GEA Geotechnical & Environmental Associates

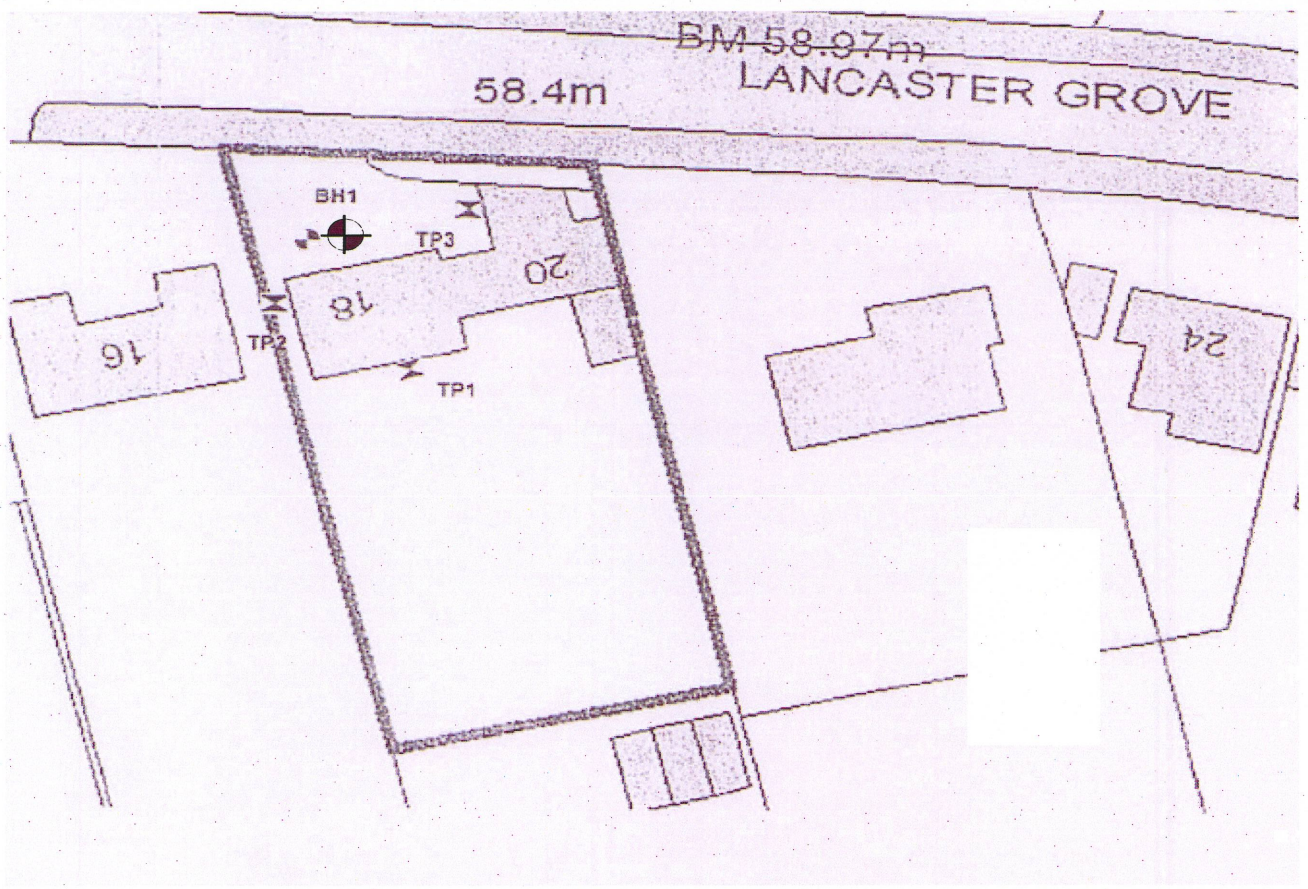
Tyttenhanger House
Coursers Road
St Albans
Herts AL4 0PG

Site Plan

Site	18-20 Lancaster Grove, London, NW3 4PB
Client	Mr and Mrs Ratiu
Engineer	KFR Consulting Engineers

Job Number J13156

Sheet 1 / 1



GEA borehole, overlying exploratory locations of Structural Soils Limited

Note: Not to Scale

Geotechnical & Environmental Associates	Tyttenhanger House, Coursers Road, St Albans, AL4 0PG	Site: 18-20 Lancaster Grove, London, NW3 4PB	Number: BH1

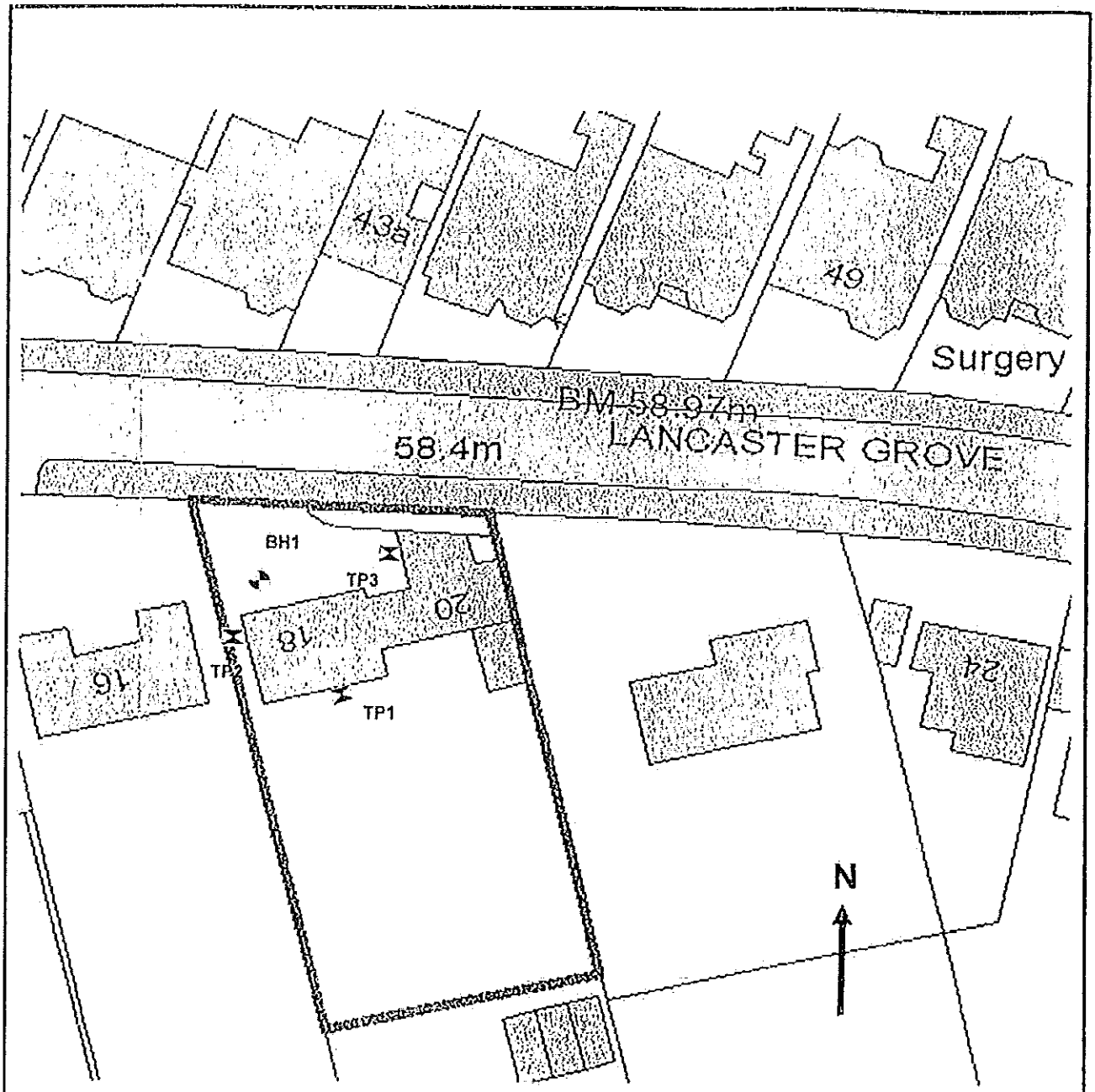
Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Window Sampler			Mr and Mrs Ratiu	J13156
	Location: 0.5 m to the east of the previous borehole	**Dates**: 05/06/2013	**Engineer**: KFR Consulting	**Sheet**: 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.02) 0.02	Paving Slab		
					(0.08) 0.10	Reinforced concrete with 5 mm rebar		
0.50-1.00	D1				(1.40)	MADE GROUND (greyish brown silty sand with rare flint gravel and occasional pockets of brown clay and occasional fragments of brick, charcoal and slate)		
					1.50 (0.20) 1.70	MADE GROUND (brown clay with occasional fragments of brick and charcoal)		
2.00	D2				(0.20) 1.90	Stiff orange-brown mottled grey silty CLAY with abundant partings of orange-brown fine sand and silt		
2.50	D3					Stiff brown mottled grey fissured silty CLAY with occasional partings of orange-brown fine sand and silt and selenite crystals		
3.00	D4							
3.50	D5				(3.10)			
4.00	D6							
4.50	D7							
5.00	D8				5.00			
						Complete at 5.00m		

Remarks
Groundwater not encountered during drilling
19 mm diameter standpipe installed to a depth of 5.00 m
Groundwater measured at a depth of 3.8 m on 06/06/2013

Scale (approx)	Logged By
1:50	HD

Figure No. J13156.BH1



National Grid Reference: TQ 271 845

Key

Trial Pits (TP) Cable Percussive Borehole (BH)

EXPLORATORY HOLE LOCATION PLAN

Structural Soils Limited The Old School Stillhouse Lane Bedminster BS3 4EB	Site 18-20 Lancaster Grove Belsize Park London	Job no. 722146	
		Drawing no. 02	
		Date Sep-08	
	Client Upton McGougan	Drawn by MB	

5 GROUND CONDITIONS

5.1 General

The exploratory holes were logged by an engineer in general accordance with the recommendations of BS5930: 1999 including amendment 1 (2007). Detailed descriptions, together with relevant comments, are given in the logs included in Appendix B.

5.2 Made Ground

Made ground was encountered by all exploratory holes from ground level to a minimum depth of 0.40m in TP3, to a maximum depth of 1.80m in BH1. All holes encountered paving over concrete to a depth of between 0.05m and 0.20m depth. Exploratory holes BH1 and TP3 encountered reinforced concrete, containing circular steel rods 5mm in diameter.

Beneath the paving stones and concrete, trial pits TP1 and TP3 encountered soft brown slightly sandy gravelly clay between a minimum of 0.05m and 0.20m to a maximum depth of 0.50m in TP1. The gravel consisted of fine to coarse subangular brick, charcoal, ceramic, slate, concrete and chert. This material became firm with the presence of occasional cobbles from a minimum depth of 0.20m and from a maximum depth of 0.50m until termination of the trial pits which occurred between 0.40m and 0.83m deep.

Trial pit TP2 encountered made ground consisting of loose brown slightly clayey sandy gravel, of fine to coarse brick, concrete and charcoal beneath the paving and concrete to a maximum depth of 0.60m. From 0.60m depth until termination at 0.75m depth TP2 encountered firm dark brown slightly sandy slightly gravelly clay. The gravel consisted of fine to coarse, brick, charcoal, concrete and chert.

Borehole BH1 encountered loose brown clayey sandy gravel from 0.20m to 1.20m depth. The gravel consisted of fine to coarse angular to subrounded chert, slate, brick and charcoal. Borehole BH1 similarly to the trial pits encountered firm brown slightly sandy gravelly clay between 1.20m and 1.80m depth. The gravel consisted of fine to coarse subangular brick, sandstone, charcoal and chert.

5.3 London Clay Formation

The London Clay Formation was encountered directly beneath the made ground in BH1 from a depth of 1.80m. The London Clay Formation was stiff light brown closely fissured slightly sandy clay with occasional fine subrounded calcareous nodules, and gypsum crystals of sand to fine

gravel size. Below 8.00m, the clay contained rare fine shell fragments. The clays are on the boundary between high and very high plasticity, and show little variation with depth.

In general the strength of the London Clay Formation gradually increases with depth from an SPT N value of N=22 at 5.00m increasing to N=40 at 15.00m (see the Standard Penetration Test 'N' Value vs. Depth table in Appendix B).

5.4 Groundwater

No groundwater was encountered in any of the exploratory holes during the investigation.

5.5 Existing Foundations

3 no. hand dug trial pits (TP1-TP3) were excavated in order to expose the existing foundations of 18-20 Lancaster Grove (see Exploratory Hole Plan in Appendix A). Trial pit TP1 excavated to the south exposed the foundations of the current conservatory. The foundations consisted of concrete, and were present from ground level to 0.50m depth.

Trial pit TP2 was excavated beneath the western exterior wall, encountered foundations to a total depth of 0.75m. Between ground level and 0.26m depth brick wall was exposed and from 0.26m to the base, the foundations consisted of concrete.

Trial pit TP3 was excavated beneath the western wall of the present garage. No foundations were present at this location. At the trial pit location a void was present beneath the garage wall from ground level to 0.05m depth which extended horizontally beneath the wall in excess of 0.50m. Two yellow pipes were exposed in this trial pit at 0.40m depth and the trial pit had to be terminated.

Due to the vast number of services to the north of property no further trial pits were able to be completed safely.