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**A Geoarchaeological
Evaluation at
177 Sevenoaks Road
Eastbourne, East Sussex**

CBAS0837

By

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Summary

An evaluation comprising a geoarchaeological auger survey was carried out in April 2017. Two holes were augered to depths of 1.40m and 1.35m respectively. Below the top/subsoil a deposit of chalky made ground was encountered. The Willingdon Peat was not recorded and this may reflect a local sediment variation in the embayment in which the site is located, as seen at West Rise School. No evidence of archaeological activity was recorded.

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1.0 Introduction

- 1.1** Chris Butler Archaeological Services Ltd has been commissioned by Mr & Mrs Tutton (The Client) to carry out a geoarchaeological auger survey as the first stage of archaeological fieldwork in connection with a proposed planning application for a new bungalow at 177 Sevenoaks Road, Eastbourne, East Sussex.
- 1.2** As a result of the site's location, and the archaeological potential of the area, the County Archaeologist has requested that a geoarchaeological auger survey be undertaken in advance of the application being decided to determine whether peat is present on the site and if so, at what depth.
- 1.3** The site is centred on TQ6236 0255, on the south side of Sevenoaks Road, which is situated north of the West Langney Level (Fig. 1). The site is located within a former valley/embayment now filled with alluvium over Weald Clay bedrock on the northern margin of the Willingdon Levels.
- 1.4** The site is located just north and east of the nearest Archaeological Notification Area (ANA), which covers the Willingdon Levels (Fig. 2). Archaeological work in and around the Willingdon Levels has revealed a rich archaeological heritage stretching back to prehistory with evidence for occupation in every subsequent period through to the present day.
- 1.5** The geology of the site, according to Geology of Britain¹, consists of Weald Clay Formation – mudstone, with superficial deposits of alluvium, silts and peats.
- 1.6** The appropriate programme of archaeological work comprises a geoarchaeological auger survey which will provide an archaeological record of the sediments beneath the site which will be impacted by the proposed development work, and to inform our understanding of the archaeological interest of this section of the Willingdon levels.
- 1.7** This written scheme of investigation covers this phase of work, and has been prepared in accordance with a brief issued by the Archaeology team at ESCC². In the event of important archaeological discoveries being made, a further phase of archaeological mitigation may be required.

¹ <http://mapapps.bgs.ac.uk/geologyofbritain/home.html> Accessed 15/10/2014

² Email to architect from Greg Chuter 21.3.17.

2.0 Archaeological & Historical background (Fig. 3)

- 2.1 A Lower Palaeolithic handaxe was found to the southwest of the site at Lottbridge Drove (MES507). There is no evidence for Mesolithic activity in the vicinity of the site. However, there are numerous find spots of Mesolithic flintwork from around the edges of the Levels, just above where the peat horizon stopped encroaching at the 5m contour line, which could suggest that Mesolithic activity may be found in the vicinity of the site.
- 2.2 Neolithic finds are absent from Langney, although scatters of Neolithic flintwork and individual finds of Neolithic axes suggest that activity, probably associated with hunting and fishing, continued around the edges of the marshy Levels during this period. The evidence suggests that the Levels continued to be used for hunting and fishing, although the peat had begun to accumulate during this period³, perhaps allowing greater access into the area.
- 2.3 In 1995, a Late Bronze Age timber platform and associated trackway (MES7375) were discovered on Shinewater Marsh to the northwest of the site. Copper-alloy artefacts, pottery and worked and burnt flint were recovered during the limited excavations⁴. This and other trackways / causeways (MES15463 and MES16119) hint at extensive Late Bronze Age activity on the Willingdon Levels (Fig. 4). This activity does not appear however to have extended onto an adjacent site at West Langney Lake as no archaeological features or artefacts were recorded here during an evaluation in 1996 and two later watching briefs in 2000 and 2002 (EES13948, EES14058 and EES13947).
- 2.4 During the Late Bronze Age / Early Iron Age, it seems likely that the Levels became untenable due to flooding from the sea⁵. This may have led to a decrease in activity in the area or more probably a retreat to the higher ground. No Iron Age finds or features have been recovered close to the site.
- 2.5 The coastline in the Roman period was very much different from today, with the site having been located close to the water's edge. The Roman Saxon Shore Fort at Pevensey (MES4712) was built in the late 3rd century AD, on a peninsula that jutted out into the sea and provided shelter for a port (ME16194S) on its protected north side. A Roman settlement developed at Westham, outside the large fort. Another coastal settlement may have been sited in the area of Roselands, Eastbourne as a possible water hole, containing Roman pottery, was discovered here during roadworks in 1929 (MES516). There is no evidence of a Roman presence in the area of the site.

³ Woodcock, A. 2003. 'The Archaeological implications of Coastal Change in Sussex', in Rudling, D. (Ed) *The Archaeology of Sussex to AD2000*. Heritage Marketing and Publications Ltd.

⁴ Greatorex, C. 2003. 'Living on the Margins? The Late Bronze Age Landscape of the Willingdon Levels', in Rudling, D. (Ed) *The Archaeology of Sussex to AD2000*. Kings Lynn: Heritage Marketing and Publications Ltd.

⁵ *Ibid.*

- 2.6** The Domesday Book records Langney as having comprised two land holdings prior to the Conquest⁶. The absence of Saxon finds and features suggests that few people lived in the area of the site during the Saxon period, as it was still marginal land at this time. Therefore, the site has a low likelihood of containing evidence for Saxon activity.
- 2.7** After 1066, William de Keynes and Ranulf held off the Count of Mortain the two land holdings of Langney, which were each one hide in size⁷. This manor had seen its value decline since the Conquest from 16 8d to 10s, and was occupied by a total of just four smallholders at the time of the survey.
- 2.8** Sometime after the completion of the Domesday Book in 1086, the Count granted fishing rights at Langney to the Priory of Wilmington⁸. Prior to 1106, when the Count forfeited his lordship of Pevensey, William gave his hide to the Cluniac monks of St Pancras Priory in Lewes, whilst Herbert gave them two hides in Langney with grazing on the seashore⁹. Langney had a chapel (MES514) by 1121, when the Bishop of Chichester confirmed it and other chapels to Lewes Priory. The estate had a further hide and a half by the time of the Charter of Confirmation in 1135.
- 2.9** Little is known about the monastic grange (or farming estate) at Langney. The historic fieldnames of Great Cliff, Little Cliff and Cold Harbour reflect the coastal location of the grange, with the harbour having been sited where Langney Sewer bends in towards Priory Road. As the grange was located within the rich pastoral lands of the Pevensey Marshes, its income may have relied heavily on rearing sheep for principally the wool trade. A tidemill (MES7019) belonging to the grange existed somewhere nearby, behind marshland, in the first half of the 12th century¹⁰, revealing that some of the land worked by the monks was under cultivation. Sea fishing may have been a secondary means of sustaining the grange, with small fishing boats having perhaps anchored at the harbour. The large pond that survives behind Langney Priory may have originated as a medieval fishpond, which the monks would have kept well stocked.
- 2.10** Much of the Levels were reclaimed by the 13th century¹¹, and the mill at Langney may have ceased to work during the 13th-14th centuries as a result. There are medieval references to saltpans in the Pevensey Levels¹², and it may have been during the lengthy process of land reclamation that the grange was possibly involved in the manufacture of salt. The 1st Edition OS map shows clusters of mounds sited along the A259 from Langney southwest to Wartling Road at Roselands, for a distance of c.1.8km. These mounds may represent extensive medieval saltworkings that were established along the edge of the former coastline; the mounds comprise the raked out remains of fires that heated saltpans in which saltwater was evaporated.

⁶ Morris, J. (Ed.) 1976. *Domesday Book: Sussex*. Chichester: Phillimore & Co. Ltd.

⁷ *Ibid.*

⁸ <http://www.british-history.ac.uk>

⁹ Toy, S. 1953. 'Langney Grange, Westham, *Sussex Archaeological Collections* **91**, 125-133.

¹⁰ *Ibid.*

¹¹ Salzmann, L.F. 1910. 'The Inning of Pevensey Levels', *Sussex Archaeological Collections* **53**, 33-60.

¹² *Ibid.*

- 2.11** A letter by Henry VIII¹³, dated 12th July 1509, commissioned the prior of St Pancras monastery, amongst others, to construct sewers through various areas including ‘through the marsh of Wellyngdon and Moryngesmyll to Langneygotte, and thence to sea’. Whether a sluice gate or an actual upstanding gate providing access out of the marsh, Langney Gate is sited at Langney Bridge, towards the base of Langney Rise. Today, Willingdon and West Langney Sewer and Langney Sewer meet a short distance to the west of Langney Gate, to flow past it as Langney Sewer.
- 2.12** Lewes Priory was dissolved in 1537, and from this time onwards Langney Priory (MES514) was the farmhouse of Langney Farm¹⁴. In the 16th century, a timber-framed building was built to create a west entrance front to the house. The building underwent later extension work to its north.
- 2.13** A land conveyance document¹⁵, dated 4 January 1677 and concerned with an intended marriage between Thomas Dyke and Philadelphia Nutt, declares ‘the use of a Fine’ of various properties including ‘The capital messuage and farm called Langney farm, with dovehouse and buildings and lands, meadows and marshlands’. In addition to other lands, the detailed inventory for the farm lists ‘the Cliffhouse lands’, ‘the Innings’ (i.e. reclaimed land), ‘Anthony Hill’, ‘Hidny’ and ‘the Shinwaters’.
- 2.14** Yeakell and Gardner’s map of 1778-1783 shows the site to have been located in a series of fields, the pattern of which was preserved until more recent development. A building stood at Langney Gate and was presumably the sluice house (MES7933). At this time, the settlement at Langney was small, comprising a small number of buildings to mainly the east side of Langney Rise. The land to the immediate west side of the road, from the bridge up to the settlement, appears to have been wholly cultivated, in contrast to the predominantly pastoral lands to its east side.
- 2.15** The Ordnance Survey surveyor’s draft of 1813¹⁶ reveals the defence tactics adopted during the early 19th century, a line of Martello towers was built to defend the coastline between Eastbourne and Pevensey¹⁷ and the coastal forts at Langney were re-armed and two batteries (MES7955) were built to protect their rear. A third battery was strategically sited at Langney Gate (MES7949). The 1838 Tithe map for Westham Parish shows no change.
- 2.16** The 1st Edition OS map (1879) shows the site and its surrounding area still as fields (Fig. 5), whereas by the time of the 2nd Edition OS map (1899) a brickworks has been established just to the north of the site. Through the 20th century development progressively moves northwards from Langney Village, and by the 1981 OS map the West Rise School has been built and is surrounded on all sides by housing development (Fig. 6).

¹³ <http://www.british-history.ac.uk/report.aspx?compid=102620>

¹⁴ Toy, S. 1953. ‘Langney Grange, Westham’, *Sussex Archaeological Collections* **53**, 125-133.

¹⁵ ESRO ASH/4501/961

¹⁶ <http://www.visionofbritain.org.uk/maps>

¹⁷ Butler, C. 2007. *East Sussex under Attack*. Stroud: Tempus Publishing.

- 2.17** An geoarchaeological auger survey was carried out at West Rise Junior School in October 2014 (Fig. 6). Two holes were augered to depths of 2.66m and 2.5m respectively. There was an absence of the typical Willingdon sequence and an absence of any peat here, which indicates that the embayment in which the site is located has a local sediment variation.
- 2.18** An Archaeological Evaluation of the route of the Sovereign Harbour Cycle Network Phase 3 was undertaken in 2015 to establish whether there are any archaeological remains that may be affected or destroyed by construction of the cycleway (Fig. 6). Excavation of the trial trenches revealed no archaeological features present down to a depth of 1.2m with the exception of a modern land drain. Made ground was seen within test pits 3-6, this may relate to hard surfaces being lain for agricultural use in the ease of moving livestock, or alternately relate to the sites use as an aerodrome and Flying School during the First World War. Alongside the archaeological investigation of the site a geoarchaeological evaluation was also undertaken by Dr Mike Allen. No further archaeological features or deposits were revealed, however this work did establish the presence of the Willingdon Peat deposit.
- 2.19** The archaeological and palaeo-environmental potential of this area and peat and alluvial deposits is highlighted by the significant discoveries on the Willingdon Levels of well-preserved Neolithic to Roman waterlogged artefacts, structures, platforms and trackways and palaeo-environmental evidence which is considered to be nationally important (British Archaeology, 1995; Greatorex, 1995a; 1995b; 1996a; 1996b; 1998; 2003; Jennings *et al.*, 1993; 2003; Stevens 1997). The presence of extensive waterlogged deposits are rare in south east England and the potential for pollen referencing not only local wetlands, but also the vegetation of the chalk which is essentially devoid of pollen (Scaife, 1987), is clearly important.
- 2.20** Previous palaeo-geographic research by Jennings & Smyth (1982; 1987 etc.) and excavation at Arkwright Road (Allen, 2012) indicate a relatively uniform Holocene sedimentary sequence comprising, in summary, made ground over alluvium over a thin peaty and variably peat horizon over thick alluvial deposits. From this work they have been able to summarise that the sequence at Willingdon Levels (Shinewater) comprises (after Jennings & Smyth, 1987; 2011): -

Unit 4	Upper Silty Clay	+3.15m to +1.4m OD	Upper Alluvium
Unit 3	Willingdon Peat	+1.4m to +0.4m OD	Willingdon Peat
Unit 2	Lower Silty Clay	+0.4m to -6.08m OD	Lower Alluvium
Unit 1	Valley Gravels	-6.08 to -8.189mOD	

- 2.21** Further they indicate that the Willingdon Levels were originally drained by a river debouching to the east of Eastbourne and prior to the formation of Langney Point and the Crumbles (Jennings & Smyth, 1985; 1990). The lower silty clay (unit 2) formed under estuarine conditions. Humic silts, peat formation and more terrestrial facies (unit 3; Willingdon Peat) formed as a result of regression and lowering relative sea-levels. Salt marsh and brackish conditions prevailed locally and freshwater fen carr developed.

Three successive facies were identified in the Willingdon Peat (Jennings & Smyth, 1987; Jennings *et al.*, 2003) and are sedge peat, and organic silt as a result of flooding, and a second sedge peat. The flooding event (organic silty clay) was identified as an event prior to the construction of the Shinewater platform, where this peat sequence is seen to form during the Middle Bronze Age to Early Iron Age. The upper sediment (unit 4; Upper Silty Clay) shows a further marine transgression. Present conditions and drainage could only be maintained following the development of the Crumbles shingle bar and Langney Point (Jennings & Smyth 1985)

3.0 Archaeological Methodology

3.1 The fieldwork was carried out on the 26th of April 2017 by Emily Walsh assisted by Dave Atkin.

3.2 The two locations shown in Fig. 7 were augered with a 5cm Dutch Auger to record the presence or absence of peat. The brief stated that augering was to be up to 2m depth, or to the bedrock if possible. The turf and topsoil were removed over the auger points to a depth of c. 0.4m and a large diameter (5cm) Dutch Auger used to remove sediments in c. 0.2m sections (Plate 1). The sediment sections were removed from the auger intact and stratigraphy recorded in the field (Appendix 3). A compacted chalk deposit was encountered which limited the augered depth to 1.35m in Auger hole 2, and the water table was met at 1.40m in Auger hole 1.

- a) Auger hole 1 was abandoned at 1.40m (at 0.79m OD) - no peat, waterlogging restricted further augering.
- b) Auger hole 2 was abandoned at 1.35m (at 0.96m OD) - no peat, too compact to auger further.

3.3 The auger holes were backfilled and the turf replaced on completion of the augering.

3.4 A TBM was established on the site and was used for all levels recorded during the fieldwork. It was tied into the nearest OS bench mark of 5.34m OD. The levels register is included in the site archive & Table 1.

3.5 A full photographic record of the work was kept as appropriate and will form part of the site archive. Chris Butler Archaeological Services Ltd presently holds the archive, until it can be deposited in Eastbourne Museum. A site reference of SOR17 has been allocated.



Plate 1: Augering

4.0 Results

4.1 The auger points were at 2.19 and 2.31m OD (Table 1). The sections are described and presented in the logs in Appendix 3 and related to previous geoarchaeological fieldwork on the Willingdon Levels in the discussion, below. The first auger point (A1 – Plate 2) went through topsoil, made ground, and silty clay before becoming waterlogged at 1.40m depth (0.79m OD). A second auger (A2 – Plate 3) recorded 1.35m of deposits (to 0.96m OD) through topsoil, subsoil and made ground before the compact nature of the deposit halted augering.

Table 1: Auger hole locations

Point	E	N	Z
Auger Hole 1	562.357	102.558	2.19
Auger Hole 2	562.363	102.555	2.31

4.2 Beneath the topsoil and subsoil a significant depth of the deposits consisted of made ground. This deposit was 1m deep in Auger hole 1 and more than 0.75m deep in Auger hole 2. The sedimentary profile below the made ground in Auger hole 2 remains unrecorded. Below the made ground in Auger hole 1 a fine-grained silty clay alluvium with no inclusions, and expressing gleying probably due to waterlogging, was recorded. The Willingdon peat was not recorded in either auger.



Plate 2: Auger hole 1



Plate 3: Auger hole 2

5. Discussion

- 5.1.1** Made ground deposits consisting of compacted chalk, as seen at other locations around the Willingdon levels (e.g. Butler and Allen, 2014; Allen, 2012), are thought to have been deposited recently to level the ground in advance of development. No evidence of archaeological activity was recorded.
- 5.1.2** The Willingdon Peat was not encountered, although as this deposit is typically expressed at +1.4 to 0.4m OD (Butler and Allen, 2014), it is possible that this survey did not reach sufficient depth. However, a geoarchaeological auger survey at West Rise Junior and Infant School (Butler and Allen, 2014) was conducted to a maximum depth of 2.66m and the peat not recorded. It seems likely, as proposed at West Rise School, that the embayment in which both sites are located reflects a localised sediment variation in which the peat is absent.
- 5.1.3** Due to the limited exposure of the silty clay deposit in Auger 2 it is not possible to relate this deposit to the silty clays of the Upper or Lower Willingdon Silty Clays. Deposition in a low-energy fluvial environment is indicated.

5.2 Palaeoenvironmental and Archaeological Potential

No archaeological finds or features were recorded, and the probable absence of Willingdon Peat renders the preservation of organic artefacts elsewhere within the site unlikely. Potential for dating is limited in the absence of organic or archaeological material and, although palaeoenvironmental material such as pollen may be preserved in the deposits below the made ground, their usefulness is extremely limited by the lack of secure dating information.

6. Conclusions and Recommendations

- 6.1** In the absence of the Willingdon Peat the palaeoenvironmental and archaeological potential of this site is considered to be low. The absence of any archaeological features and artefacts and the presence of a deep deposit of relatively modern made ground suggests that the likelihood of archaeological features and deposits being impacted by the proposed development is very low.
- 6.2** It is therefore recommended that no further archaeological mitigation is required.

7 Acknowledgements

- 7.1** We would like to thank Mr & Mrs Tutton for appointing us to undertake this work. Dave Atkins and Emily Walsh conducted the fieldwork. The project was managed by Chris Butler.

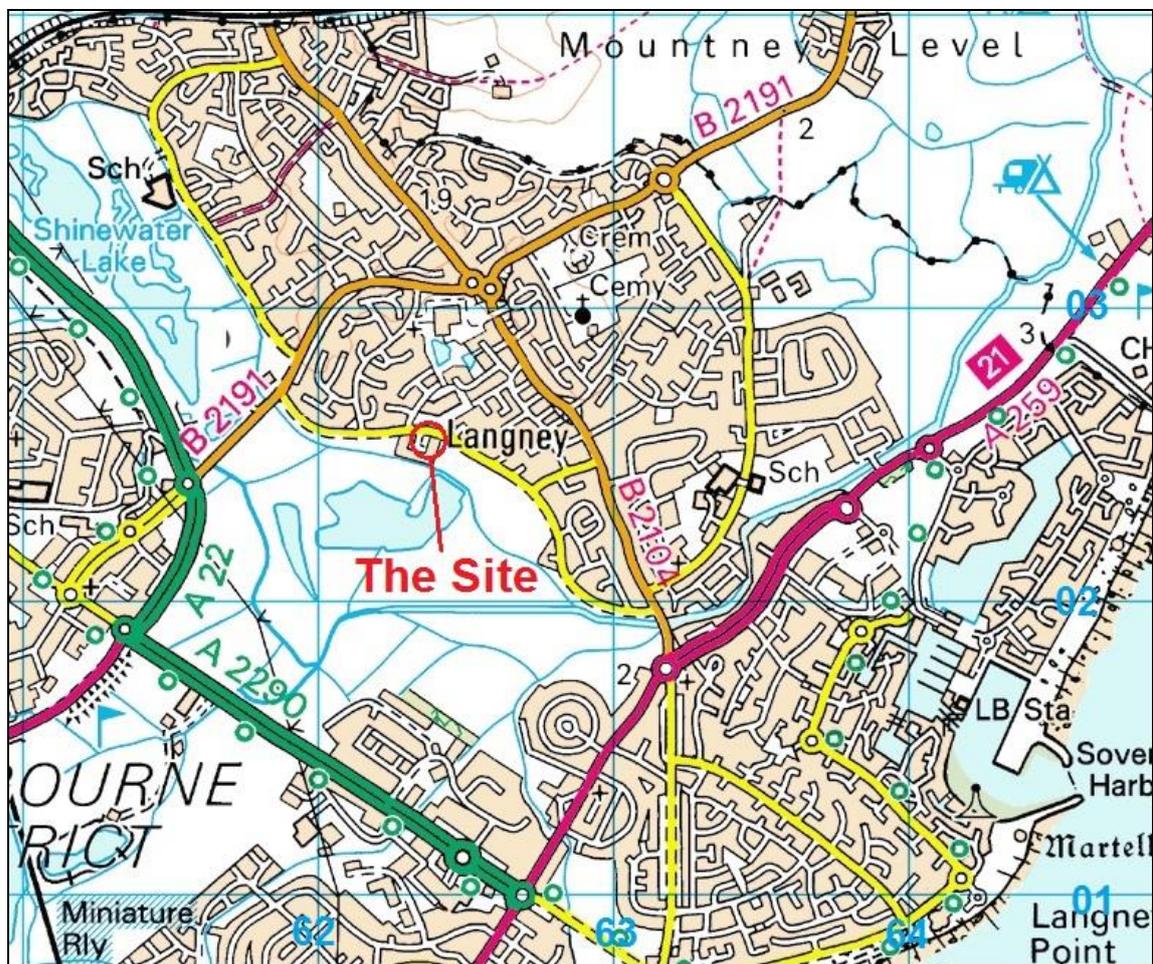


Fig. 1: Location Map
Ordnance Survey © Crown copyright 2004 All rights reserved. Licence number 100037471

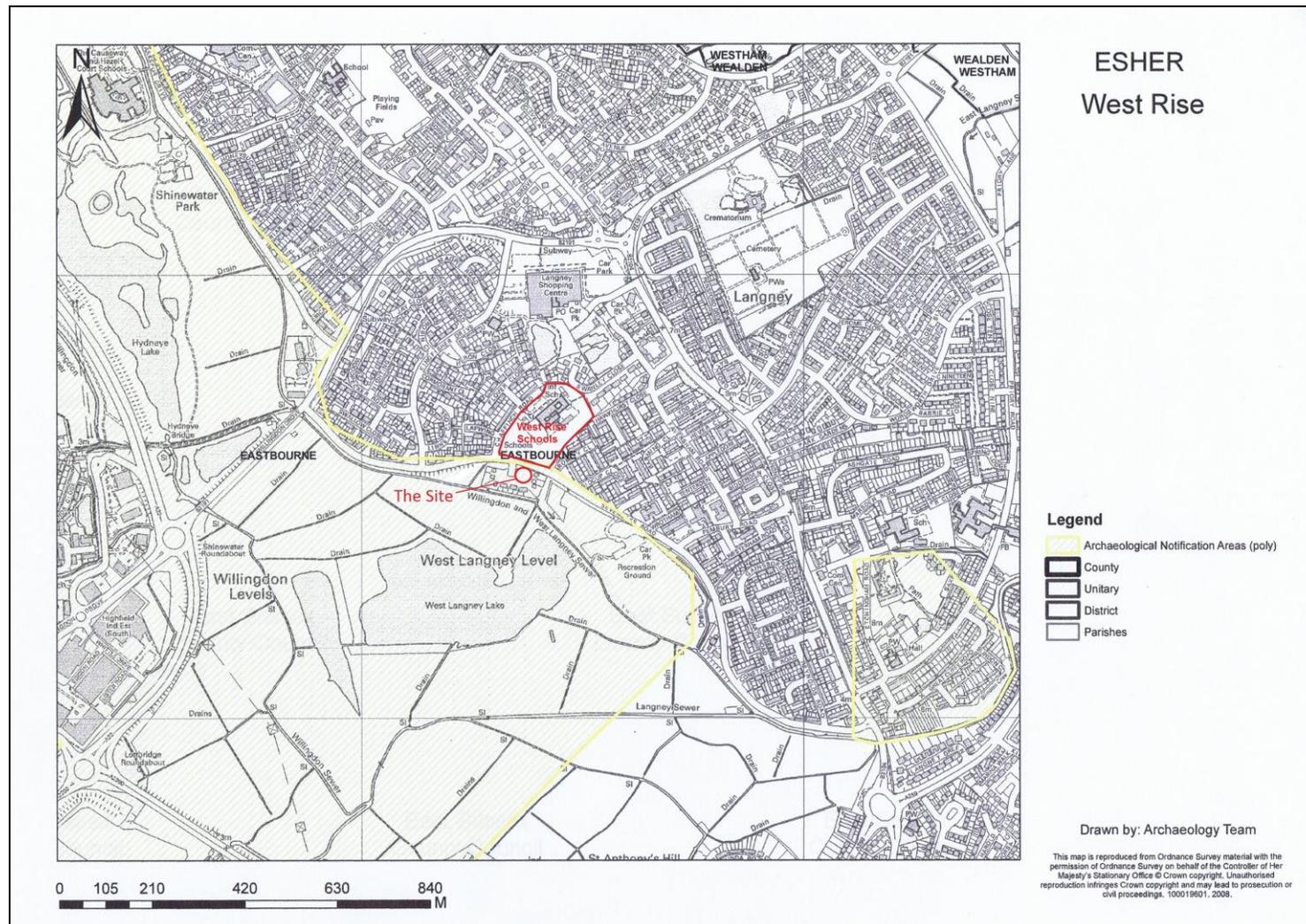


Fig. 2: ANA map
Adapted from map provided by ESCC
Ordnance Survey © Crown copyright 2004 All rights reserved. Licence number 100037471

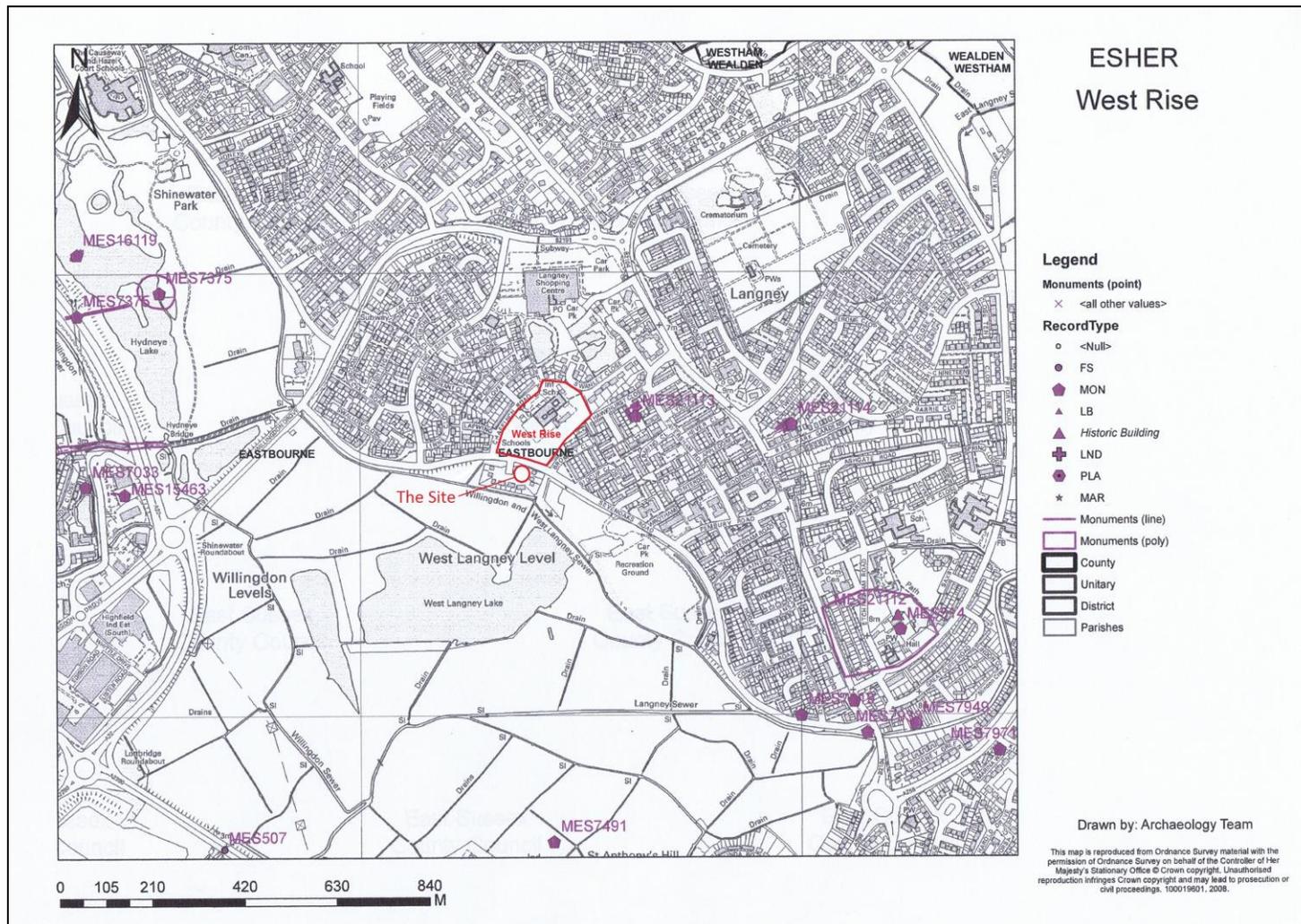


Fig. 3: HER map
Adapted from map provided by ESCC
Ordnance Survey © Crown copyright 2004 All rights reserved. Licence number 100037471

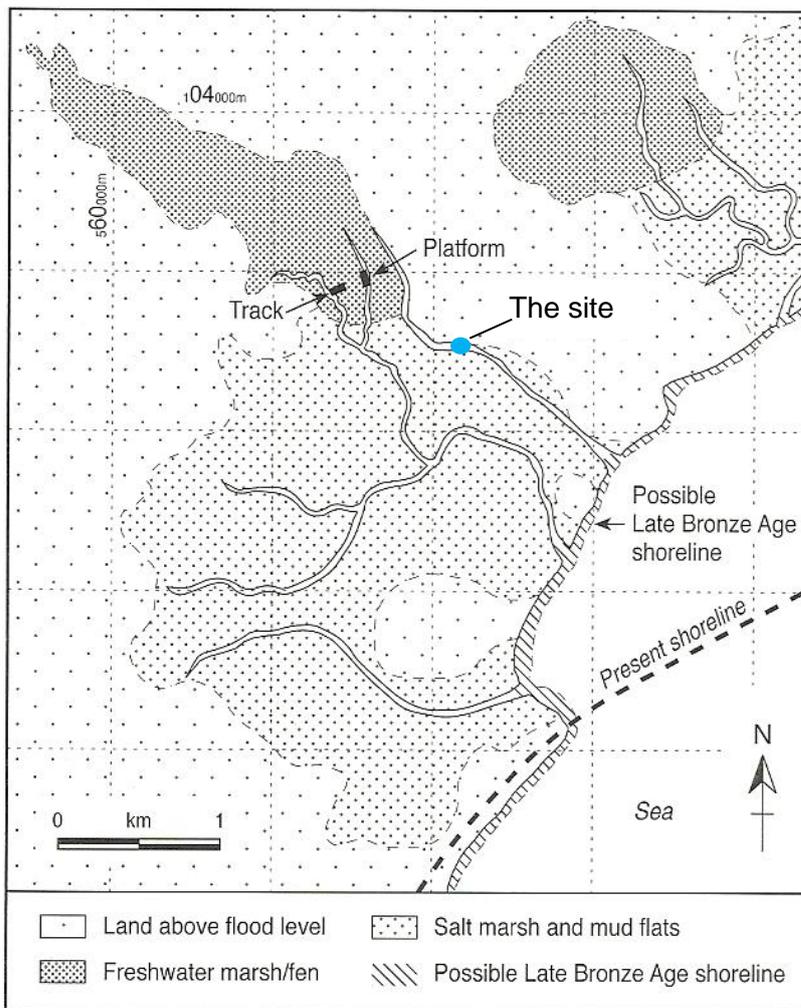


Fig. 4: Map of the Late Bronze Age landscape setting
(Revised and modified from Jennings (after Greatorex 2003, fig 7.12))

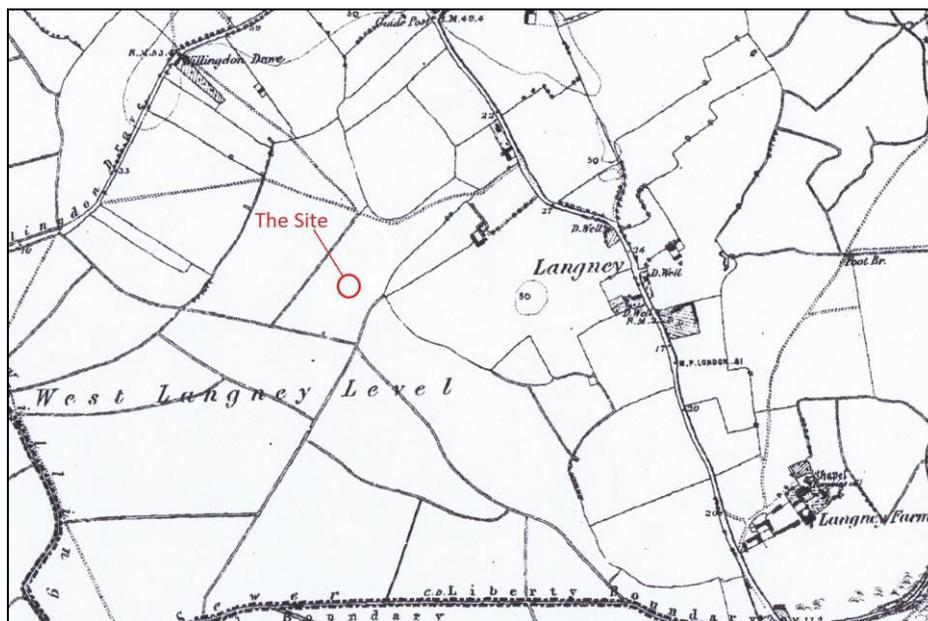


Fig. 5: 1st Edition OS Map (1879)

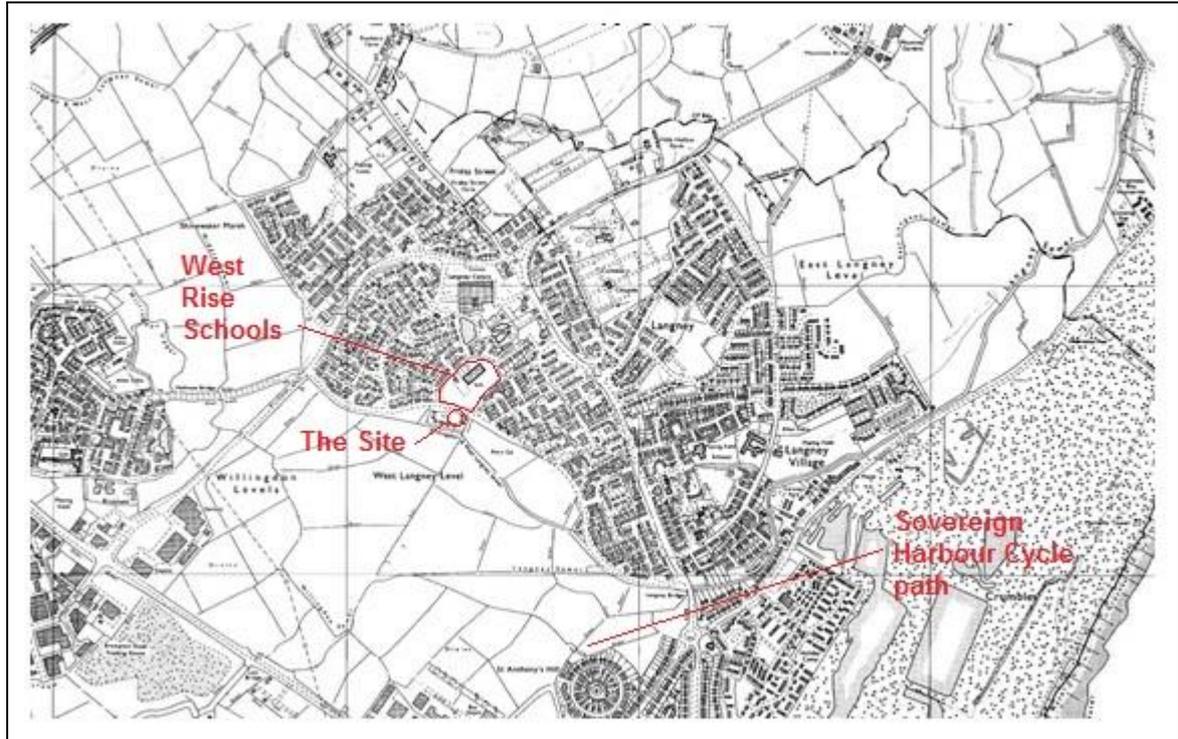


Fig. 6: 1981 OS Map also showing nearby sites mentioned in text

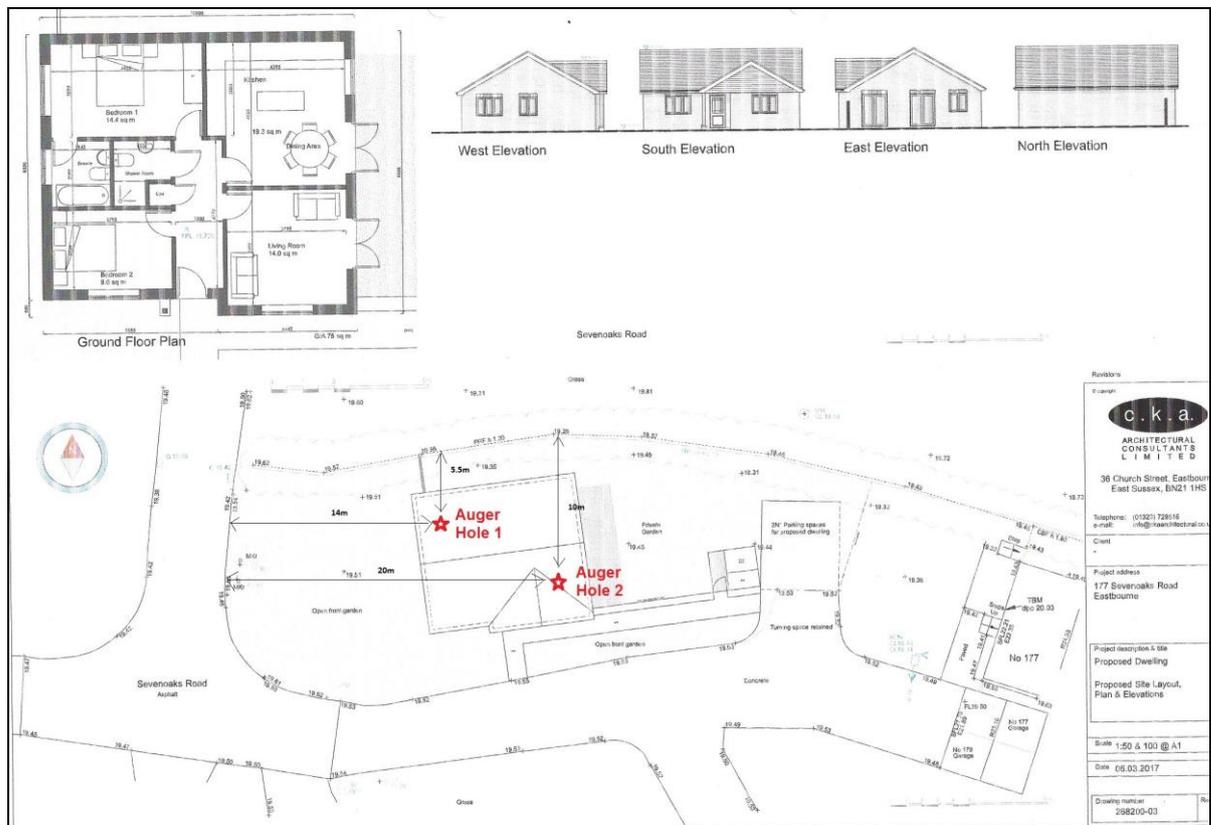


Fig. 7: Site development plan with location of auger holes

Appendix 1: HER Summary Form

Site Code	SOR17					
Identification Name and Address	177 Sevenoaks Road, Eastbourne, East Sussex					
County, District &/or Borough	ESCC/Eastbourne Borough Council					
OS Grid Refs.	TQ6236 0255					
Geology	Weald Clay Formation – mudstone, with superficial deposits of Alluvium, silts and peats					
Type of Fieldwork	Eval. X	Excav.	Watching Brief	Standing Structure	Survey	Other
Type of Site	Green Field	Shallow Urban X	Deep Urban	Other		
Dates of Fieldwork	Eval. 26/04/17	Excav.	WB.	Other		
Sponsor/Client	Mr & Mrs Tutton					
Project Manager	Chris Butler MIfA					
Project Supervisor	Emily Walsh					
Period Summary	Palaeo.	Meso.	Neo.	BA	IA	RB
	AS	MED	PM	Other		
<p>100 Word Summary</p> <p><i>An evaluation comprising a geoarchaeological auger survey was carried out. Two holes were augered to depths of 1.40m and 1.35m respectively. Below the top/subsoil a deposit of chalky made ground, as seen in other sites around the Willingdon Levels, was encountered. The peat horizon was not recorded and this may reflect a local sediment variation in the embayment in which the site is located, as seen at the nearby West Rise School. No evidence of archaeological activity was recorded in either auger.</i></p>						

Appendix 2 – References

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Appendix 3: AUGER LOGS – SEDIMENT PROFILES

Auger hole 1

2.19 OD

<i>Depth (cm)</i>	<i>OD of top</i>	<i>Deposit</i>	<i>Context</i>	<i>Description</i>
0-20	2.19	Topsoil	1/001	Friable, mid-brown clayey silt with c. 5% inclusions of well-rounded pebbles and occasional flecks of chalk.
20-120	1.99	Made Ground	1/002	Compacted grey-white chalk crush with mid-brown silty clay inclusions (redeposited topsoil) decreasing with depth, and rare highly fragmented CBM towards the top of the deposit.
120- 140	0.99	Alluvium	1/003	Soft grey-brown silty clay, gleyed with orange mottles. No inclusions.

Auger hole 2

2.31m OD

<i>Depth (cm)</i>	<i>OD of top</i>	<i>Deposit</i>	<i>Context</i>	<i>Description</i>
0-20	2.31	Topsoil	2/001	Friable, mid-brown clayey silt with c. 5% inclusions of well-rounded pebbles and occasional flecks of chalk.
20-60	2.11	Subsoil	2/002	Soft, mid-brown clayey silt with orangey-yellow mottles.
60-135	1.71	Made Ground	2/003	Compacted grey-white chalk crush with mid-brown silty clay inclusions (redeposited topsoil) decreasing with depth, and rare highly fragmented CBM towards the top of the deposit.

Chris Butler Archaeological Services Ltd

Chris Butler has been an archaeologist since 1985, and formed the Mid Sussex Field Archaeological Team in 1987, since when it has carried out numerous fieldwork projects, and was runner up in the Pitt-Rivers Award at the British Archaeological Awards in 1996. Having previously worked as a Pensions Technical Manager and Administration Director in the financial services industry, Chris formed **Chris Butler Archaeological Services** at the beginning of 2002.

Chris is a Member of the Chartered Institute for Archaeologists, and a Fellow of the Society of Antiquaries of London. He was a part time lecturer in Archaeology at the University of Sussex, and taught A-Level Archaeology at Bexhill 6th Form College having qualified (Cert. Ed.) as a teacher in 2006.

Chris specialises in prehistoric flintwork analysis, but has directed excavations, landscape surveys and watching briefs, including the excavation of a Beaker Bowl Barrow, a Saxon cemetery and settlement, Roman pottery kilns, and a Mesolithic hunting camp. He has recently undertaken large landscape surveys of Ashdown Forest and Broadwater Warren and is Co-Director of the Barcombe Roman Villa excavation project.

His publications include *Prehistoric Flintwork*, *East Sussex Under Attack* and *West Sussex Under Attack*, all of which are published by Tempus Publishing Ltd.

Chris Butler Archaeological Services Ltd is available for Flintwork Analysis, Project Management, Military Archaeology, Desktop Assessments, Field Evaluations, Excavation work, Watching Briefs, Landscape and Woodland Surveys & Fieldwalking, Post Excavation Services and Report Writing.

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