

SITE INVESTIGATION SURVEY

Thorne Hiley Limited

*24-28 Warner Street,
Camden*



British Society of Soil Science



Institute of Professional
Soil Scientists

Soil Environment Services Ltd
August 2011

Our Ref: SES/TH/WS/1#1

Date: 8th August 2011

Client:

Thorne Hiley Limited
10 Furnival Street
London
EC4A 1 YH

SITE INVESTIGATION SURVEY

**24-28 Warner Street,
Camden**

A report prepared on behalf of **Soil Environment Services** by:



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Chartered Scientist



INSTITUTE OF PROFESSIONAL SOIL SCIENTISTS

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Soil Environment Services

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Risk Assessment, Mineral Extraction Soil Planning
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1. SCOPE OF WORKS

Soil Environment Services Ltd was instructed by Thorne Hiley Limited to conduct a factual ground investigation at:

24-28 Warner Street
Camden
London
EC1R 5EX

(Drawing SS/1)

The planned works include soil survey to provide a factual assessment of soil and ground water conditions for the required ground-works and/or building construction. The site investigation was in general accordance with BS5930 and BS1377.

The site investigation was carried out on the 27-28th July 2011.

The planned scope of works as per detailed and specified within the agreed quotation comprised:

4 x boreholes to a maximum depth of 6.00 metres below ground level (m bgl)
Groundwater assessment
1 x factual report to BS5930

Variation to the above scope of works may be needed and beneficial given the ground conditions encountered during the site investigation. This will be detailed in **Section 3.1 – Completed Works**.

The accuracy of the geotechnical report is restricted to the initial scope of works and then the completed works. Also, variation in soil strength and composition may subsequently be encountered across the site during site works operations and/or ground preparation.

2. SITE SETTING

The site assessed for this investigation currently comprises 266 sq m. area of land located on the southern side of Warner Street, Camden (Drawing 1). The site is surrounded by commercial properties and offices.

2.1 Surface conditions

At the time of survey the site area was within the buildings of Latchfords Timber Merchants office and warehouse. The ground surface was concrete and the site was in general level. However the surrounding land had an approximate 1.5 m drop from north to south.

2.2 BGS mapped Geology and drift

The site is located on Alluvium: mainly sand, silt and clay from Flandrian, Holocene era, bordering London Clay Formation from the Thames Group; consisting of clay, silty in part, lower part sandy in east from Eocene, Palaeogene era. Surrounded by Hackney Gravel- post diversionary River Terrace Deposits; gravel, sandy and clayey in part from Anglian to Devensian, Pleistocene era. (BGS Map 256: 1:50000).

2.3 Drainage and hydrogeology

Flow to groundwater will be restricted by the concrete and clay soils.

Surface water flow may find a possible route via surface water drains and runoff to the south east towards the River Thames 1310 m south of the site.

The culverted River Fleet runs from west to east and is located approximately 4 m south of the site (Drawing 2). The land then rises to the 15 m contour south of the site.

The site is located on what would have been the north bank of the River Fleet with land rising to the north and falling to the south. The original ground below the site has an approximate 1.5 m fall from north to south over the site length.

3. GEOTECHNICAL SOIL SURVEY

3.1 Completed works

Site works

BHs, were located as in Drawing 1.

3 x boreholes to a maximum depth of 6.00 metres below ground level (m bgl)

2 x boreholes to a maximum depth of 1.50 metres below ground level (m bgl)

Laboratory analysis and reporting

1 x factual report to BS5930

3.2 General soil descriptions (full borehole log/s in Appendix A)

BH1 terminated at 1.5 m over possible metal infill from the historical bomb damaged building. This borehole was re-located but terminated again on metal infill material.

Soils in general consisted of over 3 m of sandy gravel made ground over a dark grey organic silty clay layer of up to 1 m over grey firm silty clay.

BH2 had a stratum of soft organic silt from 4 to 4.75 m bgl. This is likely to be part of the bank or edge of the former River Fleet.

3.3 In-situ testing

Testing on-site included water depth assessment.

3.4 Groundwater

Groundwater was detected in BHs 2 and 4 on the south side of the site. In BH 2, slight water seepage was noted at 4.5 m bgl and in BH4 slight seepage at 5.5 m bgl. No water was detected in BH3 on the north side of the site.

The water levels noted are not likely to indicate a east to west hydraulic gradient as the drop in river height will be in west to east direction with corresponding hydraulic gradient. The water seepage is considered therefore to be from water which may entered the yard at the rear of the building and passed to depth or water from the various culverts (including the River Fleet) and channels at depth below the site and which has passed through fissures in the clay.

4. LABORATORY TESTING

Samples have been retained with currently no laboratory testing commissioned.

5. SUMMARY AND CONCLUSIONS

This report and the survey have been undertaken with the intention of establishing the potential for adverse impact upon the existing below ground conditions. Consideration has been given to the Appendix E of the recent Arup's Report for the site and equally stages 1-4 of the BIA outlined in COG24 2011 in arriving at the conclusions reached in this report. From the findings, there is no reason to believe that the proposed scheme will affect the below ground geo-hydrological conditions.

5.1 General ground conditions

Soils consisted of over 3 m of sandy gravel made ground over a dark grey organic silty clay layer of up to 1 m over grey firm silty clay. BH2 had a stratum of soft organic silt from 4 to 4.75 m bgl. This is likely to be part of the bank or edge of the former River Fleet.

5.2 Groundwater

No significant groundwater was detected. The water in BH2 was likely to be that related to the River Fleet and as such will probably be the water passing down the hydraulic gradient in the former bank side or river edge sediments. The culverted river is likely to be approximately 4-6 m south of BH2 and possibly at a slightly (0.5 m) lower elevation.

BHs 3 and 4 did not exhibit significant water up-gradient of BH2.

The development would not be expected to have any significant effect on groundwater as:

- 1 very little water ingress was detected and
- 2 BHs up gradient of BH2 demonstrated no significant water which could be impacted by basement location.

The proposed scheme is likely to have no adverse impact on the current below ground geo-hydrological conditions.

In light of the proposed plans/developments and specifically the proposed basement level and following the completion of the below ground survey, the findings do not warrant (and we do not warrant the need for) any further investigations/works at this stage.

Drawing 1

Site plan and borehole locations

NOTES:

Borehole and LDP

Soil Environment Services

Tel.: 0191 243 0686

www.soilenviromentservices.co.ukDrawing Title: Site plan and borehole
locations

Drawing No.: 1

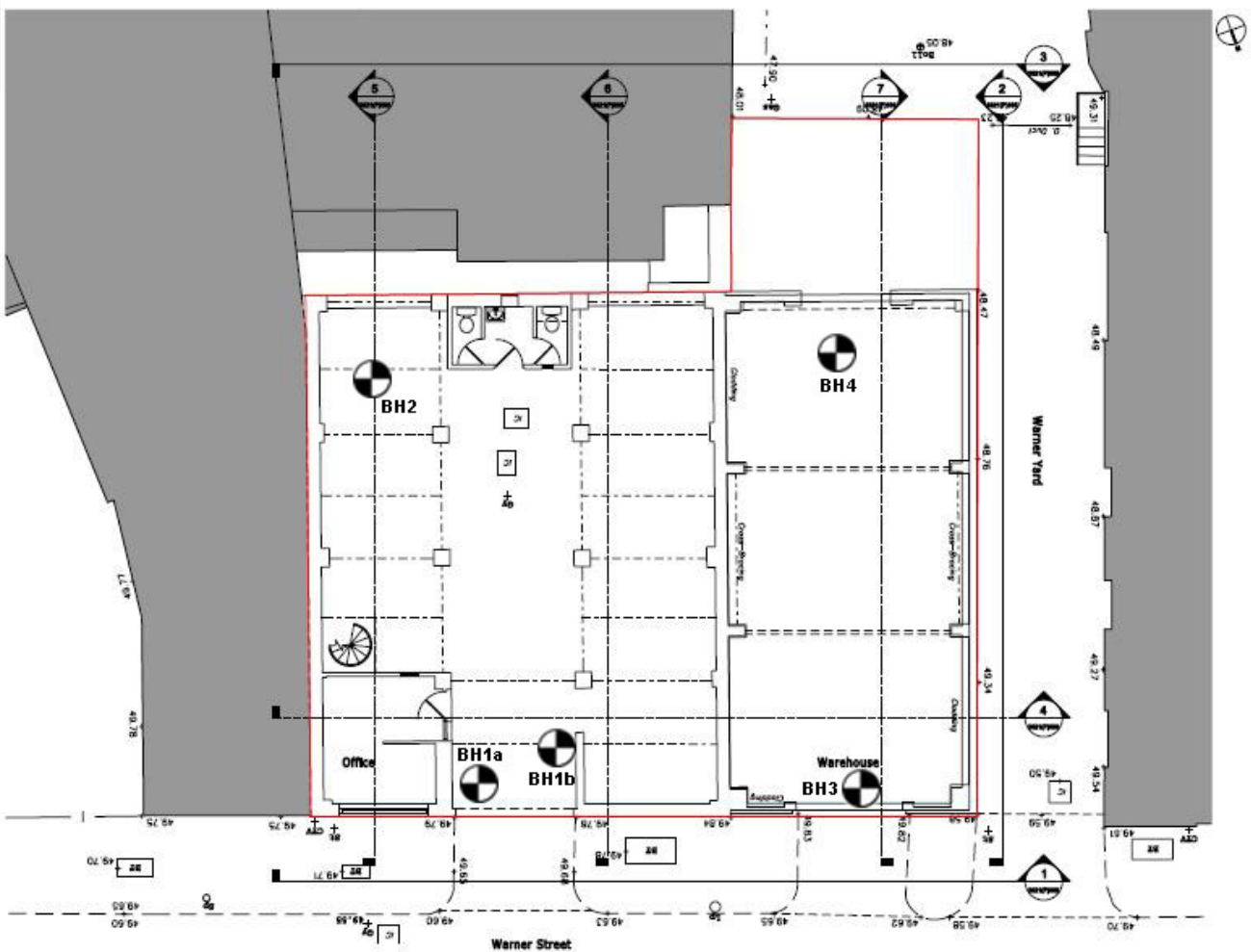
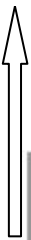
Client: Thorne Hiley Ltd

Project: 24-28 Warner Street

Scale: n/a

Date: 27-28th July 2011

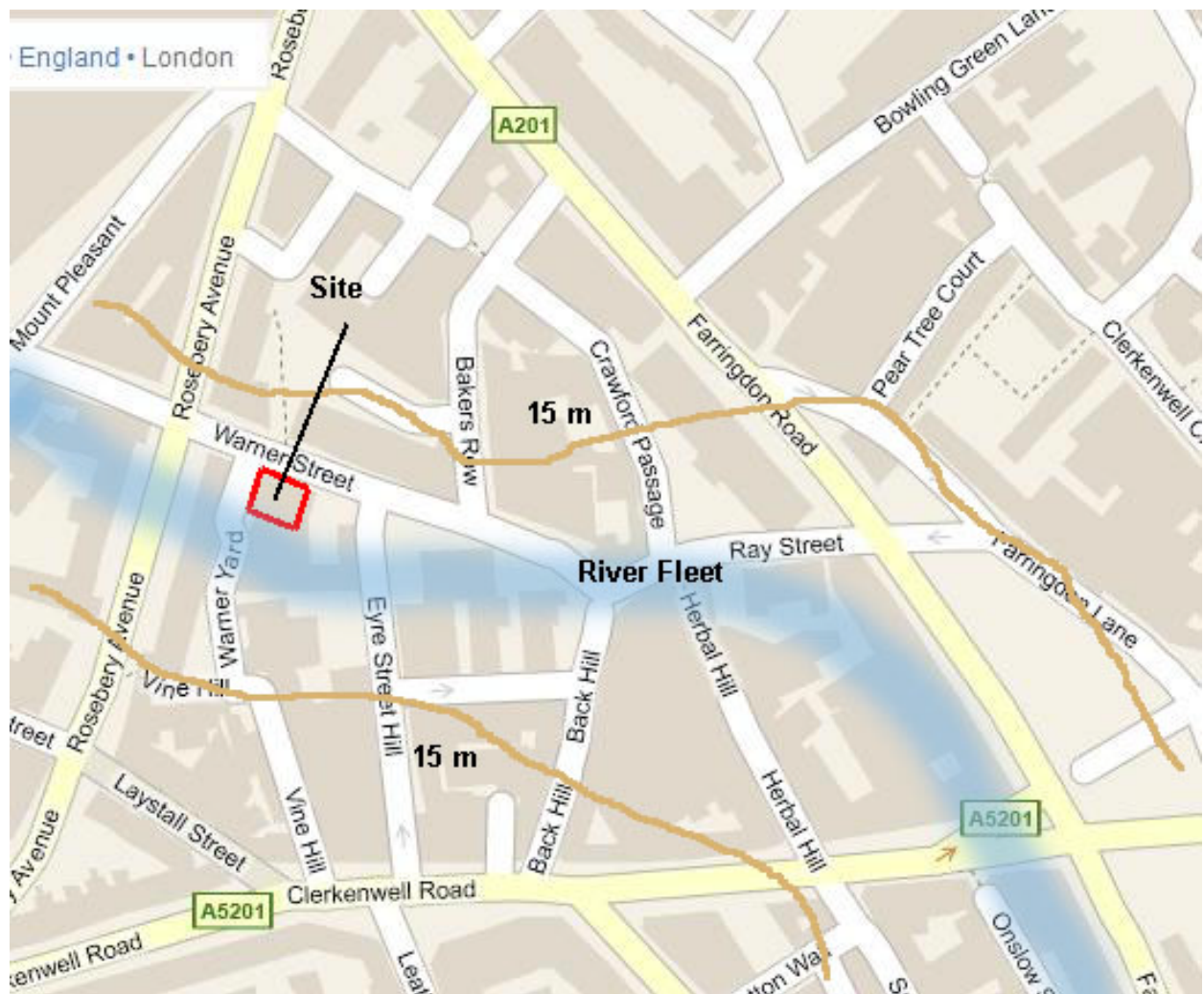
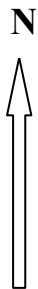
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Drawing 2

River Fleet location

NOTES:	Soil Environment Services	
	Tel.: 0191 243 0686 www.soilenviromentservices.co.uk	
	Drawing Title: River Fleet location	Drawing No.: 2
	Client: Thorne Hiley Ltd	Project: 24-28 Warner Street
	Scale: n/a	Date: 27-28 th July 2011



APPENDIX A

Engineers borehole log/s

Soil Environment Services		Date
Borehole/ Testpit Log		27/07/11
Excavation type and method: Borehole/Window Sampler		
Client	Site	BH/Pit Ref.
Thorne Hiley Limited	24-28 Warner Street	BH 1a and 1b

Surface (m OD)

20 m

Depth (m BGL)	Symbol	Description	Installations	Notes
1.0		MADE GROUND Concrete with large flint inclusions		Terminated at 1.80 m suspected large metal grid. No groundwater was detected
2.0		MADE GROUND Crushed brick, rock, ash with some flint inclusions with loose gravel and light brown sand.		
3.0				
4.0				
5.0				
6.0				
7.0				
8.0				
9.0				

Soil Environment Services		Date
Borehole/ Testpit Log	Excavation type and method: Borehole/Window Sampler	27/07/11
Client Thorne Hiley Limited	Site 24-28 Warner Street	BH/Pit Ref. BH 2

Surface (m OD)

20 m

Depth (m BGL)	Symbol	Description	Installations	Notes
1.0		MADE GROUND Concrete with large flint inclusions		Slight water seepage at 4.50 m
2.0		MADE GROUND Brown/grey, loose sandy gravel with crushed brick and rock.		
3.0		MADE GROUND brown, medium dense sandy clay, with gravel, brick and ash.		
4.0		MADE GROUND Very dark brown, firm, silty clay with brick		
4.5		Dark grey, soft, oraginic SILT		
5.0		Dark grey, soft to firm, silty CLAY		
6.0				
7.0				
8.0				
9.0				

Soil Environment Services		Date
Borehole/ Testpit Log	Excavation type and method: Borehole/Window Sampler	27/07/11
Client Thorne Hiley Limited	Site 24-28 Warner Street	BH/Pit Ref. BH 3

Surface (m OD)

20 m

Depth (m BGL)	Symbol	Description	Installations	Notes
1.0		MADE GROUND Concrete with large flint inclusions		
		MADE GROUND orange, clayey sandy, gravel		
		MADE GROUND Brown/grey, loose sandy gravel with crushed brick, rock, flint and glass.		
2.0		MADE GROUND Black/brown, loose, sandy gravel and ash.		
3.0	MADE GROUND Brown, soft, silty organic clay with brick			
4.0		Grey, firm to stiff, silty CLAY		
5.0		Light brown/ grey mottled, firm to stiff, silty CLAY		
6.0				
7.0				
8.0				No groundwater was detected
9.0				

Soil Environment Services		Date
Borehole/ Testpit Log	Excavation type and method: Borehole/Window Sampler	27/07/11
Client Thorne Hiley Limited	Site 24-28 Warner Street	BH/Pit Ref. BH 4

Surface (m OD)

20 m

Depth (m BGL)	Symbol	Description	Installations	Notes
1.0		MADE GROUND Concrete with large flint inclusions		
2.0		MADE GROUND Brown/grey, loose sandy gravel with crushed brick, rock and ash.		
3.0				
4.0				
5.0		Dark grey, firm to stiff, silty CLAY		Slight water seepage at 5.50 m
6.0		Grey, firm, silty clay over brown mottled, firm silty CLAY		
7.0				
8.0				
9.0				