

**A Geoarchaeological Evaluation and  
Watching Brief at Maypole School, Dartford, Kent**

**NGR: 551218 172464**

**Planning Ref: 13/01203/CPO**

**ASE Project No: 6464  
Site Code: DMS13**

**ASE Report No: 2014049**

**By Dr Matt Pope and Andrew Margetts,  
Illustrations by Rob Cole**

**February 2014**

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**Abstract**

*Archaeology South-East (ASE), the contracting division of the Centre for Applied Archaeology (CAA), Institute of Archaeology (IoA), University College London (UCL) were commissioned by Kier Southern Limited to undertake a geoarchaeological and archaeological evaluation and subsequent watching brief on land fringing existing buildings at Maypole Primary School, Dartford, Kent. (NGR: 551218 172464; Figure 1).*

*Three geoarchaeological test pits and a single archaeological evaluation trench were excavated and construction works comprising site reduction and excavation of footings were subject to geoarchaeological monitoring. A Pleistocene sedimentary sequence was recorded, but no artefacts or ecofacts were recovered. The sequence has been partially correlated with that observed during previous investigations carried out in 2000 and 2002, prior to the construction of the school. It is apparent that during this construction process the area around the school has been truncated by c. 1m.*

*It is likely that within the truncated area, which relates to an artificial terrace in the immediate vicinity of the school buildings, there is greatly reduced or no potential for archaeological remains in the form of further preserved lithic artefacts.*

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## **1.0 INTRODUCTION**

### **1.1 Site Background**

1.1.1 Archaeology South-East (ASE), the contracting division of the Centre for Applied Archaeology (CAA), Institute of Archaeology (IoA), University College London (UCL) was commissioned by Kier Consulting Limited to undertake a geoarchaeological assessment and subsequent watching brief ahead of proposed extension to existing buildings at Maypole Primary School, Dartford, Kent. (NGR: 551218 172464; Figure 1).

### **1.2 Geology and Topography**

1.2.1 The site is located on roughly flat ground comprising land immediate surrounding Maypole Primary School. The land is bounded to the south by Dykewood Close/Tile Kiln Lane, to the west by Baldwyns Park and by Franklin Road to the north.

1.2.2 According to the current data from the British Geological Survey (BGS 2013) the underlying natural solid geology comprises the Tertiary Thanet Sands. Superficial geological mapping shows localised Head Deposits filling the upper reaches of local dry valley systems incised into Boyn Hill gravels.

### **1.3 Research Aims and Objectives**

1.3.1 The aims of the work were to determine the presence of, and characterise, Pleistocene sedimentary deposits and, where present, to assess these deposits for the presence of Pleistocene human artefacts, ecofacts and palaeo-environmental remains.

1.3.2 The results of the initial geoarchaeological evaluation used to inform the need for further mitigation ahead of development. This mitigation comprised monitoring of associated ground-works under watching brief conditions.

1.3.3 Specific aims of the work as set out in the preceding geoarchaeological specification (HCGKCC 2013) were to:

- assess the horizontal and vertical extent and sedimentological character of Pleistocene deposits at the site (with reference to the sequences identified elsewhere on Dartford Heath).
- link archaeological material with interpretations of depositional or erosional processes for stratigraphic units.
- assess, in local, regional and national terms, the archaeological and geological importance of the Pleistocene deposits and their potential to fulfil current research objectives.

### **1.4 Scope of Report**

1.4.1 This report provides field observations made during the geoarchaeological evaluation in December 2013 as well as the archaeological watching brief undertaken in January 2014. The geoarchaeological fieldwork was undertaken by Matt Pope and Liz Chambers with Lukas Miciak (Surveyor).

The watching brief was undertaken by Andrew Margetts (Senior Archaeologist). The project was managed by Jon Sygrave and Darryl Palmer (Fieldwork) and by Jim Stevenson (Post-Excavation).

## **2.0 GEOARCHAEOLOGICAL AND ARCHAEOLOGICAL BACKGROUND**

### **2.1 Previous investigations**

2.1.1 Geoarchaeological investigation at the site has been previously carried out during two phases of fieldwork in 2000 and 2002 (Wenban-Smith and Bates 2000; Wenban-Smith and Marshall 2002). The first phase of fieldwork comprised the excavation of 12 geoarchaeological test pits and controlled sieving for artefacts.

2.1.2 During this work four sedimentary facies were identified:

- Group IV: Topsoil
- Group III: Loose Sandy Gravel
- Group II: Clay Silt with Gravel Patches
- Group I: Coarse Sand and Gravel

2.1.3 No artefacts were recovered from any of the sieved samples. However three lithic artefacts, consistent with Lower Palaeolithic technology were recovered during machine stripping from the boundary of Units II/III. It was considered that this boundary might represent a preserved palaeo-landsurface with moderate to high potential for the preservation localised lithic scatters, and thereby the site could be of national importance.

2.1.4 On this basis, a second phase of fieldwork was undertaken, comprising the monitoring of machine stripping. During this work eight handaxes and ten further flakes were located, all within the upper part of, but not on the CSWG (Clay Silt with Gravel - Unit II). No deposits of palaeoenvironmental potential were recovered and no faunal remains were encountered.

2.1.5 The handaxes were all relatively small and intensively worked, one with indications of a twisted tip. The axes were found sealed between two Pleistocene deposits and so their Lower Palaeolithic age was considered secure. The relatively low energy nature of the CSWG led the authors to suggest minimal movement for the artefacts.

### **2.2 Other archaeological remains**

2.2.1 A possible Saxon barrow is located to the south and early medieval and medieval remains are known in this area of Dartford Heath.

### **3.0 GEOARCHAEOLOGICAL EVALUATION AND WATCHING BRIEF METHODOLOGY**

#### **3.1 Geoarchaeological evaluation methodology**

3.1.1 Three geoarchaeological test pits were excavated across the eastern side of the site. GTP 1 and 2 were each 1.5 x 2.5m in extent. GTP3 formed a 1.5m x 2.5m sondage within a 1.5m x 7m evaluation trench.

3.1.2 In accordance with the KCC WSI the following investigation methodology was employed. Each geoarchaeological test pit (GTPs) excavated was 1.5m in width and 2.5m long, each was excavated by a mechanical excavator with toothless ditching bucket and c.4m reach in terms of depth. The GTPs were recorded on the basis of 0.25m spits and all units and unit boundaries were fully described. Given the depth of the test pits, the arisings were placed in stratigraphic order alongside the pit in order to enable descriptive recording and sampling. In each test pit an attempt was made to prove the solid cretaceous or tertiary bedrock to obtain the possible marine platform or channel base heights within the constraints of the specification and safety considerations.

3.1.2 Dry sieving of c.100 litres of each suitable sand and gravel unit or 0.25cm spit was undertaken alongside the test pit in order to recover lithic artefacts and large faunal material. In conjunction with the sieving, the spoil was constantly checked for artefacts as the trench is dug. Had *in situ or dense concentrations of lithic material indicative of Palaeolithic archaeology* been encountered, work at the test pit would have ceased until an appropriate mitigation strategy had been developed.

#### **3.2 Geoarchaeological watching brief methodology**

3.2.1 Monitored works comprised ground reduction and associated footings in the area of two new extensions at the school. Ground reduction reached depths of c.0.6m below the existing ground surface. The footings reached a further depth of c.1m below this level. The footings measured c.0.5m in width. All ground-works were undertaken by a 360° excavator fitted with a toothless ditching bucket under constant archaeological supervision. All spoil generated by the ground-works was inspected for finds, particularly lithic material.



## 4.0 RESULTS (Figure 2)

### 4.1 Geoarchaeological evaluation results

#### 4.1.1 Geoarchaeological Test Pit 1 (Table 1)

Unit	Sediment description	Depth (m)	Sample and depth (m)	Volume sieved (l)
1	Topsoil/turf	0-0.20		
2	Orange-brown and grey mottled clay with silt, soft, with very, very occasional rounded Tertiary flint.  Patch of reddish yellow medium sand with subrounded to rounded flint gravel (5-30mm).  Mixed patches of clay and sand with gravel across test pit.	0.20-0.7  0.70  0.80		
3	Coarse sand and gravel	0.90-1.25	I @ 0.90	100
4	Coarse sand with <5% gravel (5-15mm)	1.25-2.50+	II @ 1.25 III @ 1.50 IV @ 1.75	60 60 60

4.1.2 Table 1 details the stratigraphic sequence revealed in Test Pit 1. No lithic artefacts were recovered from the sieved material.

#### 4.1.3 Geoarchaeological Test Pit 2 (Table 2)

Unit	Sediment description	Depth (m)	Sample and depth (m)	Volume sieved (l)
1	Topsoil/Made ground – landscaped on slope	0-0.10		
2	Soft clay with silt. Reddish orange with grey mottles, As above with patches of orange yellow medium sand and occasional gravel.	0.10-0.8  0.80-1.00		
3	Orange yellow medium to coarse sand 60% subrounded to rounded gravel (5-20mm)	1.00-1.20	I @ 1.00	100
4	Reddish orange sand with very occasional rounded flint and fine clay laminations	1.20-1.70	II @ 1.20 III @ 1.50	60 60
5	Compact reddish brown sand with some grey laminations, stone free	1.70-2.20+		

4.1.4 Table 2 details the stratigraphic sequence revealed in Test Pit 2. No lithic artefacts were recovered from the sieved material.

4.1.5 Evaluation Trench 1 and Geoarchaeological Test Pit 3 (Table 3)

Context number	Sediment description	Interpretation	Thickness (m)
3/001	Paving slabs. Across whole trench.	Pathway	0-0.10
3/002	Pure coarse yellow sand. Across whole trench.	Setting for path	0.10-0.15
3/003	Humic silty clay with modern CBM, plastic and concrete. Across whole trench.	Made ground	0.15-0.80
3/004	Yellow brown silty clay with <10% rounded flint gravel (5-20mm)	Pleistocene natural	0.80-2.00+

4.1.6 Table 3 details the stratigraphic sequence revealed in Evaluation Trench 1 and Test Pit 3.

4.1.7 The evaluation trench was excavated to the top of the natural gravels [3/004] which were overlain by made ground and paving slabs. No archaeological features, artefacts or deposits were present.

4.1.7 A geoarchaeological sondage (Test Pit 3) was dug to a depth of 2m at the north-eastern end of the trench in order to investigate the geoarchaeological content. Units in this trench were given context numbers to comply with archaeological recording practice in case the 7m evaluation trench revealed archaeological remains. No lithic artefacts were recovered from the sieved material.

## 4.2 Geoarchaeological Watching Brief Results

4.2.1 Monitored Groundworks (Table 4)

Context number	Sediment description	Interpretation	Thickness (m)
1	Topsoil/turf	Recent Topsoil	0.20
2	Orange-brown and grey mottled clay with silt, soft, with very, very occasional rounded Tertiary flint.	Equivalent to Geoarch Unit 2	0.50
3	Coarse sand and gravel	Equivalent to Geoarch Unit 2	-

4.2.2 Monitored groundworks works comprised ground reduction and associated footing excavation in the area of two new extensions at the school. The watching brief revealed a sequence that corresponds with the results of the initial geoarchaeological evaluation.

4.2.3 No lithic artefacts were recovered during the watching brief.

## **5.0 INTERPRETATION AND CONCLUSIONS**

### **5.1 Geoarchaeological investigations: stratigraphic sequence**

- 5.1.1 Below the topsoil, the upper deposit observed in Test Pits 1 and 2 was a fine-grained and variable silty-clay directly overlying coarser sands. This has been correlated on the basis of height and sedimentary characteristics with Wenban-Smiths Unit III, the Clay Silt with Gravel patches (CSWG).
- 5.1.2 The CSWG has been observed in previous evaluations to exist at a depth of c. 60cm and to be covered by up to 2cm of loose sandy gravel in addition to topsoil. The reason it is encountered at a much shallower depth in the current investigations is due to reduction of the ground level for the school which sits at a sunken elevation to the surrounding playing fields.
- 5.1.3 It is probable that within this reduced elevation area the upper Unit III has been removed in its entirety and the lower CSWG has been to some degree truncated. This is especially the case for the sequence in GTP3 where a unit of apparent equivalence is overlain by 0.8m of Made Ground. Truncation of the CSWG is also apparent in the difference in observed thickness of the deposits between 2002 and 2014. Wenban-Smith observed up to 1.9m while in our observation the unit was only 0.9m in maximum thickness.

### **5.2 Degree of truncation and geoarchaeological potential**

- 5.2.1 The geoarchaeological evaluation and subsequent watching brief showed that up to a metre of the unit of potential had been truncated in the immediate area of the school buildings and the footprint of the new development. This truncation relates to an artificial terrace that had been created during construction works associated with the school development (Figure 2). As the upper 0.7m of the unit in question contained all of the recorded Palaeolithic artefacts (Wenban-Smith and Marshall 2002), the potential for artefact preservation was considered low/extremely low within the footprint of the school development. The watching brief confirmed these observations.
- 5.2.2 Any area outside of the artificial terrace (such as the school playing field) should still be considered as of equal potential to that observed by Wenban Smith (2000; 2002).

## **ACKNOWLEDGEMENTS**

The first phase of geoarchaeological assessment was directed by Dr Matt Pope. The watching brief was directed by Andy Margetts. ASE would like to thank the Kier staff who assisted and enabled the work on site; Wendy Rogers, HCGKCC, who guided and monitored the project, and Kier Consulting who facilitated and financed the project.

## **BIBLIOGRAPHY**

British Geological Survey 2013

<http://mapapps.bgs.ac.uk/geologyofbritain/home.html>

HCGKCC 2013. *Specification for archaeological evaluation, including geoarchaeological evaluation at Maypole School Dartford Kent*

Kent County Council 2007. *Standard Specification for an Archaeological Evaluation*

Wenban-Smith F.F and G. Marshal. 2002. Dartford Maypole County Primary School: Assessment Report and Updated project design. Unpublished ms. University of Southampton.

Wenban-Smith, F.F and M.R. Bates. 2000. Bexley Hospital: A report on Archaeological trail excavations. Hereford Archaeology Series 447.

## HER Summary Form

Site Code	DMS13					
Identification Name and Address	Maypole School, Dartford, Kent					
County, District &/or Borough	Dartford, Kent					
OS Grid Refs.	551218 172464					
Geology	Thanet Beds and Head deposits					
Arch. South-East Project Number	6464					
Type of Fieldwork	Eval.	Excav.	<b>Watching Brief</b>	Standing Structure	Survey	Other
Type of Site	Green Field	Shallow Urban	Deep Urban	<b>Other School</b>		
Dates of Fieldwork	Eval. Dec 2013	Excav.	<b>WB. 23/1/14 – 28/1/14</b>	Other		
Sponsor/Client	Kier Consulting					
Project Manager	Jon Sygrave, Darryl Palmer and Jim Stevenson					
Project Supervisor	Andy Margetts and Matt Pope					
Period Summary	Palaeo	Meso.	Neo.	BA	IA	RB
	AS	MED	PM	<b>Other None</b>		
<p><i>Archaeology South-East (ASE), the contracting division of the Centre for Applied Archaeology (CAA), Institute of Archaeology (IoA), University College London (UCL) were commissioned by Kier Southern Limited to undertake a geoarchaeological and archaeological evaluation and subsequent watching brief on land fringing existing buildings at Maypole Primary School, Dartford, Kent. (NGR: 551218 172464; Figure 1).</i></p> <p><i>Three geoarchaeological test pits and a single archaeological evaluation trench were excavated and construction works comprising site reduction and excavation of footings were subject to geoarchaeological monitoring. A Pleistocene sedimentary sequence was recorded, but no artefacts or ecofacts were recovered. The sequence has been partially correlated with that observed during previous investigations carried out in 2000 and 2002, prior to the construction of the school. It is apparent that during this construction process the area around the school has been truncated by c. 1m.</i></p> <p><i>It is likely that within the truncated area, which relates to an artificial terrace in the immediate vicinity of the school buildings, there is greatly reduced or no potential for archaeological remains in the form of further preserved lithic artefacts.</i></p>						

## OASIS Form

**OASIS ID: archaeol6-170910**

### Project details

Project name A Geoarchaeological Watching Brief and Geoarchaeological Assessment at Maypole School, Dartford, Kent

Short description of the project Archaeology South-East (ASE), the contracting division of the Centre for Applied Archaeology (CAA), Institute of Archaeology (IoA), University College London (UCL) were commissioned by Kier Southern Limited to undertake a geoarchaeological assessment and subsequent watching brief on land fringing existing buildings at Maypole Primary School, Dartford, Kent. (NGR: 551218 172464; Figure 1).

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It is likely that within the truncated area, which relates to an artificial terrace in the immediate vicinity of the school buildings, there is greatly reduced or no potential for archaeological remains in the form of further preserved lithic artefacts.

Project dates Start: 01-12-2013 End: 28-01-2014

Previous/future work Yes / Not known

Any associated project reference codes DMS13 - Sitecode

Type of project Recording project

Site status None

Current Land use Community Service 1 - Community Buildings

Monument type 0 None

Significant Finds 0 None

Investigation type "Test-Pit Survey", "Watching Brief"

Prompt Direction from Local Planning Authority - PPS

### Project location

Country England

Site location KENT DARTFORD DARTFORD Maypole School, Dartford, Kent

Postcode	DA2 7UZ
Study area	1.00 Hectares
Site coordinates	TQ 551218 172464 50.9331997595 0.20782712438 50 55 59 N 000 12 28 E Point
Lat/Long Datum	Unknown
Height OD / Depth	Min: 39.00m Max: 42.00m

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**Project creators**

Name of Organisation	Archaeology South East
Project brief originator	Heritage Conservation Group at Kent County Council
Project design originator	Heritage Conservation Group at Kent County Council
Project director/manager	Jon Sygrave
Project supervisor	Andrew Margetts
Project supervisor	Matt Pope
Type of sponsor/funding body	Kier Construction

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**Project archives**

Physical Archive Exists?	No
Digital Archive Exists?	No
Paper Archive Exists?	No

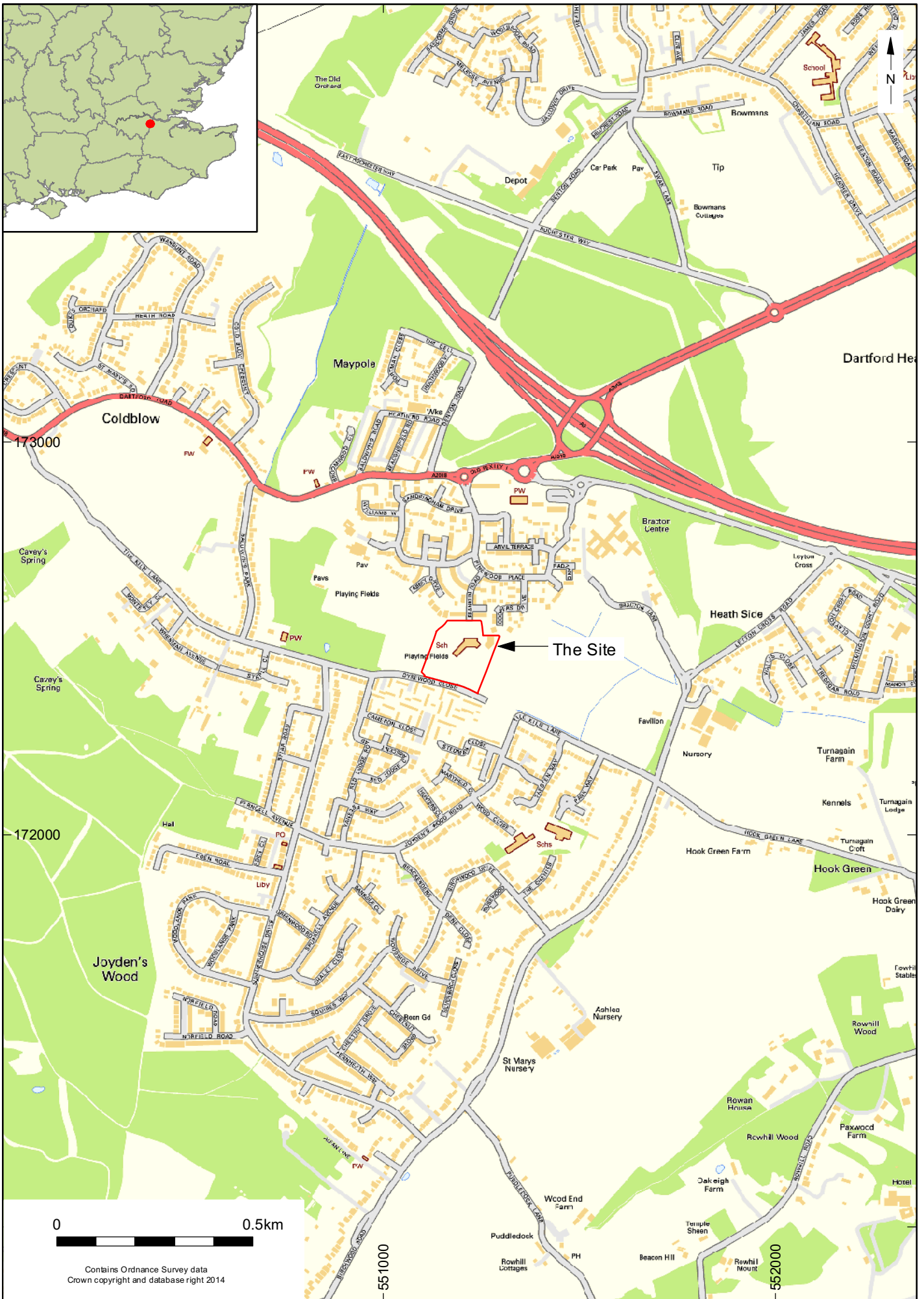
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**Project bibliography 1**

Publication type	Grey literature (unpublished document/manuscript)
Title	A Geoarchaeological Watching Brief and Geoarchaeological Assessment at Maypole School, Dartford, Kent
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Other bibliographic details	Rep no: 2014049

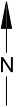


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Project Ref: 6464	Feb 2014	Site location	
Report Ref: 2014049	Drawn by: JLR		



+ 551110, 172550



- Monitored area
- Test pit
- Extent of terraced area

0 20m

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© Archaeology South-East		Maypole School, Dartford	Fig. 2
Project Ref: 6464	Feb 2014	Site plan showing monitored areas	
Report Ref: 2014049	Drawn by: JLR		

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