

**An Archaeological Watching Brief of Groundworks at Southover WSW,  
Kingston Road, Lewes, East Sussex, BN7 3NB**

**NGR TQ 4076 0946**

**Project No:4395  
Site Code: KRL10**

**ASE Report No.2011055  
OASIS id: archaeol6-95938**



**Liane Peyre**

**February 2011**

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**February 2011**

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**Abstract**

*Two test pits were excavated by hand on 19<sup>th</sup> May 2010 to locate water services and remained within shallow subsoil and made ground deposits. A small amount of faunal bone was recovered.*

*The borehole logs (Costain Geotechnical Services) successfully identified deeper deposits that render some clues to the prehistoric and Palaeolithic environment of Kingston, Lewes, with evidence of fluvial channels, alluvium and organic peat potentially associated to the River Ouse. Despite no archaeology being encountered during these investigations the depositional sequence recorded could be used in future planning parameters.*

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## **1.0 INTRODUCTION**

### **1.1 Site Background**

1.1.1 Archaeology South-East (ASE), a division of University College London Centre for Applied Archaeology (UCLCAA), have been commissioned by 4Delivery Ltd to undertake a watching brief on land at Kingston Road, Lewes, East Sussex, henceforth called the site (NGR TQ 4076 0946; Fig. 1) during the excavation of two test pits prior to the installation of mains water supply pipes.

### **1.2 Geology and Topography**

1.2.1 The underlying geology of the site according to the British Geological Survey (319/334) map is Lewes nodular chalk formation overlain by chalk head deposits, with alluvium and gravels slightly to the east of the site.

### **1.3 Planning Background**

1.3.1 The site lies in an archaeologically sensitive area and as a result, Casper Johnson, County Archaeologist, East Sussex County Council (ESCC) recommended that an archaeological watching brief was undertaken during the groundworks.

1.3.2 A *Written Scheme of Investigation* (WSI) for the archaeological watching brief was compiled by ASE (2010) with reference to the East Sussex Standards (ESCC 2008) and was submitted to Casper Johnson County Archaeologist ESCC for his approval. All work was carried out in accordance with these documents and the relevant *Standards and Guidance* of the Institute for Archaeologists (IfA).

1.3.3 During a separate ground percussion borehole investigation undertaken by Costain Geotechnical Services, five boreholes were recorded to a maximum depth of 20m in preparation for stilts to support over ground pipe work. Due to the restricted ability to visually monitor these groundworks reference is made to the log (see Appendix 1) but the on-site work was not observed.

### **1.4 Aims and Objectives**

1.4.1 The general objective of the archaeological work was to monitor intrusive ground works specified during the test pit excavation in order to ensure that any deposits and features, artefacts and ecofacts of archaeological interest were recorded and interpreted to appropriate standards.

1.4.2 The specific aim of the watching brief was to determine whether the Anglo-Saxon cemetery to the north of the site encroaches onto this land and whether intrusive groundworks disturb archaeological deposits or significant geological strata.

1.4.3 The results of the monitored excavation would then be combined with the geotechnical bore hole logs to provide information on the geological formation of the site and if present, the relation to surviving archaeology.

## **1.5 Scope of Report**

- 1.5.1 This report represents the findings of the watching brief undertaken by Liane Peyre (Archaeologist) on the 19<sup>th</sup> May 2010. The project was managed by Neil Griffin (fieldwork) and Jim Stevenson (post excavation).

## **2.0 ARCHAEOLOGICAL BACKGROUND**

- 2.1 The site lies within an Archaeological Notification Area (ANA129) as defined by ESCC.
- 2.2 Prehistoric and medieval remains are known to the south of the site and an Anglo-Saxon cemetery is recorded immediately to the north of the site which is scheduled (ES477). Although this is in close proximity to the proposed site, further excavations to the south of Saxonbury House (Bedwin 1979) did not identify any further burials; the only remains present were a small number of shallow, linear features and pits dating to the 14<sup>th</sup>/15<sup>th</sup> centuries. A single residual patinated Neolithic flint axe was also found during the excavations.

### 3.0 ARCHAEOLOGICAL METHODOLOGY

- 3.1 Two test-pits in connection with the installation of contact mains water supply pipes were hand excavated in the presence of an archaeologist working under archaeological watching brief conditions.
- 3.2 The monitored groundworks comprised one test pit (TP1) located atop a manmade chalk bund and designed to locate previous pipe work and an existing manhole cover. The second test pit (TP2) was located to the north in an adjacent pastured field, designed to ascertain the depth of chalk natural (figure 2). An area of ground reduction and pile driving associated with the installation of new pipework was not monitored but is discussed in the results below.
- 3.3 If new excavations revealed significant archaeological remains, an opportunity would have been made for careful hand excavation and the collection of samples by the archaeologist in attendance taking site health and safety into account. Adequate time was made for appropriate archaeological excavation by hand to identify and record the remains as far as possible within the limits of the works in order to extract archaeological and environmental information (ASE 2010).
- 3.4 The spoil from the excavations was also inspected by archaeologists to recover artefacts or ecofacts of archaeological interest and routinely scanned with a metal detector (ASE 2010).
- 3.5 A measured plan was kept of the location of intrusive modern disturbances found on the site. All contexts were recorded on standard pro forma recording sheets and a digital photographic record of the site was maintained throughout the works.
- 3.6 The site archive, which has been quantified below, is currently held at the ASE offices in Portslade and will be offered to a suitable local museum in due course.

Number of Contexts	4
No. of files/paper record	1
Plan and sections sheets	0
Bulk Samples	0
Photographs	6
Bulk finds	0
Registered finds	0
Environmental flots/residue	0

Table 1: Quantification of site archive

## 4.0 RESULTS (Figure 2)

4.1 The site was disturbed in places due to prior development and construction of the Southern Water Pumping Station, which includes existing mains water pipework, man holes and an artificial chalk bund. Only four contexts were encountered during the work and these are summarised in the table below.

Number	Type	Description	Max. Length	Max. Width	Deposit Thickness
001	Deposit	Topsoil	Tr.	Tr.	150 mm
002	Deposit	Made-ground	Tr.	Tr.	200mm+
003	Deposit	Natural	Tr.	Tr.	300mm +
004	Deposit	Subsoil	Tr.	Tr.	200mm

Table 2: List of recorded contexts

### 4.2 Test Pit 1

4.2.1 Test Pit 1 was located on disturbed and made ground deposits, designed to locate existing pipe work. It was an irregular shape but measured a maximum of 3.0m by 3.0m. Only two contexts were recorded. Made Ground deposit [004] consisted of re-deposited chalk and produced a small quantity of finds. This was directly beneath 0.2m of topsoil [001], consisting of a mid-grey brown, silty clay with occasional chalk flecking. The natural chalk was not encountered in this test pit

### 4.3 Test Pit 2

4.3.1 Test Pit 2 measured 1.0m<sup>2</sup> and was situated to the north east in an undisturbed grassed field. Natural chalk was located at a depth of 0.35m below the ground surface and was directly beneath 0.20m of mid-brown silty clay subsoil [004]. Directly above [004] was 0.15m of mid brown-grey topsoil [001]. Nothing of archaeological interest was uncovered.

### 4.4 Geotechnical Survey

4.4.1 Five Cable Percussion Boreholes (BH1, BH2, BH3, BH3A and BH4) were positioned across the site intended for development to test the depths of natural strata in preparation for the supporting framework for the overground pipework (figure 2). Despite not falling under the remit of archaeological watching brief the results are included in this report to provide a geological framework of the site and to highlight the potential of sensitive deposits should future work be undertaken.

4.4.2 The general stratigraphy of the geology is of underlying structureless chalk with sand – silt gravel inclusions with sub angular to sub rounded flint cobbles varying at a starting depth between 5.5 – 8.0 metres extending to a maximum of 20.0 metres in BH04. Overlying these deposits are either sandy gravels or silty sandy gravels with occasional clay lenses occurring at approximately 4 – 6 metres depth which in turn lie beneath sand – gravel clays located between 1 – 3 metres. In three of the borehole logs (BH01, BH02 and BH04) fibrous peat or peat residues within a clay matrix are recorded with varying depths and thicknesses, the maximum occurring in BH01 to a depth of 3.15 metres.

4.4.3 The borehole logs for this site and the proximity to the River Ouse to the East suggest a series of potentially deeper fluvial gravels overlain by a more clay based alluvial sequence with an organic, fibrous peat deposit accumulating on top. Although this does not hold archaeological significance in itself, it does suggest climatic fluctuations and changes in both landscape and environment. There is potential for Palaeolithic environmental and cultural remains surviving within these deeper gravels and the possibility of subsequent prehistoric occupation layers in shallower deposits, including the preservation of organic remains within the peat.

#### **4.5 Pipe Installation**

4.5.1 The only intrusive groundwork involved in the scheme was ground reduction in a limited area, and the sinking of pairs of piles designed to support the new, above-ground pipework. The pipework would then be buried beneath a newly constructed embankment.

4.5.2 This work was not monitored but the area of ground reduction is shown as the proposed embankment on Figure 2. Ground level in this area was reduced by a maximum of 0.20m and therefore contained within made ground deposits. A 0.70m layer of crushed stone was then spread across the area before the piles were driven down to solid chalk.

## 5.0 THE FINDS

5.1 A small assemblage of finds was recovered from subsoil [002] during the watching brief. Table 5 provides a summary of this assemblage.

Context	Bone	Wt (g)	Fe	Wt (g)
002	4	54	1	604

Table 5: Overview of the Finds

## 5.2 The Ironwork by Elke Raemen

5.2.1 A thick (19mm) fragment of cast iron sheet was recovered from [002]. The piece dates to the 19<sup>th</sup> to early 20<sup>th</sup> century and could have derived from agricultural machinery.

## 5.3 The Animal Bone by Lucy Sibun

5.3.1 Context [002] produced two fragments of animal bone. These consisted of a sheep humerus and tibia, both from mature animals.

## **6.0 CONCLUSION**

- 6.1 The monitored groundworks were excavated by hand and remained within shallow subsoil and made ground deposits. The small quantity of finds recovered relate to previous agricultural activity on the site.
  
- 6.2 The borehole logs successfully identified deeper deposits that render some clues to the prehistoric and Palaeolithic environment of Kingston, Lewes, with evidence of fluvial channels, alluvium and organic peat, potentially associated to the River Ouse. Despite no archaeology being encountered during these investigations the depositional sequence recorded could be used in future planning parameters to mitigate the likelihood of occupation layers or important environmental strata being exposed without appropriate archaeological supervision.

## **ACKNOWLEDGEMENTS**

The co-operation and assistance of Casper Johnson and Greg Chuter of East Sussex County Council is gratefully acknowledged, as are Costain Geotechnical Services for conducting the borehole survey and Mark Roberts (UCL) for advising on the geology of the River Ouse.

## **BIBLIOGRAPHY**

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IFA 2001. *Institute of Field Archaeologists 2001 Standard and Guidance for the collection, documentation, conservation and research of archaeological materials*

**HER Summary Form**

Site Code	KRL10					
Identification Name and Address	Southover WSW, Lewes, East Sussex					
County, District &/or Borough	Lewes					
OS Grid Refs.	NGR TQ 4076 0946					
Geology	Chalk with head					
Arch. South-East Project Number	4395					
Type of Fieldwork	Eval.	Excav.	<b>Watching Brief</b> ✓	Standing Structure	Survey	Other
Type of Site	Brown Field	Shallow Urban	Deep Urban	<b>Other</b> ✓ green field (pasture)		
Dates of Fieldwork	Eval.	Excav.	<b>WB.</b> 19-05-10	Other		
Sponsor/Client	Costain for Southern Water					
Project Manager	Neil Griffin					
Project Supervisor	Liane Peyre					
Period Summary	Palaeo.	Meso.	Neo.	BA	IA	RB
	AS	MED	PM	<b>Other Modern</b>		
<p>100 Word Summary.</p> <p>Archaeology South-East (ASE), a division of University College London Centre were commissioned by 4Delivery Ltd to undertake a watching brief on land at Kingston Road, Lewes, East Sussex the excavation of two test pits prior to the installation of mains water supply pipes. Excavations did not exceed modern intrusions.</p>						

**OASIS ID: archaeol6-95938**

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**Project details**

Project name	Watching brief at Southover WSW, Lewes, East Sussex
Short description of the project	Archaeology South-East (ASE), a division of University College London Centre were commissioned by 4Delivery Ltd to undertake a watching brief on land at Kingston Road, Lewes, East Sussex the excavation of two test pits prior to the installation of mains water supply pipes. Excavations did not exceed modern intrusions.
Project dates	Start: 19-05-2010 End: 19-05-2010
Previous/future work	No / Not known
Any associated project reference codes	4395 - Contracting Unit No.
Any associated project reference codes	KRL10 - Sitecode
Type of project	Recording project
Site status	None
Current Land use	Transport and Utilities 3 - Utilities
Monument type	NONE None
Monument type	NONE None
Significant Finds	ANIMAL BONE Uncertain
Significant Finds	IRON Uncertain
Investigation type	'Watching Brief'
Prompt	Environmental (unspecified schedule)

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**Project location**

Country	England
Site location	EAST SUSSEX LEWES LEWES Southover
Postcode	BN7 3NB
Study area	10.00 Square metres
Site coordinates	TQ 4076 0946 50.8669100584 0.00055542171729 50 52 00 N 000 00 02 E Point

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**Project creators**

Name of	Archaeology South East
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Organisation	
Project brief originator	East Sussex County Council
Project design originator	Archaeology South-East
Project director/manager	Neil Griffin
Project supervisor	Liane Peyre
Type of sponsor/funding body	4D Ltd


### Project archives


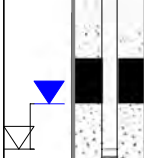









Physical Archive recipient	Local Museum
Physical Contents	'Animal Bones', 'Metal'
Digital Archive recipient	Local Museum
Digital Contents	'none'
Digital Media available	'Images raster / digital photography', 'Text'
Paper Archive recipient	Local Museum
Paper Contents	'none'
Paper Media available	'Context sheet', 'Report', 'Unspecified Archive'

### Project bibliography 1


Publication type	Grey literature (unpublished document/manuscript)
Title	An Archaeological Watching Brief of Groundworks at Southover WSW, Kingston Road, Lewes, East Sussex, BN7 3NB
Author(s)/Editor(s)	Liane Peyre
Other bibliographic details	ASE report no. 2011055
Date	2011
Issuer or publisher	ASE
Place of issue or publication	Postslade













Description          grey literature report

 <b>Geotechnical Services</b>	Contract Name: Southover WSW		Client: 4Delivery Ltd		Borehole ID: <b>BH01</b>
	Contract Number: 4074	Date Started: 19/07/2010	Logged By: FS	Checked By: DO	
Cable Percussion Borehole Log	Easting: 540805.6	Northing: 109242.6	Ground Level (mOD): 2.09	Plant Used: Dando 150	Sheet 1 of 1 Scale: 1:50

Samples & In Situ Testing		Strata Details				Groundwater
Sample ID	Test Result	Level (m AOD)	Depth (m) (thickness)	Legend	Strata Description	Water Strike(s) Backfill/Installation
0.10 D1 0.15 ES2 0.20-0.45 B3 0.45-1.20 B6 0.70 W7 0.90 D4 0.95 ES5 1.20-1.65 U 1.20-1.85 B8	HV76/2kPa  HV4/0kPa  *3/0mm	1.64	(0.45) 0.45		MADE GROUND: Grass over brown friable sandy gravelly clay. Sand is fine to coarse. Gravel is fine to coarse, angular to rounded of chalk, chert, flint, limestone and occasional rootlets.  Soft very low strength grey silty CLAY with pockets of dark brown fibrous peat.	
1.85-2.50 B10 1.85-2.25 U9	HV0/0kPa *4/0mm		(2.70)			
2.50-2.95 U11 2.50-3.15 B12	*5/0mm					
3.15-3.60 U13 3.15-3.80 B14 3.50 ES15 3.50 D16 3.80-4.25 U17 3.80-4.45 B18	HV0/0kPa *11/0mm  HV16/4kPa *18/0mm	-1.06	3.15  (1.15)		Firm very low strength brown orange sandy very gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse, sub-rounded to rounded of chert and flint.	
4.50 ES19 4.50-4.95 D20 4.50-5.00 B21	(S)N=3 (1,2,1,0,1,1)	-2.21	4.30		Very loose brown mottled white slightly clayey sandy GRAVEL. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-rounded of chalk, flint and chert. Chalk gravel is medium to coarse. (Between 4.30m and 4.50m depth, very clayey, brown). (Below 5.00m depth, Loose).	
5.00-5.45 D22 5.00-5.50 B23	(S)N=6 (1,2,1,2,1,2)		(1.20)			
5.50-5.95 D24 5.50-6.00 B25 5.75 ES26	(S)N=12 (2,4,4,2,3,3)	-3.41	5.50		Structureless CHALK recovered as white grey mottled light brown slightly sandy silty GRAVEL. Gravel is fine to coarse, angular to sub-rounded of flint, chert and very weak low density chalk with rare brown staining. Matrix is light brown mottled white grey. (Grade Dc)	
6.50-6.95 D27 6.50-7.00 B28	(S)N=20 (3,4,4,3,5,8)		(3.50)			
7.50-7.95 D29 7.50-8.00 B30	(S)N=18 (2,3,3,4,5,6)					
8.50-8.95 D31 8.50-9.00 B32	(S)N=22 (7,6,7,4,5,6)	-6.91	9.00		End of Borehole at 9.00 m	

Start & End of Shift Observations					Depth/Casing Diameter		Remarks: Area scanned with CAT and Genny, no services indicated. Hand dug inspection pit to 1.20m below ground level, no services encountered. Hole terminated at specified depth. 50mm groundwater monitoring standpipe installed on completion.
Date	Time	Borehole Depth (m)	Depth of Casing (m)	Water Depth (m)	Depth (m)	Casing Diameter (mm)	
19/07/2010	1800	9.00	9.00	2.00	9.00	150	
					Depth/Borehole Diameter		
					Depth (m)	Borehole Diameter (mm)	
					9.00	150	
Release Status: Draft							


 <b>Geotechnical Services</b>	Contract Name: Southover WSW		Client: 4Delivery Ltd		Borehole ID: <b>BH02</b>
	Contract Number: 4074	Date Started: 15/07/2010	Logged By: FS	Checked By: AS	
Cable Percussion Borehole Log	Easting: 540846.7	Northing: 109265.0	Ground Level (mOD): 2.13	Plant Used: Dando 150	Sheet 1 of 1 Scale: 1:50





Samples & In Situ Testing		Strata Details					Groundwater	
Sample ID	Test Result	Level (m AOD)	Depth (m) (thickness)	Legend	Strata Description	Water Strike(s)	Backfill/Installation	
0.10 D1 0.15 ES2 0.20-0.60 B3			(0.60)		MADE GROUND: Grass over brown friable slightly sandy slightly gravelly clay. Sand is fine to coarse. Gravel is angular to rounded, fine to coarse of chalk, flint, red brick and ceramic tile. Occasional rootlets. Rare fragments of snail shell.			
0.60 D4 0.70 ES5 0.80-1.20 B008 0.80 W009 0.80 D6 0.85 ES7 1.20-1.65 U10	PP25kPa	1.53 1.33	0.60 0.80		Firm amorphous black peat with natural organic odour.			
1.65-1.85 D11 1.85-2.30 U12	*5/450mm HV8/2kPa *5/450mm	0.93	1.20		Very soft and soft locally firm low strength light brown mottled grey and dark brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded, fine to coarse of chalk. Occasional pockets of orange brown clay up 1cm diameter.	1		
2.30-2.50 D13 2.50-2.95 U014 2.50 ES13A	HV8/1kPa *8/450mm		(1.75)		Soft extremely low strength grey mottled brown silty CLAY. Frequent rootlet remains.	2		
2.95-3.15 D15 3.15-3.80 B016 3.15-3.60 U15A	HV9/1kPa *14/0mm	-0.82	2.95		(Below 2.30m depth, occasional rootlet remains, rare shell fragments less than 2mm).			
3.80-4.25 U018 3.80 ES17	*16/360mm		(1.30)		Firm, locally stiff, low strength grey brown silty CLAY. Occasional bivalve shell fragments less than 1cm. (Below 3.15m depth, brown, rare shell fragments).	3		
4.25-4.45 D19 4.50-4.95 D20 4.50-5.00 B21 4.50 ES22	(S)N=11 (2,2,2,3,3,3)	-2.12 -2.37	4.25 (0.25) 4.50		Soft to firm brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded, fine to coarse of chalk, chert and flint. Occasionally thinly laminated with white sandy chalk.	4		
5.50-5.95 D23 5.50-6.00 B24	(S)N=7 (1,2,1,1,2,3)		(4.00)		Medium dense brown silty sandy GRAVEL. Sand is fine to coarse. Gravel is angular to subangular, fine to coarse of flint, chert and chalk.	5		
6.50-6.95 D25 6.50-7.00 B26	(S)N=12 (1,3,2,2,3,5)		(4.00)		(Between 5.50 and 5.95m depth, gravel is loose).	6		
7.50-7.95 D27 7.50-8.00 B28	(S)N=24 (4,4,6,6,6,6)		(4.00)			7		
8.50-8.95 D29 8.50-9.00 B30	(S)N=20 (5,5,5,5,5,5)	-6.37	8.50		Structureless CHALK recovered as white grey slightly sandy silty GRAVEL with frequent brown staining. Sand is fine to coarse. Gravel is angular to subangular, fine to coarse of flint and chalk. Clasts are very weak to weak medium density. Matrix is light brown white grey. (Grade Dc)	8		
9.50-9.95 D31 9.50-10.00 B32 9.50 ES33	(S)N=13 (6,4,3,3,3,4)		(1.50)			9		

End of Borehole at 10.00 m


Start & End of Shift Observations					Depth/Casing Diameter		Remarks:
Date	Time	Borehole Depth (m)	Depth of Casing (m)	Water Depth (m)	Depth (m)	Casing Diameter (mm)	
15/07/2010	1700	1.20	-	0.80	9.20	150	
16/07/2010	1700	10.00	9.20	1.10			
					Depth/Borehole Diameter		
					Depth (m)	Borehole Diameter (mm)	
					10.00	150	
Release Status: Draft							

















Location scanned with CAT and Genny. Hand dug inspection pit to 1.20m, no services encountered. Hole terminated at specified depth. 50mm groundwater monitoring standpipe installed on completion.

 <b>Geotechnical Services</b>	Contract Name: Southover WSW		Client: 4Delivery Ltd		Borehole ID: <b>BH03</b>
	Contract Number: 4074	Date Started: 15/07/2010	Logged By: FS	Checked By: JD	
Cable Percussion Borehole Log	Easting: 540832.4	Northing: 109287.5	Ground Level (mOD): 2.55	Plant Used: Hand Tools	Sheet 1 of 1 Scale: 1:50

Samples & In Situ Testing		Strata Details				Groundwater	
Sample ID	Test Result	Level (m AOD)	Depth (m) (thickness)	Legend	Strata Description	Water Strike(s)	Backfill/Installation
0.00 D1 0.10-0.60 B3 0.20 ES2			(0.60)		MADE GROUND: Grass over brown, friable, sandy, gravelly clay. Sand is fine to coarse. Gravel is angular to rounded, fine to coarse of chalk, red brick, ceramic tile, rare limestone and flint. Occasional rootlets.		
0.60-1.20 B6 0.65 D4 0.70 ES5		1.95	0.60		MADE GROUND: Dark brown black, sandy gavelly clay. Sand is fine to coarse, mostly coarse. Gravel is subangular to subrounded, fine to coarse of flint, clinker, melted metal and chalk. Occasional pockets up to 3cm diameter of firm amorphous dark brown black peat. Occasional rootlet remains. Organic odour.		
		1.35	1.20		End of Borehole at 1.20 m		


Start & End of Shift Observations					Depth/Casing Diameter		Remarks:
Date	Time	Borehole Depth (m)	Depth of Casing (m)	Water Depth (m)	Depth (m)	Casing Diameter (mm)	
15/07/2010	1500	1.20	-	-			
					Depth/Borehole Diameter		
					Depth (m)	Borehole Diameter (mm)	
					1.20	400	
Release Status: Draft							



 <b>Geotechnical Services</b>	Contract Name: Southover WSW		Client: 4Delivery Ltd		Borehole ID: <b>BH03A</b>
	Contract Number: 4074	Date Started: 20/07/2010	Logged By: FS	Checked By: JD	
Cable Percussion Borehole Log	Easting: 540834.4	Northing: 109301.8	Ground Level (mOD): 2.32	Plant Used: Dando 150	Sheet 1 of 1 Scale: 1:50

Samples & In Situ Testing		Strata Details					Groundwater	
Sample ID	Test Result	Level (m AOD)	Depth (m) (thickness)	Legend	Strata Description	Water Strike(s)	Backfill/Installation	
0.00-0.45 B3 0.10 D1 0.20 ES2 0.45-0.80 B6 0.60 D4 0.60 ES5 0.80 W10 0.80-1.20 B9 1.00 D7 1.00 ES8 1.20-1.65 D11 1.20-1.70 B12 1.50 ES13 1.70-2.15 U14 1.70-2.35 B15	(S)N=2 (1,0,1,0,1,0)	1.92	(0.40)		MADE GROUND: Grass over brown slightly clayey gravelly sand. Sand is fine to coarse. Gravel is subangular to rounded, fine to coarse of flint, chert, limestone, quartz, and red brick. (Below 0.3m depth, clayey)			
		1.52	0.40		MADE GROUND: Brown sandy gravelly clay. Sand is fine to coarse. Gravel is angular to subrounded, fine to coarse of flint, chert, quartz, chalk and rare red brick. (Below 0.7m depth, low cobble content. Cobbles are subrounded of chalk. Gravel becoming predominantly chalk)	1		
	*9/0mm	1.12	1.20		MADE GROUND: White grey brown clayey sandy gravel. Sand is fine to coarse. Gravel is angular to rounded, fine to coarse of flint, chert, chalk and rare red brick.	2		
2.35-2.80 U16	*15/450mm	-0.03	2.35		MADE GROUND: Soft brown slightly sandy very gravelly clay. Sand is fine to coarse. Gravel is angular to subrounded, fine to coarse of flint, chert, chalk and occasional red brick.			
			(0.55)		Soft brown grey silty CLAY with rare 1cm pockets of brown peat fibres.			
2.80-3.00 D17 2.95 ES18 3.00-3.45 U19	*25/380mm	-0.58	2.90		Soft medium strength grey mottled orange and white slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to subangular, fine to medium, occasional coarse of chalk and rare flint. (Below 3.45m depth, sandy, very gravelly)	3		
	*22/0mm	-1.33	3.65		Medium dense brown slightly silty sandy GRAVEL. Sand is fine to coarse. Gravel is angular to subangular, fine to coarse of flint and chert. Occasional 4cm pockets of sandy gravelly clay.	4		
			(1.15)		(Below 4.5m depth, gravel of subrounded chalk)	5		
4.50-4.95 D24 4.50-5.00 B25	(S)N=11 (3,3,3,2,2,4)		(2.85)			6		
5.50-5.95 D26 5.50-6.00 B27	(S)N=11 (2,4,3,3,2,3)					7		
6.50-6.95 D28 6.50-7.00 B29	(S)N=9 (2,1,2,2,2,3)	-4.18	6.50		Structureless CHALK recovered as silty sandy GRAVEL with low cobble content. Sand is fine to coarse. Gravel is angular to subrounded, fine to coarse of angular flint and subangular to subrounded very weak low density white chalk with occasional black specs. Cobbles are subrounded of very weak to weak low density white chalk with occasional black specs. Matrix is cream mottled light brown. (Grade Dc)	8		
						9		
7.50-7.95 D30 7.50-8.00 B31 7.75 ES32	(S)N=10 (2,2,2,2,2,4)		(3.50)					
8.50-8.95 D33 8.50-9.00 B34	(S)N=10 (4,4,4,2,2,2)							
9.50-9.95 D35 9.50-10.00 B36	(S)N=21 (4,2,3,5,5,8)							


End of Borehole at 10.00 m





Start & End of Shift Observations					Depth/Casing Diameter		Remarks:	
Date	Time	Borehole Depth (m)	Depth of Casing (m)	Water Depth (m)	Depth (m)	Casing Diameter (mm)		
20/07/2010	1800	10.00	9.20	1.50	9.20	150		Initial inspection pit dug at BH03, moved due to wasps nest. BH03A CAT scanned for services, none located. Hand dug inspection pit to 1.2m, no services encountered. Borehole terminated at 10.0m. Borehole backfilled with bentonite on completion
					Depth/Borehole Diameter			
					Depth (m)	Borehole Diameter (mm)		
					10.00	150		
Release Status: Draft								

 <b>Geotechnical Services</b>	Contract Name: Southover WSW		Client: 4Delivery Ltd		Borehole ID: <b>BH04</b>
	Contract Number: 4074	Date Started: 09/12/2010	Logged By: SB	Checked By: JD	
Cable Percussion Borehole Log	Easting: 540840.1	Northing: 109256.9	Ground Level (mOD): 2.03	Plant Used: Dando 2000	Sheet 1 of 2 Scale: 1:50

Samples & In Situ Testing		Strata Details					Groundwater	
Sample ID	Test Result	Level (m AOD)	Depth (m) (thickness)	Legend	Strata Description	Water Strike(s)	Backfill/Installation	
0.15 D1 0.30 ES2 0.40 D3 0.55 W5 0.70-1.20 B4		1.63	(0.40)		MADE GROUND: Firm brown friable slightly sandy, slightly gravelly clay. Sand is fine to coarse. Gravel is subangular to subrounded, fine to coarse of chalk, flint and rare brick.			
		1.33	(0.30)		Firm black amorphous PEAT			
1.20-1.65 U6					Very soft grey mottled brown slightly sandy, low strength CLAY. Sand is fine. Rare firm pockets of firm grey clay. Rare bivalve shell fragments.			
1.70 D7	PP8kPa		(2.30)					
2.00 ES10 2.00-2.45 D8 2.00-2.50 B9	(S)N=0 (0,0,0,0,0,0)							
3.00-3.45 U11		-0.97	3.00		Firm brown mottled grey slightly sandy, low strength CLAY. Sand is fine.			
3.50 D12	PP33kPa		(1.50)					
4.00-4.45 D13 4.00-4.50 B14	(S)N=19 (2,3,5,7,4,3)							
		-2.47	4.50		Firm light brown slightly sandy, gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded, fine to coarse of chalk and flint.			
5.00-5.45 D15 5.00-5.50 B16	(S)N=25 (2,3,4,7,7,7)	-2.97	5.00		Medium dense light brown silty, gravelly SAND. Sand is fine to coarse. Gravel is subangular to rounded, fine to coarse of flint and chalk.			
			(1.50)					
6.50-7.00 B17	(S)N=21 (3,4,5,5,6,5)	-4.47	6.50		Medium dense light brown and cream silty sandy GRAVEL. Sand is fine to coarse. Gravel is subangular to rounded, fine to coarse of chalk and flint. Rare cobbles of rounded flint.			
			(1.50)					
8.00-8.45 D18 8.00-8.50 B19	(S)N=29 (3,4,6,6,8,9)	-5.97	8.00		Structureless Chalk: Recovered as white and cream silty sandy subangular to subrounded, fine to coarse GRAVEL. Clasts are weak, medium density with frequent orange brown staining. (Grade Dc)			
9.50-9.95 D20 9.50-10.00 B21	(S)50/140mm (7,14,25,25)		(3.50)		Continued next sheet			

Start & End of Shift Observations					Depth/Casing Diameter		Remarks:
Date	Time	Borehole Depth (m)	Depth of Casing (m)	Water Depth (m)	Depth (m)	Casing Diameter (mm)	
09/12/2010	1630	14.00	13.70	2.00	19.70	150	Location CAT Scanned. Inspection Pit dug to 1.20m. No services encountered. Borehole terminated at specified depth. Borehole backfilled with bentonite on completion.
10/12/2010	1500	20.00	19.70	3.50			
					Depth/Borehole Diameter		
					Depth (m)	Borehole Diameter (mm)	
					20.00	150	Release Status: Preliminary

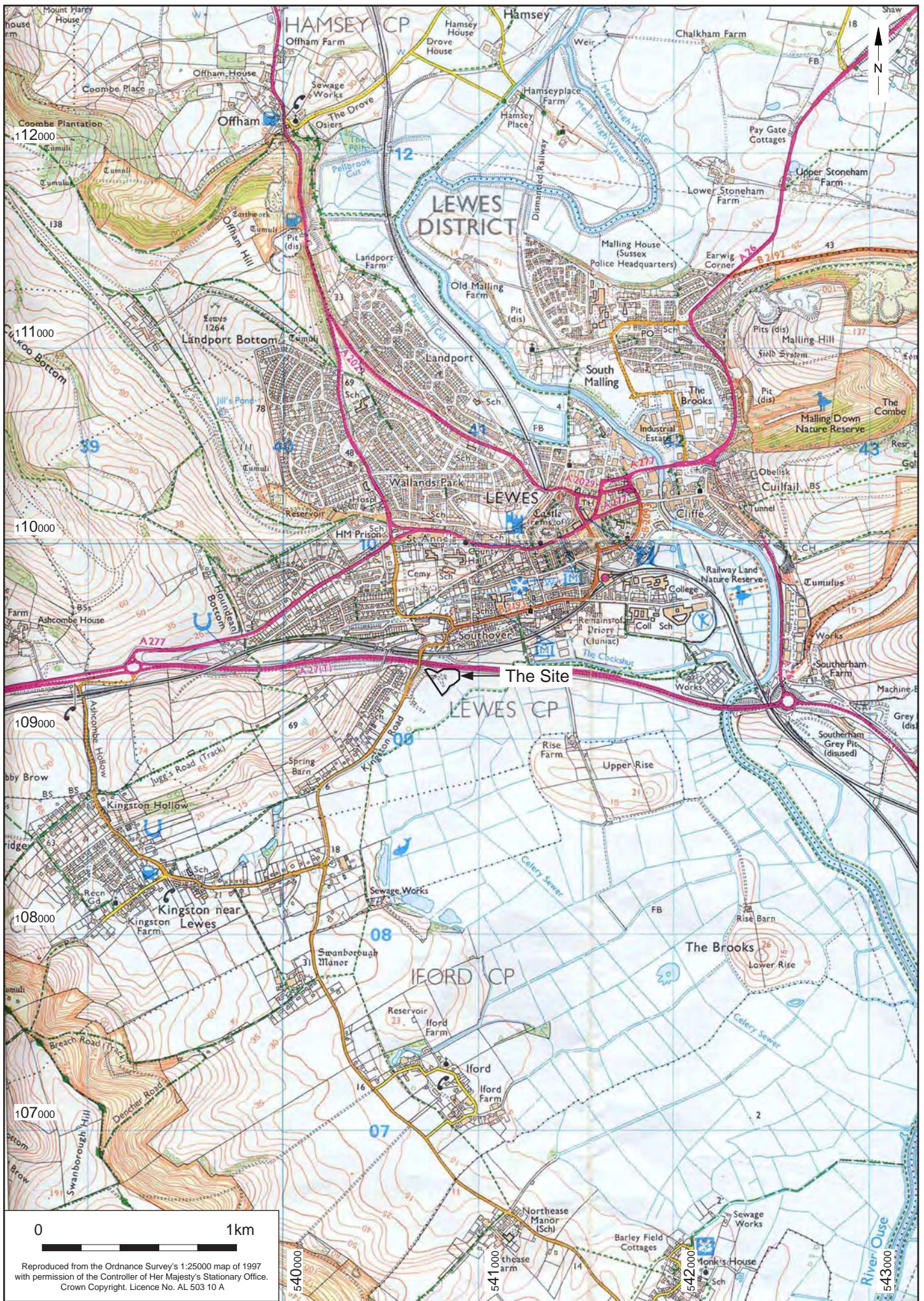
 <b>Geotechnical Services</b>	Contract Name: Southover WSW		Client: 4Delivery Ltd		Borehole ID: <b>BH04</b>
	Contract Number: 4074	Date Started: 09/12/2010	Logged By: SB	Checked By: JD	
Cable Percussion Borehole Log	Easting: 540840.1	Northing: 109256.9	Ground Level (mOD): 2.03	Plant Used: Dando 2000	Sheet 2 of 2 Scale: 1:50

Samples & In Situ Testing		Strata Details				Groundwater	
Sample ID	Test Result	Level (m AOD)	Depth (m) (thickness)	Legend	Strata Description	Water Strike(s)	Backfill/Installation
11.00-11.45 D22 11.00-11.50 B23		-9.47	11.50		Structureless Chalk: Recovered as white and cream silty sandy subangular to subrounded, fine to coarse GRAVEL. Clasts are weak, medium density with frequent orange brown staining. (Grade Dc)	11	
12.50-12.95 D24 12.50-13.00 B25			12		Weak to moderately weak, medium density white CHALK. Fractures are very closely spaced, infilled with comminuted chalk. Frequent black specks on surfaces. Rare flint gravels is occasional rinded flint cobbles. (Grade C4)	12	
14.00-14.45 D26 14.00-14.50 B27	(S)50/215mm (7,8,15,19,16)	-13.97	(4.50)			13	
15.50-15.95 D28 15.50-16.00 B29	(S)50/130mm (15,19,30,20)		14			14	
17.00-17.50 B30	(S)50/75mm - Abandoned	(4.00)	16.00		Moderately weak, high density white CHALK. Fractures are closely spaced, infilled with comminuted chalk, with slight yellow brown staining and black specks. Frequent rinded flint cobbles. (Grade B3)	15	
18.50-18.95 D31 18.50-19.00 B32	(S)50/65mm - Abandoned		16			16	
19.50-20.00 B33						17	
						18	
						19	

End of Borehole at 20.00 m

Start & End of Shift Observations					Depth/Casing Diameter		Remarks:
Date	Time	Borehole Depth (m)	Depth of Casing (m)	Water Depth (m)	Depth (m)	Casing Diameter (mm)	
09/12/2010	1630	14.00	13.70	2.00	19.70	150	
10/12/2010	1500	20.00	19.70	3.50			
					Depth/Borehole Diameter		
					Depth (m)	Borehole Diameter (mm)	
					20.00	150	
Release Status: Preliminary							

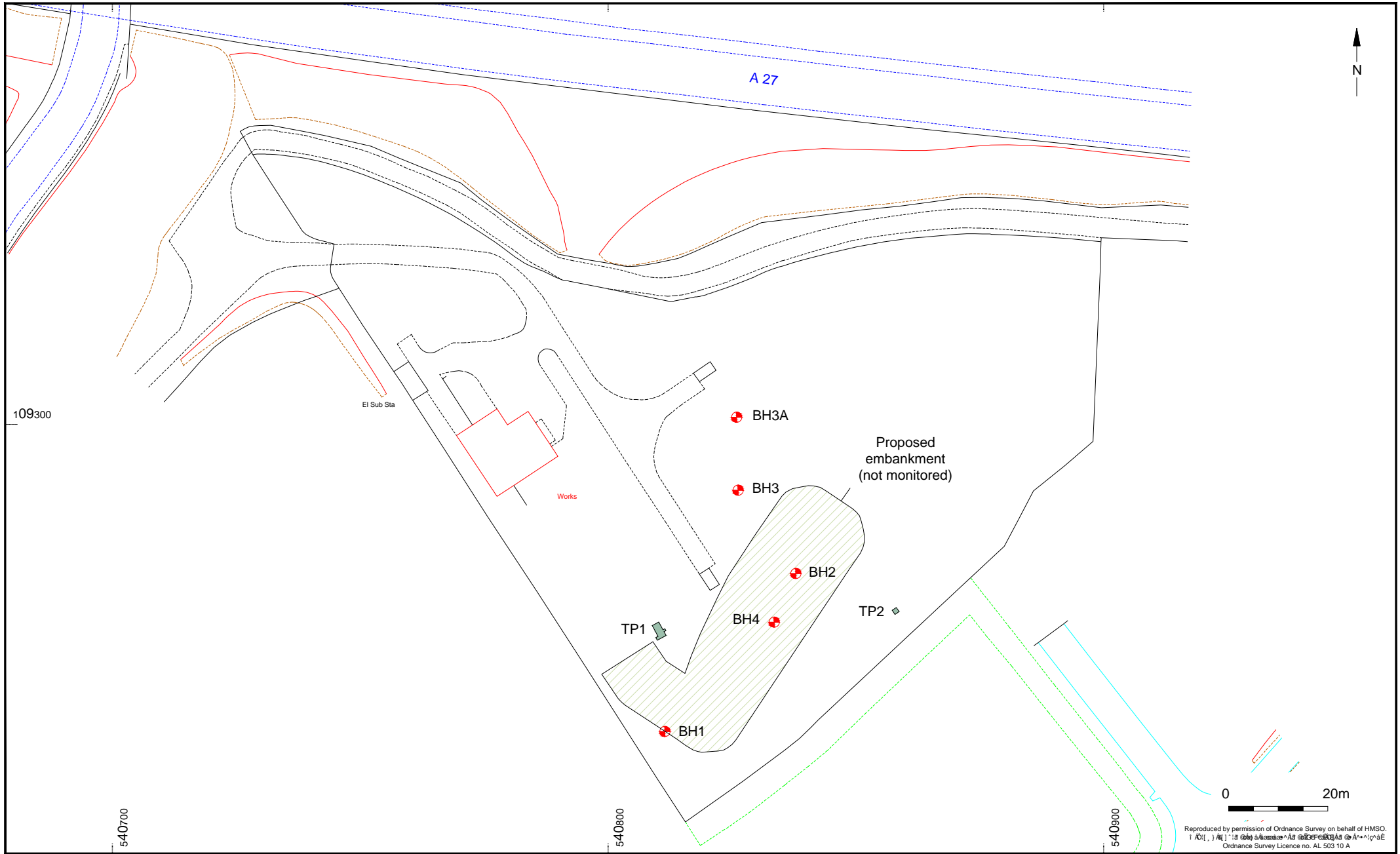
Location CAT Scanned. Inspection Pit dug to 1.20m. No services encountered. Borehole terminated at specified depth. Borehole backfilled with bentonite on completion.



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Project Ref: 4395	March 2011	Site location	
Report Ref: 2011055	Drawn by: JLR		

Fig. 1



Archaeology South-East		Southover WTW, Lewes	Fig. 2
Project Ref: 4395	March 2011	Location of test pits and boreholes	
Report Ref: 2011055	Drawn by: JLR		

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