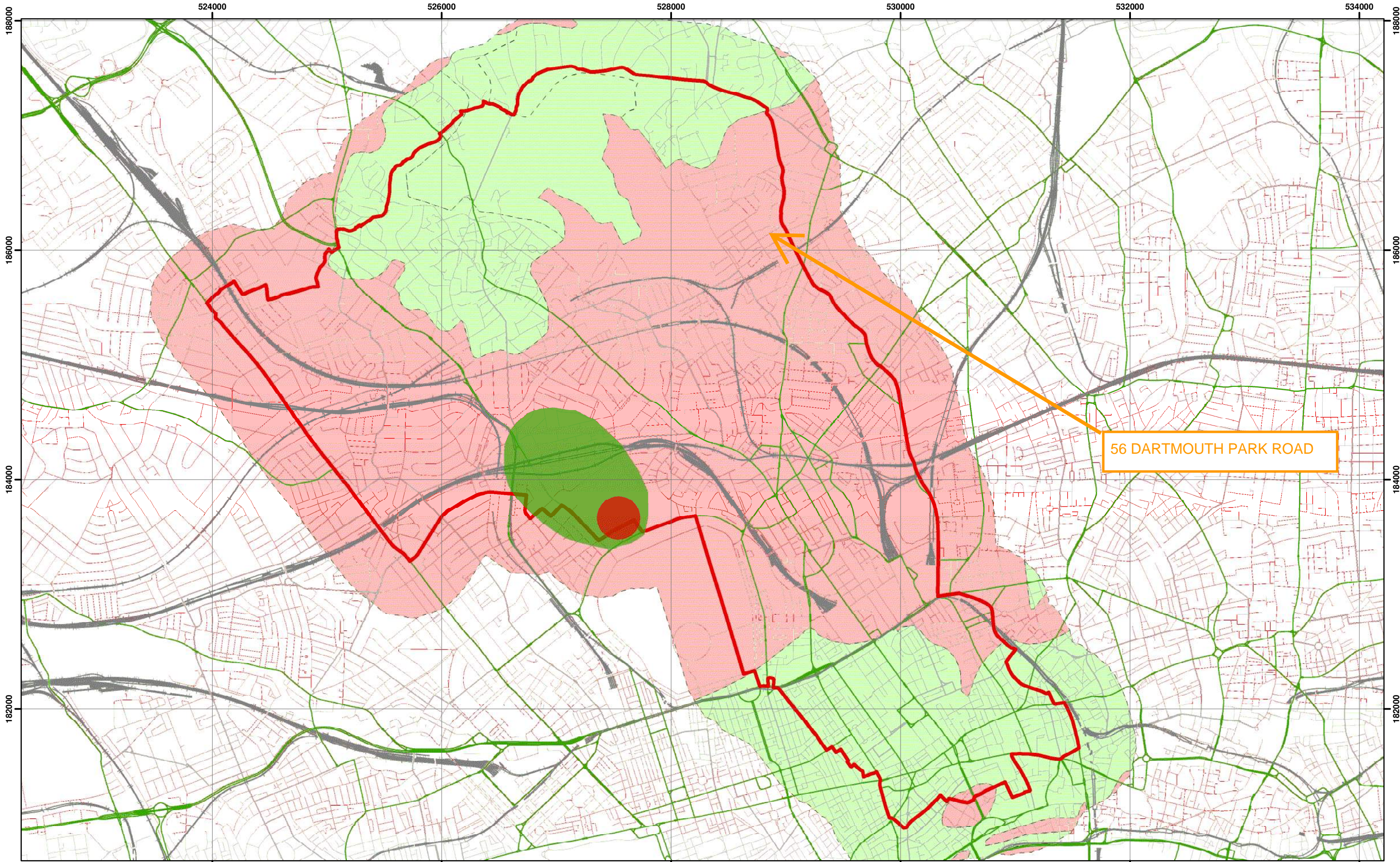
GENERALIZED VERTICAL SECTION

Scale 1:2500 (1 cm to 25 m)



Source - British Geological Society, 1:50,000 Series England and Wales Sheet 256 – North London

Camden Geological, Hydrogeological and Hydrological Study
 Geological Long Section (NW – SE)



Environment Agency Aquifer Designation based on BGS Mapping



Scale at A3: 1:30,000

Coordinate System:
British National Grid
GCS_OSGB_1936

Legend

- | | | |
|-------------------|----------------------------|-------------------------------|
| Borough of Camden | Aquifer Designation | Source Protection Zone |
| Railway Lines | Secondary A Aquifer | Outer Source Protection Zone |
| A Roads | Unproductive Strata | Inner Source Protection Zone |

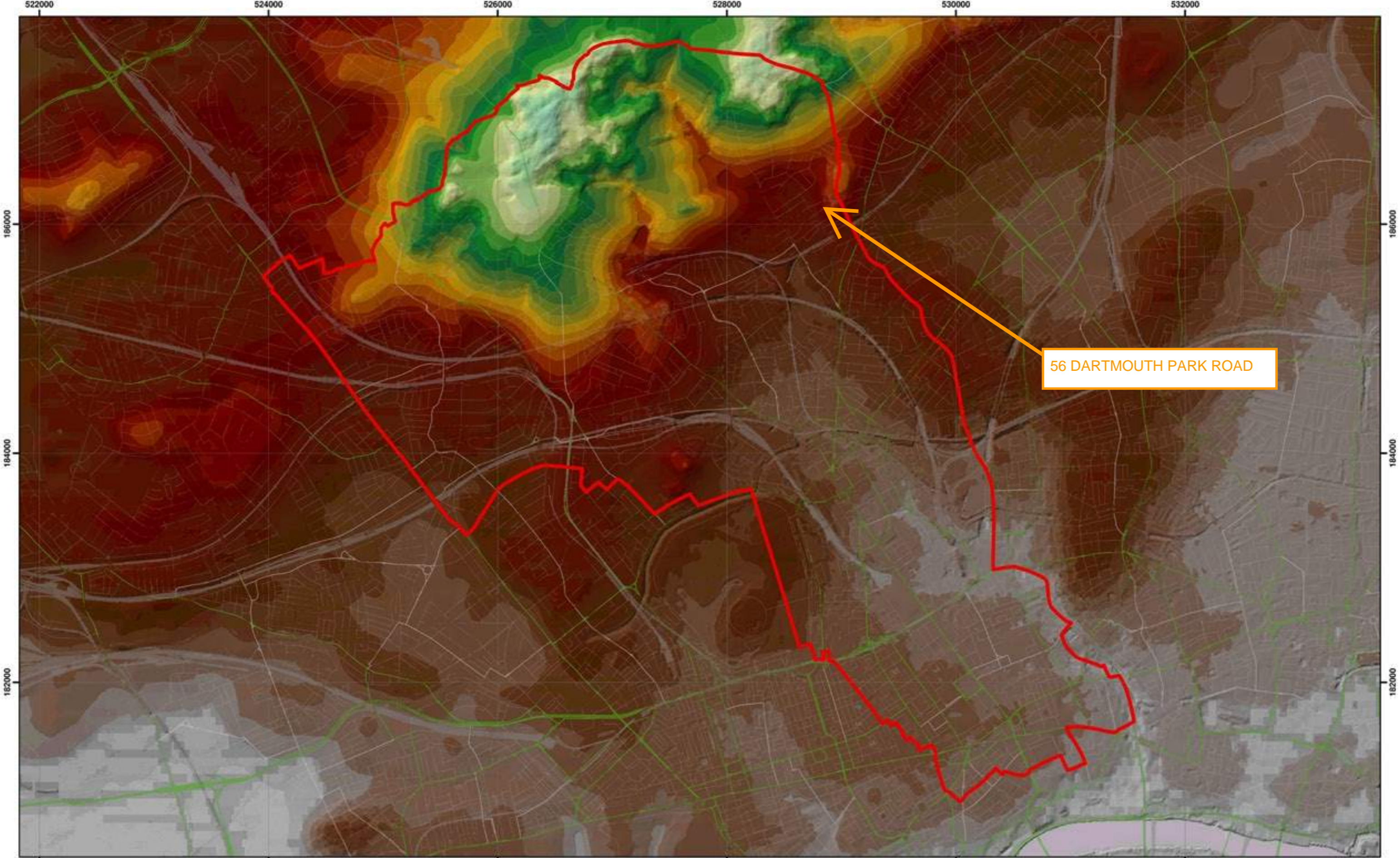
NB. Aquifer boundaries are indicative based on available geological mapping data

**Camden Geological, Hydrogeological
and Hydrological Study**
Camden Aquifer Designation Map



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FIGURE **8**



Topographic map based on digital terrain model provided by Camden Borough Council

Scale at A3: 1:30,000

Coordinate System:
British National Grid
GCS_OSGB_1936

0 0.375 0.75 1.5 2.25 3 3.75
Kilometers

Legend

- London Borough of Camden
- Railway Lines
- A Roads

DTM Terrain
* Window Size: 20,000

125 - 130	90 - 95	55 - 60	20 - 25
120 - 125	85 - 90	50 - 55	15 - 20
115 - 120	80 - 85	45 - 50	10 - 15
110 - 115	75 - 80	40 - 45	5 - 10
105 - 110	70 - 75	35 - 40	0 - 5
100 - 105	65 - 70	30 - 35	-5 - 0
95 - 100	60 - 65	25 - 30	-7.4 - -5

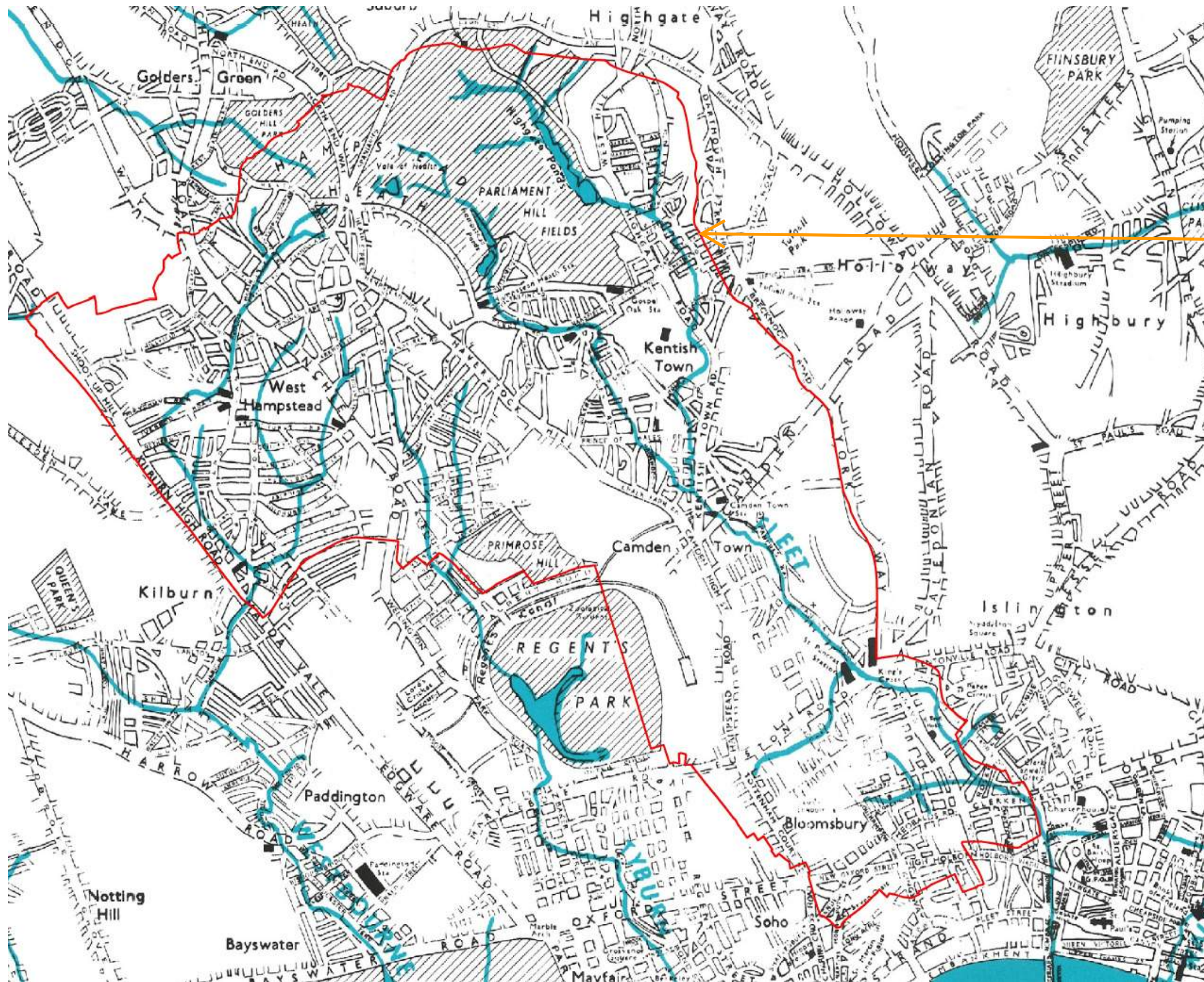
Elevation

145 - 150
140 - 145
135 - 140
130 - 135

Camden Geological, Hydrogeological and Hydrological Study
Camden Topographic Map

213923

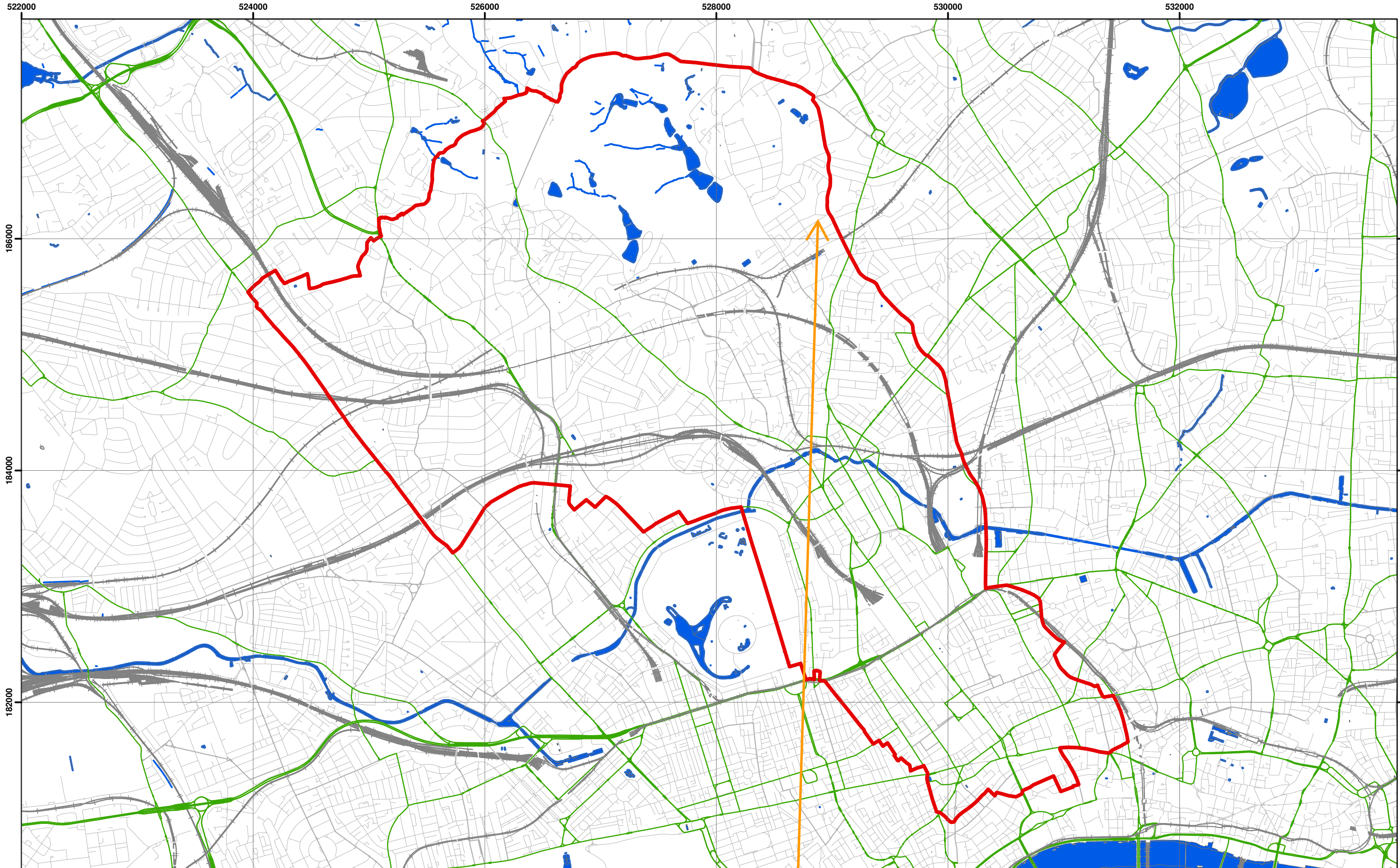
FIGURE 10



56 DARTMOUTH PARK ROAD

Camden Geological, Hydrogeological and Hydrological Study Watercourses

Source – Barton, Lost Rivers of London



Data Source: London Borough of Camden, 2010

Coordinate System:
British National Grid
GCS_OSGB_1936

Legend

- London Borough of Camden
- Surface water
- Railway Lines
- A Roads

56 DARTMOUTH PARK ROAD

**Camden Geological, Hydrogeological
and Hydrological Study**

Camden Surface Water Features

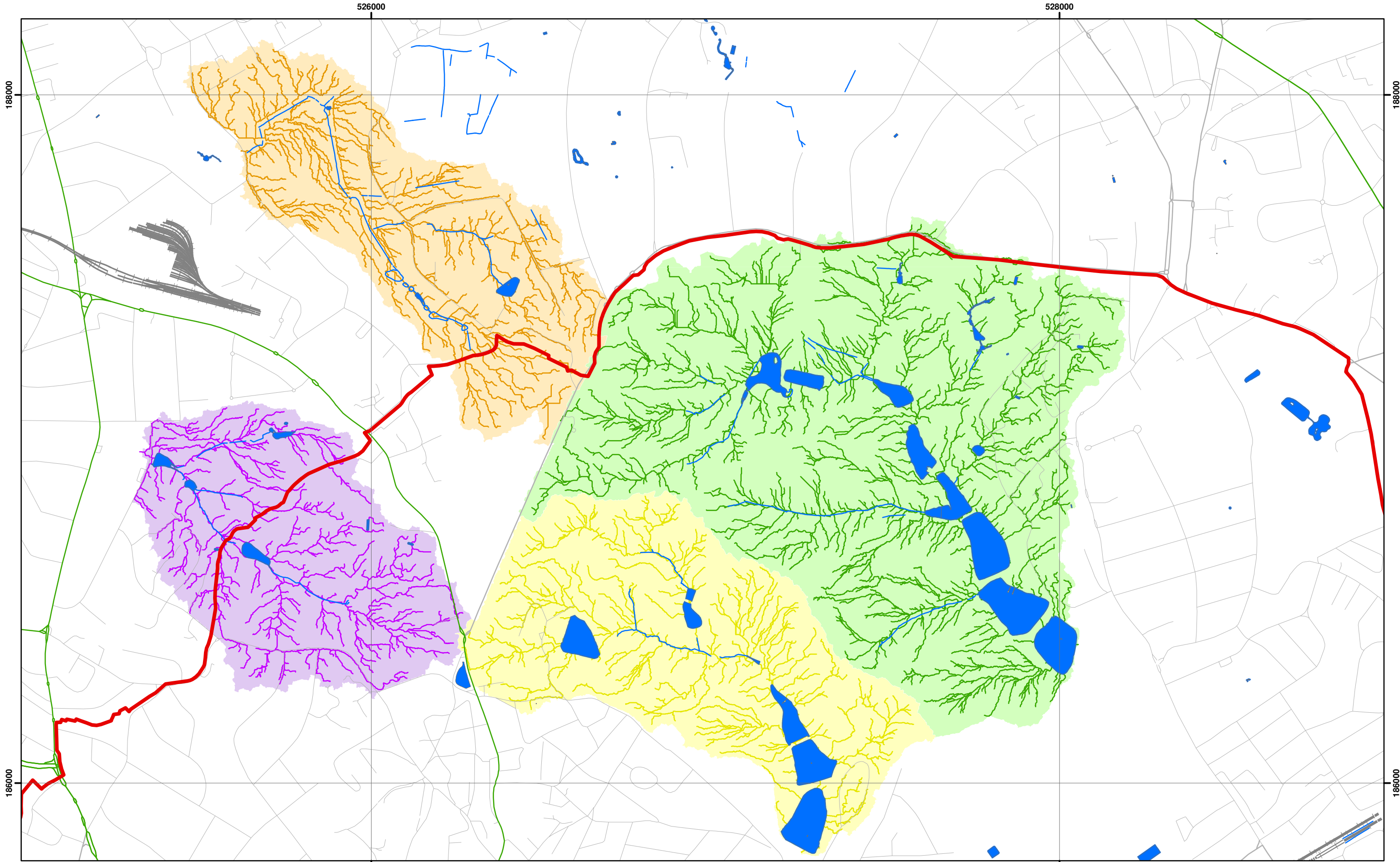


Scale at A3: 1:30,000



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FIGURE **12**



Catchments and Drainage after Haycock, 2010

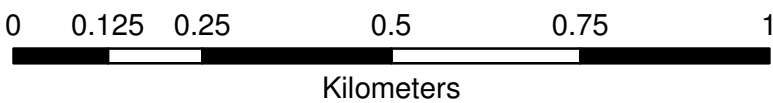


Scale at A3: 1:10,000

Coordinate System:
British National Grid
GCS_OSGB_1936

Legend

- London Borough of Camden
- Surface Water
- Railway Lines
- A Roads
- Highgate Chain Catchment
- Golders Hill Chain Catchment
- Hampstead Chain Catchment
- Hampstead Heath Extension Chain Catchment



**Camden Geological, Hydrogeological
and Hydrological Study**

Hampstead Heath Surface Water
Catchments and Drainage

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FIGURE **14**

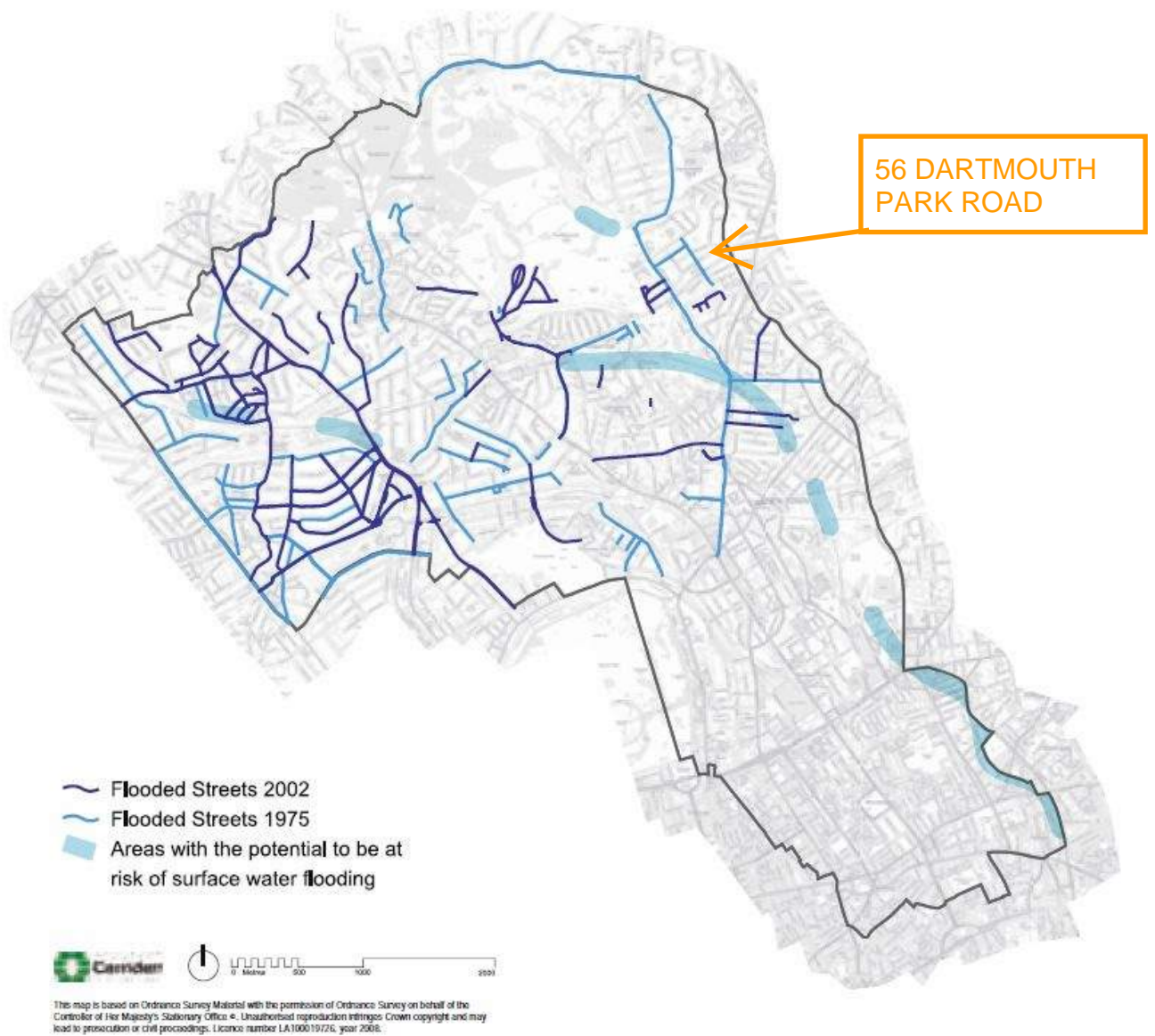
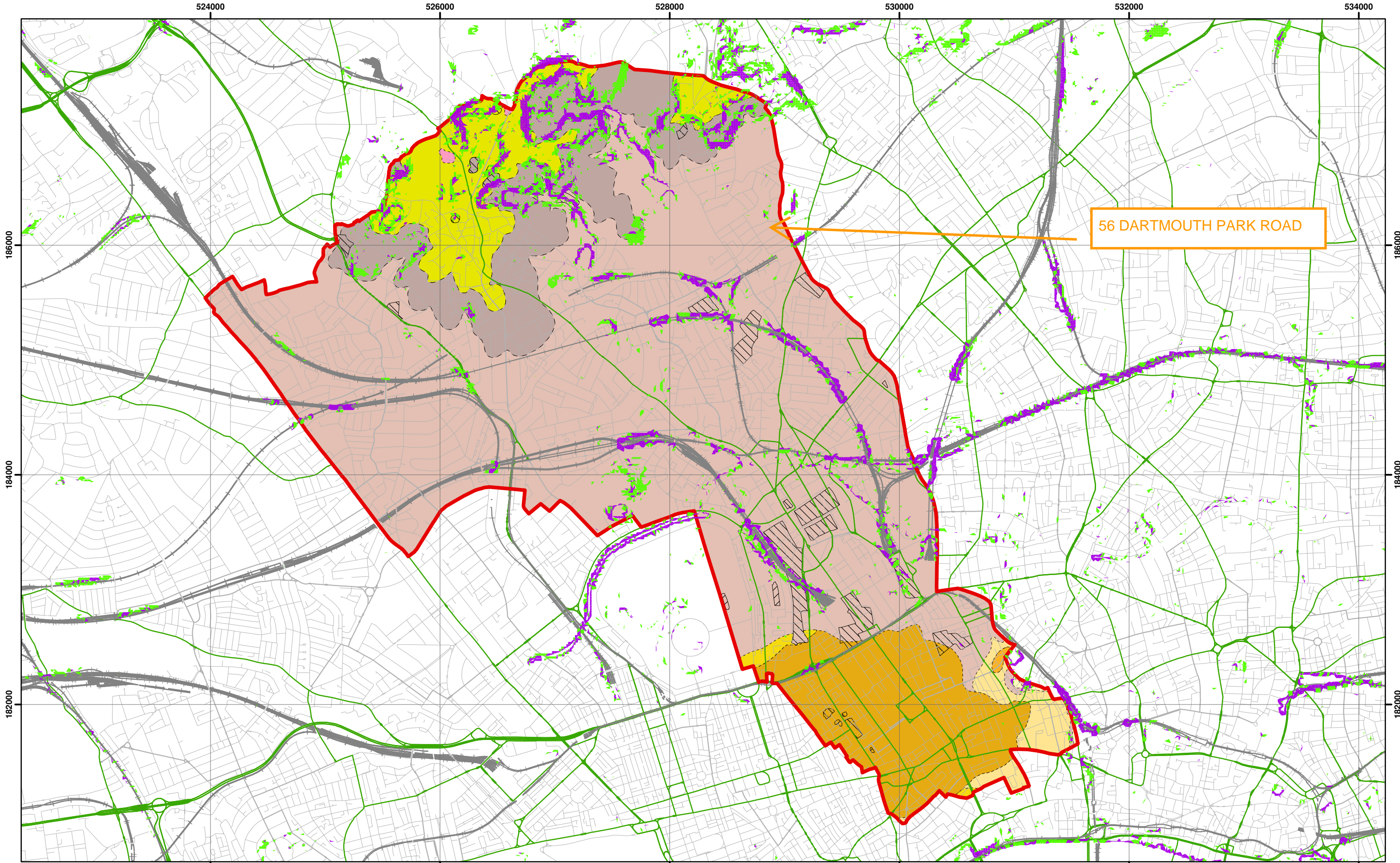


Figure 5 from Core Strategy, London Borough of Camden

**Camden Geological, Hydrogeological
 and Hydrological Study
 Flood Map**



Slope Angles calculated from Digital Terrain Model Provided By Camden Borough Council

Scale at A3: 1:30,000

1:10,000 BGS Mapping
Coordinate System:
British National Grid
GCS_OSGB_1936



Legend

- | | | | | |
|--------------|--------------------------|-----------------------------|-----------------------------|-------------------------|
| Slope | London Borough of Camden | BGS 1:10K Artificial Ground | BGS 1:10K Drift Geology | BGS 1:10K Solid Geology |
| 0° - 7° | Railway Lines | MADE GROUND | ALLUVIUM | BAGSHOT FORMATION |
| 7° - 10° | A Roads | WORKED GROUND | HACKNEY GRAVEL FORMATION | CLAYGATE MEMBER |
| > 10° | | | LANGLEY SILT FORMATION | LAMBETH GROUP |
| | | | LYNCH HILL GRAVEL FORMATION | LONDON CLAY FORMATION |
| | | | STANMORE GRAVEL FORMATION | |

NB. Geological boundaries are largely indicative based on available geological mapping data

**Camden Geological, Hydrogeological
and Hydrological Study**

Slope Angle Map

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FIGURE

16

Areas of greatest potential for slope instability

The assessment of the potential for slope instability

Due to a long history of intensive landuse and urban development it has only been possible to recognise and map, with confidence, a few areas of past landslide activity. However, beyond the north London district, areas of similar bedrock geology and topography contain significant areas of mapped landslides. Therefore, a slope instability assessment has been made to act as a guide to where areas of significant landslide potential are present, but obscured, and where further information regarding their stability are needed before development or major changes in landuse are made (Forster et al. 2003).

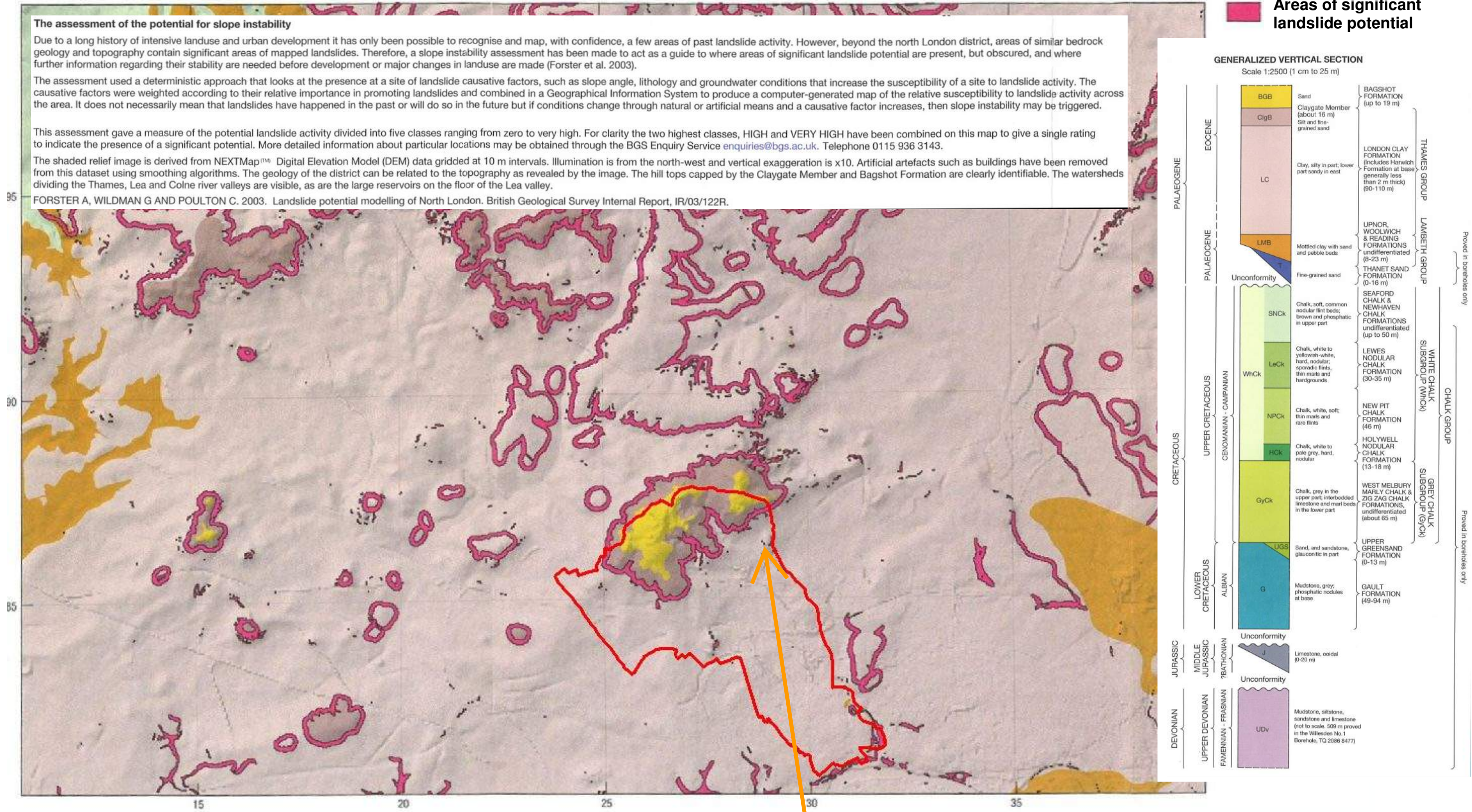
The assessment used a deterministic approach that looks at the presence at a site of landslide causative factors, such as slope angle, lithology and groundwater conditions that increase the susceptibility of a site to landslide activity. The causative factors were weighted according to their relative importance in promoting landslides and combined in a Geographical Information System to produce a computer-generated map of the relative susceptibility to landslide activity across the area. It does not necessarily mean that landslides have happened in the past or will do so in the future but if conditions change through natural or artificial means and a causative factor increases, then slope instability may be triggered.

This assessment gave a measure of the potential landslide activity divided into five classes ranging from zero to very high. For clarity the two highest classes, HIGH and VERY HIGH have been combined on this map to give a single rating to indicate the presence of a significant potential. More detailed information about particular locations may be obtained through the BGS Enquiry Service enquiries@bgs.ac.uk. Telephone 0115 936 3143.

The shaded relief image is derived from NEXTMap™ Digital Elevation Model (DEM) data gridded at 10 m intervals. Illumination is from the north-west and vertical exaggeration is x10. Artificial artefacts such as buildings have been removed from this dataset using smoothing algorithms. The geology of the district can be related to the topography as revealed by the image. The hill tops capped by the Claygate Member and Bagshot Formation are clearly identifiable. The watersheds dividing the Thames, Lea and Colne river valleys are visible, as are the large reservoirs on the floor of the Lea valley.

FORSTER A, WILDMAN G AND POULTON C. 2003. Landslide potential modelling of North London. British Geological Survey Internal Report, IR/03/122R.

Areas of significant landslide potential



Source - British Geological Society, 1:50,000 Series England and Wales Sheet 256 – North London

56 DARTMOUTH PARK ROAD

Camden Geological, Hydrogeological and Hydrological Study
Areas of landslide potential