

# 20-22 Ospringe Street, Faversham, Kent. Archaeological Desk-Based Assessment July 2011

# **SWAT.** Archaeology

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# 20-22 Ospringe Street, Faversham, Kent Archaeological Desk-Based Assessment

NGR: 00327 60893

Report for Mrs M. G. Barkaway & Miss H. A. Barkaway

July 2011

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# Archaeological Desk-Based Assessment in Advance of Development at 20-22 Ospringe Street, Faversham, Kent

NGR: TR 00327 60893

#### 1 SUMMARY

Swale & Thames Survey Company (SWAT) has been commissioned to carry out an archaeological desk-based assessment of a proposed development at the former Barkaway shop premises and at 20-22 Ospringe Street, Faversham, Kent. This consists of demolition of some outbuildings and the build of a number of residential units (Figure 2).

The site is within an area of extremely high archaeological potential associated with the medieval hospital known as the Maison Dieu. There is also evidence for Prehistoric archaeology.

The archaeological evidence has been reviewed and it is recommended in this case that further archaeological assessment will be required and that an **Archaeological Evaluation** take place. This will provide an immediate assessment of the nature, depth and level of survival of any archaeological deposits present within the extents and immediate vicinity of the site to be developed and used to inform further mitigation if necessary. It will also allow a considered and innovative approach to foundation design which will enable the buried monuments to be preserved in situ.

#### 2 INTRODUCTION

#### 2.1 Planning Background

A planning proposal for the demolition of some of the existing out-buildings and the construction of new dwellings has been discussed with the Local Planning Authority (Swale Borough Council). As part of that proposal this Archaeological Desk-based Assessment as required by PPS 5 has been prepared:

HE6.1 Local planning authorities should require an applicant to provide a description of the significance of the heritage assets affected and the contribution of their setting to that significance. The level of detail should be proportionate to the importance of the heritage asset and no more than is sufficient to understand the potential impact of the proposal on the significance of the heritage asset. As a minimum the relevant historic environment record should have been consulted and the heritage assets themselves should have been assessed using appropriate expertise where necessary given the application's impact. Where an application site includes, or is considered to have the potential to include, heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where desk-based research is insufficient to properly assess the interest, a field evaluation.

HE6.2 This information together with an assessment of the impact of the proposal should be set out in the application (within the design and access statement when this is required) as

part of the explanation of the design concept. It should detail the sources that have been considered and the expertise that has been consulted.

HE6.3 Local planning authorities should not validate applications where the extent of the impact of the proposal on the significance of any heritage assets affected cannot adequately be understood from the application and supporting documents.

HE12.3 Where the loss of the whole or a material part of a heritage asset's significance is justified, local planning authorities should require the developer to record and advance understanding of the significance of the heritage asset before it is lost, using planning conditions or obligations as appropriate. The extent of the requirement should be proportionate to the nature and level of the asset's significance. Developers should publish this evidence and deposit copies of the reports with the relevant historic environment record. Local planning authorities should require any archive generated to be deposited with a local museum or other public depository willing to receive it. Local planning authorities should impose planning conditions or obligations to ensure such work is carried out in a timely manner and that the completion of the exercise is properly secured.

This Desk-Based Assessment therefore forms the initial stage of the archaeological investigation and is intended to inform and assist decisions regarding archaeological mitigation for proposed development and associated planning applications.

#### 2.2 The Proposed Development

The proposed development of about 47m by 30m will comprise of the construction of new and re-built housing, car parking and access road. At the time of preparing this report the site a tentative layout had been proposed (Figure 2) and see the ArtLab "Design Development 2494 Barkaway, Faversham document.

#### 2.3 Projects Constraints

There were no known constraints associated with this project.

# 2.4 Geology and Topography

The premises of A.J. Barkaway (butchers), the adjacent car park, stable and gardens, along with 21 and 22 Ospringe Street comprise the site (Fig. 1). Situated on a corner plot to the north of the Roman Watling Street and bounded by Grove Place to the west and the Ship Inn to the east. The site sits in the centre of the village of Ospringe adjacent to the fresh water stream called the Westbrook itself emitting from springs upslope and south to Queens Court Farm and the parish church of St Peter and Paul. The rounded hills on either side of the valley are chalk, and the valley floored with alluvium. Deposits of recent brick earth and gravels also are found in the area (FSARG website). The British Geological Survey 1:50,000 on-line data indicates the bedrock of Seaford Chalk Formation with the superficial deposits of Alluvial Clay, Silt, Sand and Gravels.

# 3 AIMS AND OBJECTIVES

#### 3.1 Introduction

The Desk-Based Assessment was commissioned by ArtLab Architects Ltd in order to supplement an outline planning application for the construction of new and re-built housing, access road and services.

# 3.2 Desktop Study – Institute of Field Archaeologists (1999)

This desktop study has been produced in line with archaeological standards, as defined by the Institute of Field Archaeologists (1999). A desktop, or desk-based assessment, is defined as being:

• '...a programme of assessment of the known or potential archaeological resource within a specified area or site on land, inter-tidal zone or underwater. It consists of a collation of existing written, graphic, photographic and electronic information in order to identify the likely character, extent, quality and worth of the known or potential archaeological resource in a local, regional, national or international context as appropriate' (1999:2)

The purpose of the desk-based assessment is, therefore, an assessment that provides a contextual archaeological record, in order to determine:

- the formulation of a strategy to ensure the recording, preservation or management of the resource
- the formulation of a strategy for further investigation, whether or not intrusive, where the character and value of the resource is not sufficiently defined to permit a mitigation strategy or other response to be devised
- the formulation of a proposal for further archaeological work within a programme of research.

IFA (1999:2)

#### 4 METHODOLOGY

#### 4.1 Desk-Based Assessment

#### 4.1.1 Archaeological databases

The Archaeology Data Service Online Catalogue (ADS) and the local Site and Monuments Record (HER) held at Kent County Council, were both used. The search was carried out within a 1km radius of the proposed development site (20<sup>th</sup> July 2011). A full listing of the relevant HER data is included in Appendix 1. The Portable Antiquities Scheme Database (PAS) was also used as an additional source as the information contained within is not always transferred to the local HER.

# 4.1.2 Historical documents

Historical documents, such as charters, registers, wills and deeds etc were relevant to this specific study and will be considered in the appropriate part of the report.

# 4.1.3 Cartographic and pictorial documents

A full map regression exercise was undertaken during this assessment. Research was carried out using resources offered by Kent County Council, Faversham Local Library, SWAT and KAFS archives, the FSARG web site (25<sup>th</sup> July 2011) and the Internet.

# 4.1.4 Aerial photographs

Post War aerial photographs of Ospringe shows that the proposed development area remained a village landscape as recorded on the OS Maps of the area between 1745 to 1946, and that it has changed very little since World War Two (ukaerialphotos.com).

#### 4.1.5 Geotechnical information

No geotechnical investigations have been carried out but the FSARG group led by Dr Pat Reid in 2008 excavated a 1m x 1.5m test pit (K43) in the rear garden of 22 Ospringe Street (Fig. 3). Although it seems no section drawings have as yet been published and therefore difficult to understand the depth or sequence of deposits the first context of 01:

"was friable, fine grained dark brown soil with a high ash content and small to medium sized inclusions of building materials, pebbles and chalk, across the whole pit. 02 was a looser mix, with a hump of building material and bottle glass fragments over the eastern half 03: this proved to be over [drainage] pipe This pipe had no obvious connection with manholes and other known pipes in the garden. 04 and 05 were the infill and cut of the pipe trench. They were recorded and then this half of the pit was back filled and the western half extended. The large amount of pottery found in contexts 1-4 was nearly all 17<sup>th</sup>-19<sup>th</sup> century red wares or transfer decorated blue and white 19<sup>th</sup> century Staffordshire mass produced. A single sherd of medieval and two sherds of Roman pottery were found mixed in with this. Other finds included a 1925 George V half penny, a small cast copper alloy boot buckle c 1720-1790, a lead disc with raised cross, probably 17<sup>th</sup> century and two copper alloy lace ends. An unusual find from 03 was the nib part of a quill pen.

Beneath 03, chalk inclusions greatly increases particularly against the northern baulk. When taken down another 10 cm, a consolidated chalk surface was revealed 07 with a distinct edge around 60 cm from the north baulk, running east-west across the keyhole. Further excavation followed this chalk down to the south where it formed another level surface 10 cm further down, occupying the south east corner of the keyhole.

Excavation in the south west corner showed that this chalk was adjacent to or lay on top of a level bed of small flints and pebbles 08, at a depth of 1.2m. Although some post medieval and later pottery was found at their level. There were also some sherds of medieval and late medieval wares. The chalk and flint features were cleaned up but left unexcavated. A considerable amount of animal bone was recovered from contexts 1-7 some showing evidence of butchery and other arthritic ageing. Shell was notable by its absence (we usually find masses in Faversham area pit). Clay pipe fragments were found at all levels but no significant dating conclusions could be drawn from them' (FSARG website: Keyhole report for K43).

# 4.1.6 Secondary and statutory resources

Secondary and statutory sources, such as regional and periodic archaeological studies, landscape studies, dissertations, research frameworks and websites are considered appropriate to this type of study and have been included within this assessment where necessary.

#### 5 ARCHAEOLOGICAL AND HISTORICAL DEVELOPMENT

#### 5.1 Introduction

The Archaeological record, both in and around Ospringe is rich and diverse ranging from the prehistoric to the post-medieval. This section of the assessment will focus on the archaeological and historical development within 1km of the proposed development area thus placing it within a local context. Each period classification will provide a brief introduction to the wider landscape, followed by a full record of archaeological sites, monuments and records

within the site simmediate vicinity. Timescales for archaeological periods represented in the report are listed in Table 1 and locations of monuments are presented in Appendix 1.

	Palaeolithic	c. 500,000 BC – c.10,000 BC
oric	Mesolithic	c.10,000 BC – c. 4,300 BC
Prehistoric	Neolithic	c. 4.300 BC – c. 2,300 BC
Pre	Bronze Age	c. 2,300 BC – c. 600 BC
	Iron Age	c. 600 BC – c. AD 43
Roma	ano-British	AD 43 – c. AD 410
Anglo-Saxon		AD 410 – AD 1066
Medie	eval	AD 1066 – AD 1485
Post-medieval		AD 1485 – AD 1900
Modern		AD 1901 – present day

Table 1 Classification of Archaeological Periods

# 5.2 Scheduled Monuments, Listed Buildings Historic Parks & Gardens and Conservation Areas

Scheduled monuments or listed buildings are recorded within the confines of the proposed development site include:

TR 0035 6085. St. Mary's Hospital (Remains of). No. 17, Ospringe Street, Faversham, is the surviving portion of the Maison Dieu Hospital (St. Mary B.V.), founded before 1234, and dissolved 1516. Now a museum. Scheduled. The remains of St. Mary's Hospital comprise two outbuildings, now part of No. 15 and No. 17, Ospringe Street, Faversham. No. 15 is a private residence; No. 17 known as "Maison Dieu", has been restored by the Ministry of Works and is open to the public. The main building of the hospital (the hall and chapel) is thought to have been immediately opposite on the north side of the road.

Ospringe is partly in a Conservation area with the development site entirely within the Conservation area, but the development site or indeed any of the known areas of buried medieval archaeology adjacent are not scheduled.

# 5.3 Palaeolithic, Mesolithic, Neolithic and Bronze Age

Palaeolithic Period (750,000BC-10,000BC)

The prehistoric period around Ospringe is very poorly represented and field walking has only produced ephemeral evidence in the Faversham area and there is no evidence, as yet of the Palaeolithic period within the assessment area.

Mesolithic Period (10,000BC-4,000BC)

Finds within the assessment area are few although FSARG have had some success in their field walking programme the results of which are in preparation. It is considered that the

Ospringe valley with its springs and watercourse provided an ideal landscape for hunting and fishing and the presence of Mesolithic flint work on the edges of the valley may hint at longer stay camps.

# Neolithic Period (4,000BC to 2,500BC)

Evidence for occupation in the Ospringe area during the Neolithic era includes a Neolithic polished axe head handed in to SWAT Archaeology by a local builder. Two fragments of Neolithic polished flint hand axes were found by KAFS in field walking to the west of Ospringe in Easter 2011 (report forthcoming) and Neolithic finds from FSARG test pits in Ospringe village (reports forthcoming). Certainly the hand axes may suggest that woodland clearance was taking place at the time.

# The Bronze Age (2500BC-800BC)

The Bronze Age saw in Kent evidence of settlement activity with it is thought continued use of the Swale for hunting and fishing with agricultural settlements on the higher ground (Wilkinson 2000). A scatter of flints (KAFS Stone Chapel Report 2007), which dates from the Bronze Age was found close to the assessment site. A series of crop marks and field lynchets at Syndale Park may also date from this period (Stuart Ainsworth pers corres).

Recent investigation to the west of the assessment area at Bapchild have revealed extensive Early to Late Bronze Age field systems when an archaeological investigation carried out by SWAT Archaeology in March/April 2011 within this area confirmed the presence of pits and ditches associated with the division of the landscape for arable, pastoral and domestic purposes. There was one enclosure, along with associated droveways, field boundaries and smaller internal divisions (possibly representing corrals or pens) dating from the Early Bronze Age, Middle Bronze Age and Late Bronze Age which formed a network of herding features essential to the successful management and control of livestock.

# 5.4 Iron Age

Iron Age activity has been found within the assessment area. Less than 1km to the west extensive Iron Age remains has been found in Syndale Park. In 2008 an archaeological evaluation by SWAT Archaeology reported that:

'There is without doubt Roman and Iron Age activity at the north end of the site consistent with a small Roman town which has been previously investigated both to the east and west by SWAT, the Kent Archaeological Field School (KAFS), Time Team/Wessex Archaeology and others. This may or may not be Durolevum. This activity falls sharply away as one moves towards the main house [Syndale House] with the exception of the truncated Roman ditch which runs east west beyond the boundaries of the development site.

The large Iron Age truncated ditch within Trench 19 (dated by secure fresh Iron Age pottery) and bank on the north side with posthole is likely to be in its final phase of a late Iron Age defended settlement which has not, to date, been picked up by previous archaeological investigations within the proposed development site. However, the ditches and banks were mentioned by Hasted [on the north side of Watling Street].

Field walking in that particular area by the KAFS has produced copious amounts of Iron Age pottery which is indicative of prehistoric archaeological activity. The large ditch which

circumnavigates the eastern extent of the site [and south of Syndale House], as shown on the 1760 Jacob map and annotated 'ancient ditch', is present, albeit still undated.

The Iron Age ditch (Trench 19 and 25) has been investigated within (and potentially beyond) current parameters, however, to be absolutely certain of a provenance one should consider the possibility of further, more extensive investigations in order to understand completely the physical character of this feature (see recommendations below). What is evident is the fact that this particularly feature is extensive, possibly echoing known archaeological records associated with prehistoric defensive structures.

Trench 19 was located in order to test the presence of archaeological deposits within an area thought to contain a Roman fort. While this is not necessarily the case, significant archaeological remains were encountered and from the outset it was evident that an extensive ditch was present within the southern extent of the trench. In fact, at least four separate phases of ditch cutting were visible, with earlier cuts continuing beyond safe workable depths.

The later ditch within this sequence [19/011] was relatively small measuring approximately 1.10m in width with a depth of c. 0.61m. The fill of this feature (19/010) comprised dark grey brown silty clay with occasional fragments of unabraded Roman pottery.

This ditch had truncated the upper two fills of an earlier and much larger ditch [19/004] containing up to six fills (19/003, 19/006-19/009, 19/017 & 19/029) provisionally dated to the Late Iron Age. A third cut beneath [19/004] was recorded, although not entirely clear. That said, underlying all of the above, clearly visible diagonal fills were evident, the lowest of which contained unabraded Iron Age pottery. A cut number could not be assigned to this feature as no cut was reached.

What is clear, however, is that the earliest feature within this trench possessed up to 11 fills (19/018-19/028), had a distinctly concave and undulated profile and was over 7.5m wide and over 2m deep. As previously mentioned, the full extents of the feature(s) could not be determined at this stage. A single post hole [19/033] was recorded adjacent to the northern extent of the ditches. A later undated ditch was also recorded within the northern extents of this ditch [19/015] and is most likely associated with a similar ditch recorded in Trench 18 (SWAT Archaeology Evaluation report Syndale 2008).

#### 5.5 Romano-British

The predominant feature of the Roman infrastructure within Britain is arguably the extensive network of Roman roads connecting administrative centres, towns and military posts that increased the flow of trade, goods, communications and troops. Ospringe sits astride the main Roman road in Britain which runs from Roman Richborough and Dover to the Roman walled towns of Canterbury and Rochester and on to the lowest crossing point of the Thames at the Roman city of London. Along this Roman "super-highway" the Romanisation of the countryside took place with the establishment of Roman villa estates, small towns and religious centres building on and assimilating the earlier Late Iron Age population.

In 2003 the Kent Archaeological Field School ("KAFS") was invited by the trustees to investigate Syndale Park just to the west of the assessment area with a view to enabling them to be informed on the extent and quality of the archaeology surviving in the park. The area had attracted the attention of archaeologists from as early as the 18th century with Hasted, Hawley, Philp, and Time Team all make their own contribution to our knowledge of the park.

A programme of field survey and geophysical investigation (Appendix 2) supported by limited excavation by the KAFS has shed new light on the nature and extent of monuments within the park, which in turn has led to a wider investigation of the land north and south of the Roman Watling Street which itself runs east/west through the park. The current focus of attention is located at the eastern edge of the park and north and south of Watling Street (2011).

During Easter 2007 archaeological investigation by KAFS began on the KAFS study site. This area was originally investigated by Colonel Hawley in September 1922, where he reported that: "a paved hearth and wall foundations" had been revealed (Whiting & Hawley 1931).

On investigation of his trench by KAFS the "paved hearth" turned out to be a monumental sarcophagus built out of chalk blocks and Kentish Rag stone with a terracotta ceramic lid covering the grave slot. The monument is late, having been built over the remains of a 3rd century kiln. The terracotta lid has been damaged sometime in the past, but the grave has not been robbed and the burial is most likely still in situ (KAFS Newsletter No. 5. 2007)

Other features exposed were a Roman kiln or oven, Roman cremation burials, Roman Watling Street and a large Roman ditch running west/east and turning sharply to the north under the A2 dated by pottery and military horse-harness to the mid 1st Century AD.

The assessment area lies within this rich Roman archaeological landscape. To the west the standing remains of Stone Chapel are a Scheduled Monument and were subject to a recent investigation by the KAFS who concluded it was built as a Romano-Celtic temple, and then probably rebuilt as a Christian church in the mid-6<sup>th</sup> century. There were a number of Anglo-Saxon features found in this investigation which suggest an Anglo-Saxon settlement associated with the very early church of Stone Chapel (Wilkinson 2006: Syndale Park Report).

Investigation by Hawley in 1926-31 within Syndale Park found the remains of Roman houses alongside the A2 (Watling Street). In Syndale Park he found the remains of two skeletons (Whiting & Hawley 1931).

In 2004-7 the KAFS found a number of Roman cremations, the remains of Watling Street (Appendix 2) and adjacent Roman buildings which may be the Roman small town of *Durolevum* (Practical Archaeology Issues 2-7).

To the east of the KAFS study site [and beyond the assessment area] is the Anglo-Saxon cemetery of Kings Field which in the 19th century was destroyed by workmen constructing the railway. Our only survival, from what is probably the most important Anglo-Saxon cemetery in Kent, is what Mr Gibbs, the local grocer, managed to buy from the workmen.

Of particular interest at Kings Field was the range of the grave goods which ranged from late Roman pottery, gold Anglo-Saxon jewellery, probably made at Faversham, to Christian British-made hanging bowls from western Britain. This diversity of material culture was recognised at Kings Field in the 19<sup>th</sup> century and was again clearly in evidence during the 2007 investigation of the KAFS study site at Syndale Park.

One of the Roman cremation pots retrieved from the KAFS study site had Christian graffiti on it and close by, a gilded copper alloy decorative mount was recovered probably dating from the early Anglo-Saxon period (c.450-650).

Interestingly the gilded repousse decoration had a symmetrical design of what appears to be two opposed animals or birds which is reminiscent of designs found on late Roman or early post-Roman buckles (Andrew Richardson pers. corres.).

# 5.6 Anglo-Saxon

Again, the Kent HER does not show records of Anglo-Saxon archaeology within the assessment area apart from possible Saxon pottery sherds (about to be put on HER) retrieved by FSARG in their Ospringe test pits.

Just outside the assessment area to the west KAFS found evidence of Anglo-Saxon settlement in Stone Chapel Field and artefacts in the eastern edge of the park (see above).

#### 5.7 Medieval

The hospital of Maison Dieu at Ospringe, opposite and on the proposed development site, seems to have been established for the poor, aged and infirm soon after 1230. It was dedicated to the Blessed Virgin Mary and consisted of three brethren professed in the Order of the Holy Cross, and two secular clerks. The real founder may have been Jubert de Burgh, but it is said to have been founded by Henry III, who was its benefactor in 1234.

The history of the house is well documented. Its decline began in the 14th century. Sometime between 1470-80 the brethren died, the secular clerks left and the house became desolate. Secular clerks later occupied the house, which lingered on until the Reformation. It was dissolved in 1516, when St. John's College, Cambridge received its endowments and patronage.

Most of the hospital complex was demolished before the "Survey of Kentish Estates" c1571 and William Strensham demolished the chapel in 1585. By 1913 everything above ground of the main hospital complex to the north of Watling Street had disappeared.

The only upstanding remains were the stone walls of two undercrofts, probably dating from the 13th and 14th centuries, incorporated in post-Dissolution buildings on the south side of the street. The name of "leper house" became associated with one of these buildings, but it is more likely that both were domestic undercrofts built to carry first floor halls or solars of ground floor halls.

The west building was saved from demolition in 1922 and converted to a museum. Its upper part probably dates from the late 16th century, and it had been altered to a shop in 1894. When the building came into English Heritage Guardianship in 1947 it was temporarily safeguarded. In 1952-5 it was thoroughly restored, when the original door case was re-set and the shop window removed. Several concealed windows in the upper floor were also reopened.

In May 1957 heavy footings of a range c25ft wide, immediately flanking the road on the north side was found during digging of drainage ditches. These were recorded by Rigold in *Archaeologia Cantiana* Vol LXXIX (1964) who associated the northern remains with the *Camera Regis* known to have been built at the hospital for Henry III. South of these a wall was found (Fig 00) which seemed to preserve the north line of the hospital precinct. Other substantial remains were: the east face of a massive substructure parallel to the watercourse, part of a bridge and beginnings of the street range foundations. The trench revealed little of the plan of the main buildings (Rigold 1964: 44-47), but tended to confirm the view that they lay to the east of the watercourse within a precinct wall on the north side but fronting directly on the street to the south.

The hospital site was excavated by the D.O.E. Central Excavation Unit and local societies in 1977, prior to housing development. The published report can be found in *Archaeologia Cantiana* Vol XCV (1979). The north end of the hall and its *reredorter* were found. The hall was of flint, 13 metres wide, with a central arcade of octagonal stone pillars.

A stone-lined culvert which served the *reredorter* ran under the main floor of the hall. Other structures included a long building with two circular ovens in one room. Another, more substantial building, had a four-bayed undercroft and first floor hall, the floor of which had been supported on three posts and its walls painted with "false ashlars" and motifs. On stratigraphical evidence this building - possibly the *camera regis* - was built some time after the main wall of the hospital.

To the north lay part of the hospital cemetery (Fig. 12), a dovecote and part of a large pond. To the west of the hall was a small garden close. Further to the east was part of another building adjacent to the probable corner of the hospital garden.

The main buildings were shown to have been erected soon after the foundation, the "infirmaries" by c1240 and the chapel by c1250. The earliest pottery dated from the mid 13th century and there were no signs of earlier buildings. Finds included oyster shells, bones, gilt strips, gilt and enamelled plaque, spurs, keys, knives, pins, buckles and cauldron fragments, mostly dating from c1483 until the demolition period of 1516-1571. Building debris and the fragmentary remains of many individuals were also found.

G. H. Smith notes that the excavation revealed a number of buildings (Fig. 13), 'some remaining only as floors within robber trenches, others remaining up to a height of 0.60m above their original floor level. Preservation was best on the margins of the stream which had been avoided by post-medieval cultivation and construction.....the excavation showed that all these buildings had been demolished and robbed of much of their material by c.1571' (Smith 1979: 81).

In Smith"s pre-excavation investigation he notes that the Survey of c.1571 describes a still-standing chapel, with a dwelling adjoining, ascribed to a chantry priest, and *'old walls on the north side of the chapel where once were building's* (Smith 1979: 84).

The Survey of c1571 is an important document compiled in 1571 by John Bolton, College Receiver of St John's College, Cambridge and a copy is with the County Archivist at Maidstone. The document lists and itemises various buildings '8. Another building at the west end of the Chapel now in a state of disrepair'. This was once called Ospringe Church and later called a stone barn. It was once roofed with tiles (24 ft by 12ft (Smith 1979: 91).

In the topographic survey Smith notes that the site of the hospital (and the proposed development site) 'lie in the base of a dry north-south valley, at the point of emergence from the chalk plateau, gently declining northwards, which is also the point where it is crossed by Watling Street, the primary and principal road-link between Britain and ultimately Rome'. Smith states that 'the valley originated in a periglacial environment, and its floor at this point contains deposits of silty coombe and head brickearth, overlaying heavy flint gravel (Smith 1979:86).

Smith records "that until recently a permanent stream ran down the valley, but its springs are now pumped out at source; it formally provided a head of water for three mills but now only carries occasional surface run off....north of the Street the stream crossed the site of the hospital, providing a basic requirement of a religious house". Remains of its stone-lined channel were found [and re-found by Andrew Margetts in 2008] though often damaged by robbing and flood (Smith 1979: 86-7).

Smiths notes that there was no evidence found of occupation of the hospital site before the 13<sup>th</sup> century but the culverting of the stream had cut through a 'deep, richly organic, water-logged soil-profile'.

In Smiths excavation few areas were excavated down to the natural 'once it had been agreed that most of the site would be preserved as part of the new building scheme (Smith 1979: 87).

However none of the areas excavated down to the subsoil revealed any earlier archaeology apart from a small amount of residual Roman material found in medieval or later contexts.

Smith notes in the published report that a pre-excavation resistivity survey of the site was carried out by Messrs P. S. Griffiths in 1977 and should be in the site archive held at the Kent County Museum Service.

An additional resistivity survey was carried out by FSARG in 2008 and may suggest building foundations in the proposed development site. The results of the FSARG survey can be seen on line on the FSARG web site on the report for Keyhole 43 Appendix 1.

Excavations by Keith Parfitt of KARU in the summer of 1989, ahead of redevelopment work at Nos. 14-18 The Street, opposite the Maison Dieu, revealed a series of medieval wall foundations relating to the Hospital of St. Mary, founded in the 13th Century (Fig. 14). The principal excavated structures and features consisted of a series of mortared flint walls, together with several small pits, all of medieval date.

In addition, there was some evidence for earlier, prehistoric settlement, in the form of a worked flint scraper and 76 other pieces of burnt and struck flint, all derived from the lowest levels on the site. Of the excavated objects, medieval and later finds were few and consisted mainly of a small collection of architectural fragments and other building materials, including painted wall plaster; a number of decorated, glazed floor tiles, pottery, five coins of 18th and 19th Century date.

Parfitt notes in his report that the excavation enabled a re-alignment of the eastern range of buildings (Fig. 14) and that they can with some certainty be identified with: "8. Another

building at the west end of the Chapel now in a state of disrepair. This was once called Ospringe Church and later called a stone barn. It was once roofed with tiles".

Parfitt in his closing paragraph: 'It is thus now possible to attempt a more accurate plan of the complete site, with the probable identification of the chapel buildings providing a major element of the complex hitherto missing (Parfitt 1990:15).

One key structure still to be fully examined, however, is the Common Hall, believed to lie along the western limit of the present site.[and inside the Development Site] (Parfitt 1990:15).

Smith notes in passing the possible medieval watermill north of the site (Fig. 12) with its surviving Mill Pond which impacts into the proposed development site (Smith 1979: 86) and remarks on the proximity of the Roman road presumably passing through the Maison Dieu site which may have been picked up by one of FSARG test pits. Dr Pat Reid requests on the FSARG web site information on the medieval use of Watling Street.

Work by KAFS in 2010 to the west of the assessment area has recorded the route of the Roman Watling Street through Syndale Park and into Ospringe (Appendix 2) which is also shown as a pecked line on the Ordnance Survey Drawings of 1769 (Fig. 8). Excavation of two sections across Roman Watling Street by KAFS in Syndale Park has shown the road was built c.AD50 on a possible Late Iron Age track, rebuilt on the same alignment in c.AD250 and went out of use c.AD420 (KAFS report forthcoming)

Earlier KAFS work at Stone Chapel Field with its Anglo- Saxon church and settlement and the identification of a possible Anglo-Saxon track passing just north of Stone Chapel which passes 25m north of the approximate position of the medieval mill as shown by Smith into Anglo-Saxon Faversham (KAFS Stone Chapel Report: 2005).

This track, possibly of Anglo-Saxon origin, bypasses the Roman road entering Ospringe and passes north of Stone Chapel and Ospringe. The route is shown on all the earliest maps of Kent, the Ordnance Survey Drawing of 1795 (Fig. 10), the Andrews, Drury and Herbert's map of 1769 (Fig. 6) and Hasted's map of 1789-99 (Fig. 7), which reinforces the hypothesis that the stretch of Roman road passing through Ospringe was not in use.

On this evidence there is unlikely to have been any Anglo-Saxon or early medieval activity in Ospringe as with rising sea levels and flooding the valley, the Roman road and the valley site of Ospringe could have been waterlogged and the Roman road washed away. Of interest is that the church of Ospringe is not situated in the probable nucleus of medieval Ospringe but upslope overlooking the prolific springs which ran through Water Lane, through the development site and into Faversham.

#### Post-Medieval

TR 002 608 Maison Dieu

The remains of the medieval hospital and hostel built early in the 13th century along Watling Street (now the A2). Until its foundation was dissolved in 1519 it was a landmark on the pilgrim route and for travellers to Canterbury, Dover and the Continent. Cited as rebuilt on stone foundations in the 16th century, two buildings survive; St Mary's (now a private residence), and the Maison Dieu, which opened as a museum in 1925 to house the Roman and Saxon finds from the nearby graves.

Twenty timber samples from various parts of Maison Dieu, Ospringe, were analysed by treering dating. This analysis produced two site chronologies. The first, consisting of eight samples, has 89 rings but it did not cross-match with any reference chronologies. Although it is undated, the cross-matching of the samples, and the relative positions of the heartwood/sapwood boundaries on the samples within it strongly suggest that the timbers they represent are all of a single felling phase. The second site chronology, composed of four samples, has 65 rings, and is dated as spanning the period AD 1388-1452. Interpretation of the sapwood boundary on the samples in this site chronology gives an estimated felling date in the range AD 1462-1482 ( Pastscape Maison Dieu: 2007)

#### TR 06 SW 247 Ospringe Gunpowder Mills

When the mills first began operation is unclear, but probably sometime in the 18th century. The Ospringe mills when taken over by the Ordnance Officer, along with Chart, Kings and Lower & Bennetts Mills to form the Home Works gunpowder works, consisted of a water powered power mill, and a tenement building in one acre of land. The mill later worked three and then four stones by 1789.

The earliest known plan of the site dates to 1806 which shows three pairs of mills, a charge magazine, a watchhouse and two millmen"s houses. The plan remains very much the same for the next 40 years.

By 1879 the mills appear to have been reduced to a single pair connected with a single leat. After the site ceased powder production the earthen pond dam, on which the mills stood, and a leat survived into the 1960"s, but both were destroyed to make way for a new housing development.

A few reminders of the mills remain; a works boundary stone lies within the garden of 1 Pettitts Row, features were found in a grassed play area (TR00446114) and one of the millmen"s cottages survives.

The potential for buried archaeological features remains around the Stonebridge Pond area (north of the assessment area).

Consequently, the Post Medieval period within the assessment area is represented by several HER records, most of which relate to housing situated within the nucleus of the settlement. These buildings predominantly date to the 18<sup>th</sup> century

# 5.9 Modern

TR 06 SW 1177 Pillbox

The Ship public house located at the junction of Ospringe Road (B2040) with the A2 road. Pillbox (brick-skinned) built on side of the public house. It now appears to be used as a cellar to the adjacent public house.

#### 5.10 Cartographic Sources and Map Regression

A map regression exercise (Figures 4-10) carried out on the proposed development area has shown that the development site was first mapped by Edward Jacob in c.1745. Jacob, one

time Town Clerk and historian of Faversham had a full colour map of Faversham painted, and from this engraved copies made (Fig.4). The detail illustrated in this report (no scale) shows Ospringe Street (Watling Street), and to the east Ospringe Road curving to the east. To the west Grove Place is shown and in between the development site bounded to the east by the mill pond with gunpowder mills and sluices at the northern end. On the development site itself a corner house is shown fronting onto Ospringe Street and Grove Place. No other houses or medieval hospital remains are shown on the development site. Of interest is the stream running down Water Lane, past the Maison Dieu and flowing across Ospringe Street with a footbridge on the northern side of the road.

John Andrews, Andrew Drury and William Herbert"s map of 1769 at a scale of 2 inches to 1 mile (Fig. 5) shows Ospringe or Offspring situated on the "Old Roman Road" between milestones 47 and 48. Of particular interest to the assessment area is the kink in the Roman road just west of Ospringe (picked up by the later OS Surveyors Drawing) and the dotted line below which geophysical survey has identified as the correct route of the Roman Watling Street Fig. 6). To the north of Watling Street a track (possibly Anglo-Saxon) is shown passing both Stone Chapel and Ospringe itself. The freshwater springs emit beyond Ospringe church in the area of Painters [Forestal] and the stream flows across Ospringe Street making a large pond and flows down the eastern boundary of the development site. There are now more houses on the development site, both along Ospringe Street and Grove Place.

Edward Hasted"s 1788-99 plan of Faversham (Fig. 7) relies a lot on the earlier Andrew, Drury and Herbert"s 1769 map with updated data and additional estate plans provided by the subscribers to his History of Kent. For the assessment area "Stone Ruins" [Stone Chapel] are shown to the west of Faversham with a dotted track (possibly Anglo-Saxon) running north of Stone Chapel and Ospringe. The springs and stream running down Water Lane and over Ospringe Street are shown as are Grove Place and Ospringe Road. There now seem to be fewer houses on the development site with just one house in the centre frontage of Ospringe Street.

The Ordnance Survey Surveyors Drawings were started in 1795 with two survey teams working on the first true to scale maps undertaken in Kent (Fig. 8). The scale was 6 inch to 1 mile so every hedgerow, indeed every tree is shown correctly. Responsibility for what became an historic venture fell to the Board of Ordnance, from which the Ordnance Survey takes its name. The Board had been established in Tudor times to manage the supply of stores and armaments for the army and maintain national defenses. From its headquarters in the Tower of London, Two teams of engineers and draftsmen set out to produce the military maps by a system of triangulation. The scale of survey of the Kent map was found to be immensely time consuming, as at 6 inch scale there had to be accurate survey of the boundaries of every field. It was therefore agreed that the next map, that of Essex, should be carried out as 'a proper military map', exactly similar to that of Sussex but surveyed at a scale of 2 inches to the mile and reduced for publication to 1 inch. This less accurate survey allowed a speedier result. Essex was started in 1799 (as Kent was completed), and published in 1805.

A theodolite was used to measure the angles of a remote point from each end of a steel chain. The triangle formed by the known length of the chain and the two sight lines enabled the precise distance of the far point to be calculated by trigonometry.

Preliminary colour drawings were made at scales from six inches to the mile, for areas of particular military significance, down to two inches to the mile elsewhere. Back in the Drawing Room at the Tower of London, fair copies of the drawings were prepared at the reduced scale of one inch to the mile. From these, copper plates were engraved for printing. The engraved map of Kent was published in 1801.

The 1795 colour Ordnance Survey Surveyors Drawing (Sheet 112) can be viewed on-line or seen in the Map Room at the British Library, London Figs. 9, 10). The detail is quite staggering and essential viewing for any landscape survey. For Ospringe the map shows to the west a pecked line where geophysical survey has confirmed is the true route of the Roman Watling Street through Syndale Park just inside the assessment area. The possible Anglo-Saxon track can be seen passing just to the north of "Ruins of an Old Chapel" [Stone Chapel] and east into Faversham.

The fresh water springs can be seen erupting in three places just to the east of Ospringe church and as the stream flows downhill to Water Lane individual trees and buildings can be seen. It flows across Ospringe Street and enters a conduit adjacent to the west of the development site. The development site has two buildings on it forming a frontage with Ospringe Street and Grove Place.

The building to the west is likely to be the semi-detached cottages numbers 21, 22 Ospringe Street and dated to about 1650. The residential building just to the east is on the footprint of the present A. J. Barkaway butchers shop which is dated to about 1811. Thus the 1795 map shows an earlier residential building.

To the east of the development site there is one dwelling house and two agricultural barns where the current Ship Inn is located.

There is no indication of any derelict buildings in the development area.

The First Ordnance Survey Map is recognized as the 1 inch map of Kent published in 1801. Work on the Kent Map started in 1795. It was of military significance due to the proximity of the area to the coast. The survey was started at 6 inches to the mile but work progressed so slowly that it was finished at three inches to the mile and was then 'fairdrawn' in the Drawing Room of the Tower to the scale of 1 inch to 1 mile. The scale is too small to add any additional data of the development site and the remaining series of maps, 1865, 1907, show modern infill on the OS 1795 map (Fig. 11).

# 5.11 Aerial Photographs

Post War aerial photographs taken in 1947 mirrors the village appearance of the assessment area as seen in the Ordnance Survey maps up to World War II. The GoogleEarth aerial photograph (2007) again shows little change to the site. An excellent series of photographs of the development site are contained in the Design Development document by ArtLab, and will form part of the planning proposal.

## 6 ARCHAOLOGICAL POTENTIAL

## Palaeolithic, Mesolithic, Neolithic and Bronze Age

The potential for finding remains that date prior to the Iron Age within the confines of the proposed development site is considered **moderate** as the archaeological record of the surrounding landscape offers the potential for surviving archaeological deposits dating to this period.

#### 6.1 Iron Age

The potential for finding remains dating to the Iron Age is considered **low**.

#### 6.2 Romano-British

The archaeological evidence for this period within the development area is considered **moderate** though the archaeological record of the surrounding landscape offers the potential for important surviving archaeological deposits dating to this period.

#### 6.3 Anglo-Saxon

The potential for finding remains dating to the Anglo-Saxon is considered low.

#### 6.4 Medieval

The archaeology from this period, represented by excavated features (or parts of) and a distribution of artefact discoveries within the assessment area suggests that there is abundant medieval archaeology within the development area. The development area will impact on known medieval archaeology associated with the Hospital of St Mary of Ospringe, now known as the Maison Dieu. Built c.1234 and demolished c.1585. In particular the Common Hall (Building 534) which was partly excavated by G H Smith prior to development by the Columbus Housing Association in 1977.

The Common Hall (Fig,13), of which the northern end was excavated and shown to be a hall divided into two aisles by a central colonnade of pillars alternately octagonal and round. The surviving walls were built of un-buttressed flint walls with ashlar detailing. The floor was of clay at a level equal to the outside ground level (Smith 1977: 81).

The other structure which will be impacted on by the proposed development is the Pond 546 (Fig. 14). Surrounded by a flint wall the pond itself was waterlogged in its lower levels and produced a number of wooden bowls in excellent preservation (Smith 1977: 98).

Another potential building identified by Smith is the "Ruined building 17" which straddles the entrance to the proposed development and of which little is known. Other areas of the

development area may have additional buried buildings as highlighted by the geophysical survey carried out by FSARG in 2008 (Clarkstone 2008).

The archaeological potential for finding remains dating to the medieval period, within the development area is therefore considered as **extremely high** 

#### 6.5 Post-Medieval

The evidence for Post-Medieval occupation and other activities in the area is abundant. This era is also the period we associate as immediately preceding our present time frame, and is by its nature one that usually survives in the archaeological record within urban (and rural) contexts even though it can suffer severe truncation by modern construction methods. Therefore, the potential for finding remains dating to the post-medieval period is considered as **high**.

#### 7 IMPACT ASSESSMENT

#### **Existing Impacts**

The archaeological and historical records suggest that Ospringe and the assessment area have been, for the most part abundant in archaeological remains from the Iron Age until the medieval period.

Given known occupation of this part of Kent, Prehistoric, Romano-British, Anglo-Saxon and Medieval finds should be anticipated in any excavation in the area. Consequently the impact to any existing uppermost archaeological horizons could be **high**.

Extensive impact is to be expected within the development area once construction begins. The excavation of footings (of various depths) and the installation of services will be the main cause of this impact and it is therefore considered as **high**.

# 7.2 Proposed Impacts

At the time of preparing this archaeological assessment, the extent of the proposed development was for the construction of new housing, and other amenities together with associated access, parking and utilities.

#### 8 MITIGATION

The purpose of this archaeological desk-based assessment was to provide an assessment of the contextual archaeological record, in order to determine the potential survival of archaeological deposits that maybe impacted upon during any proposed construction works.

The assessment has generally shown that the area to be developed is within an area of **extremely high** archaeological potential.

It is therefore recommended in this case that further archaeological assessment will be required and that a focussed <u>archaeological evaluation</u> on areas of impact should be carried out. This will provide an additional assessment of the nature, depth and level of survival of any archaeological deposits present within the extents of the site and used to inform a programme of sympathetic foundation design to allow survival and preservation of any important archaeological remains.

It should be noted that up to now the history of this site has been recorded through archaeological investigation prior to development. Smith in 1977, Parfitt in 1990, and Margetts in 2008 have all contributed to the recording and understanding of the site through programmes of archaeological work paid for by developer funding (Fig.14).

#### 9 OTHER CONSIDERATIONS

#### 9.1 Archive

Subject to any contractual requirements on confidentiality, two copies of this desk-based assessment will be submitted to Kent County Council within 6 months of completion.

#### Reliability/limitations of sources

The sources that were used in this assessment were, in general, of high quality. The majority of the information provided herewith has been gained from either published texts or archaeological "grey" literature held by Kent County Council, and therefore considered as being reliable.

# 9.3 Copyright

Swale & Thames Survey Company and the authors shall retain full copyright on the commissioned report under the Copyright, Designs and Patents Act 1988. All rights are reserved, excepting that it hereby provides exclusive licence to ArtLab Architects Ltd (and representatives) for the use of this document in all matters directly relating to the project.

#### 10 ACKNOWLEDGEMENTS

The authors would like to thank Steve Banister of ArtLab Architects Ltd for commissioning this report on behalf of Mrs M G Barkaway and Miss H A Barkaway. I would also like to thank Ben Croxford of East Kent County Council for supplying much of the HER information needed to compile this report.

Dr Paul Wilkinson MIFA July 2011

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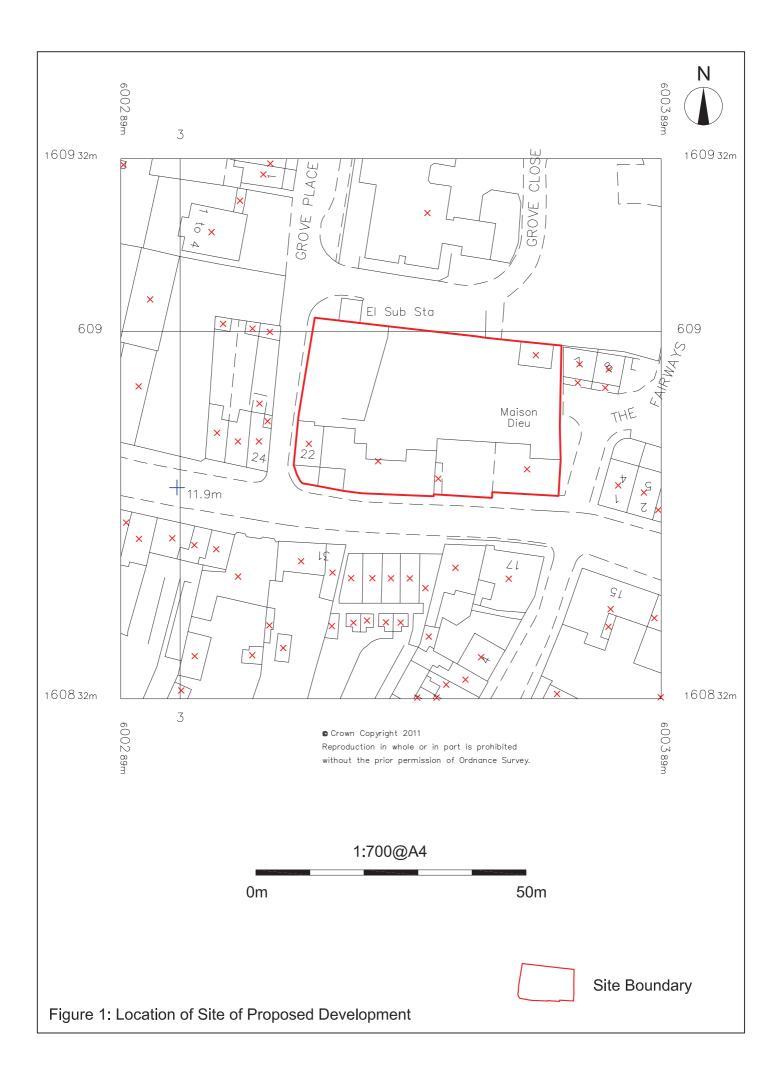
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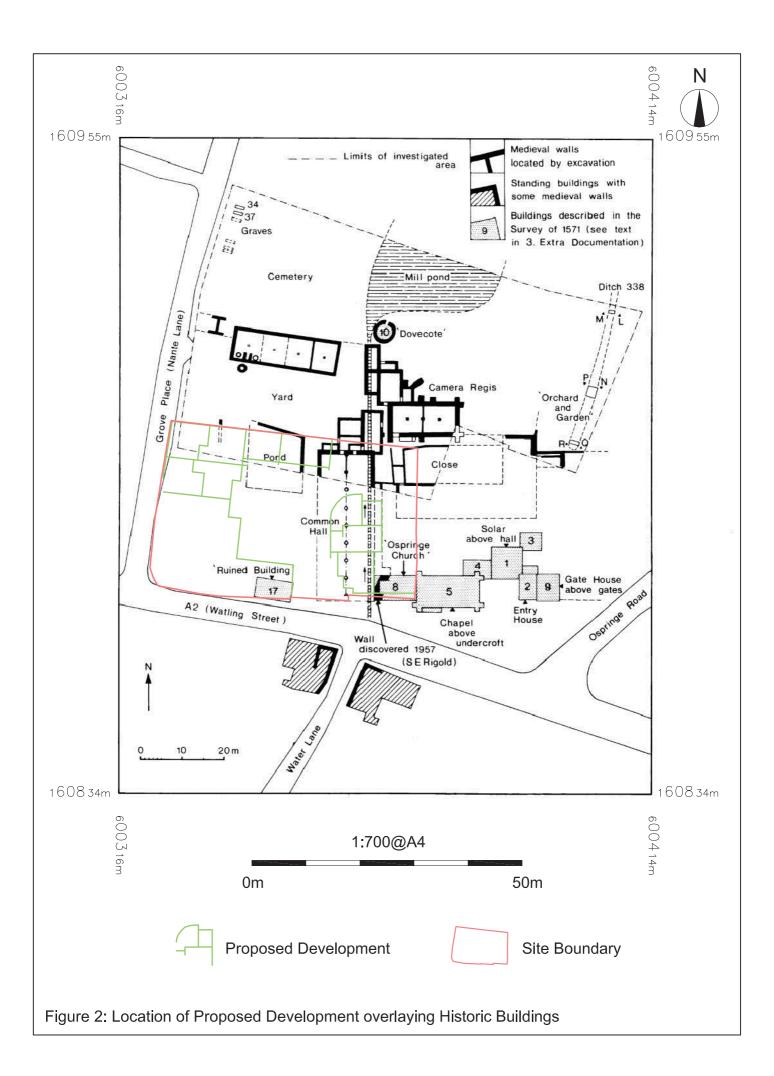
HER Data. Kent County Council 2011

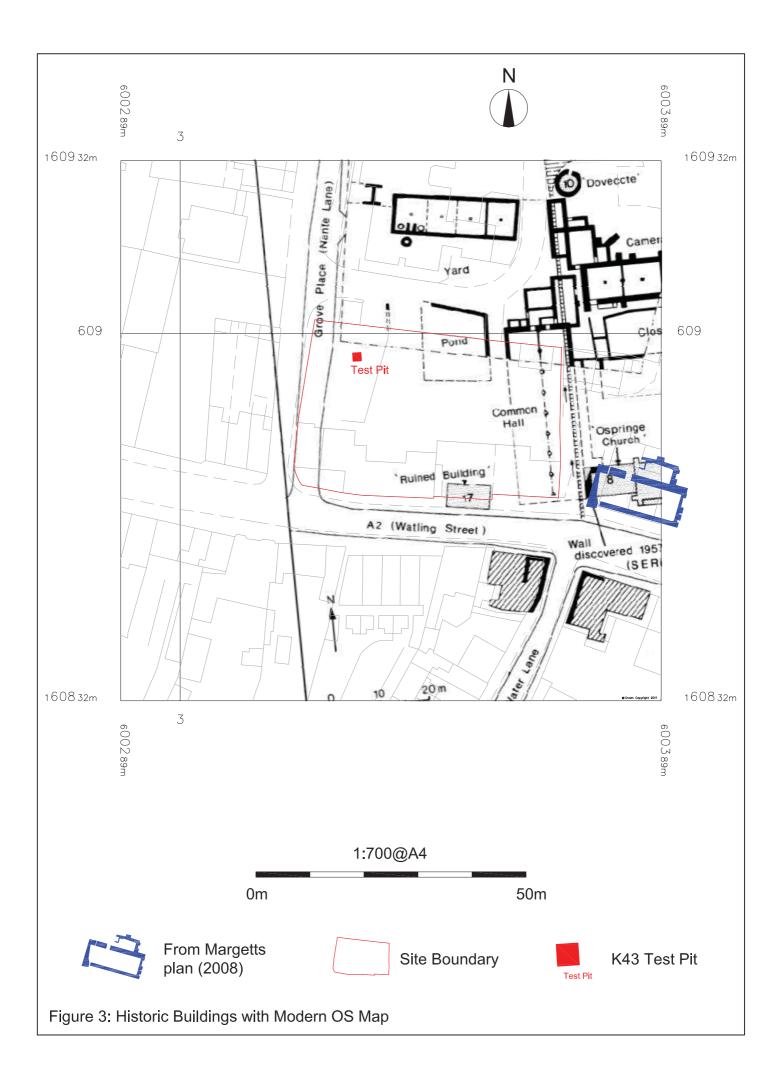
Archaeological Desk-Based Assessment in Advance of Development at 20-22 Ospringe Street, Faversham, Kent

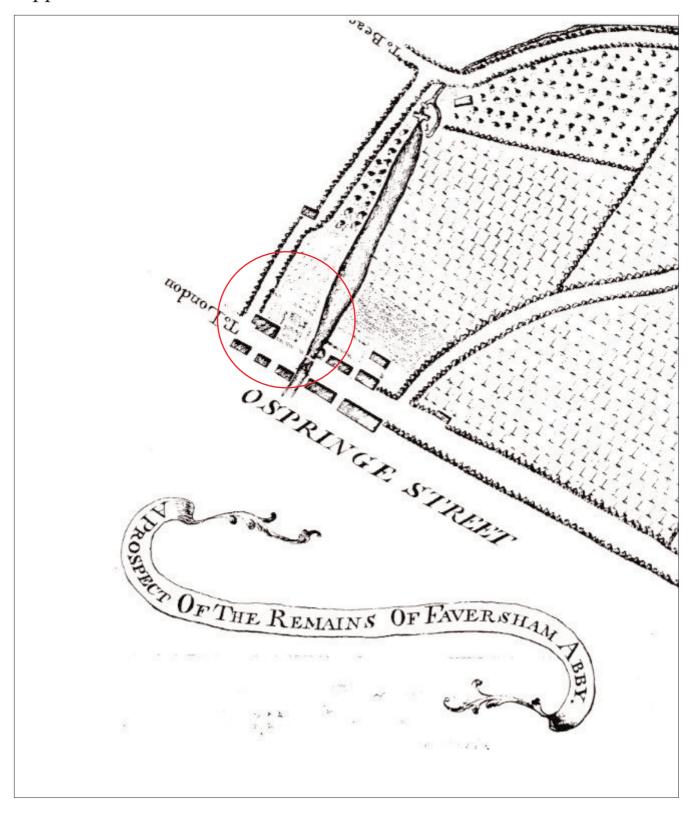
Appendix 1 – Gazetteer of Archaeological Sites

Period	HER Reference	Type	National Grid Reference	Description
Roman	TQ 76 NW 145	monument	TQ 9457 6313	Roman road
Medieval	TR 06 SW 15	Building	TR 0035 6085	C16th house. "Maison Dieu" St Mary"s Hospital
Post-Medieval	TR 06 SW 247	monument	TR 0047 6109	Ospringe Gunpowder works
Modern	TR 06 SW 1177	Building	TR 0041 6086	Pillbox





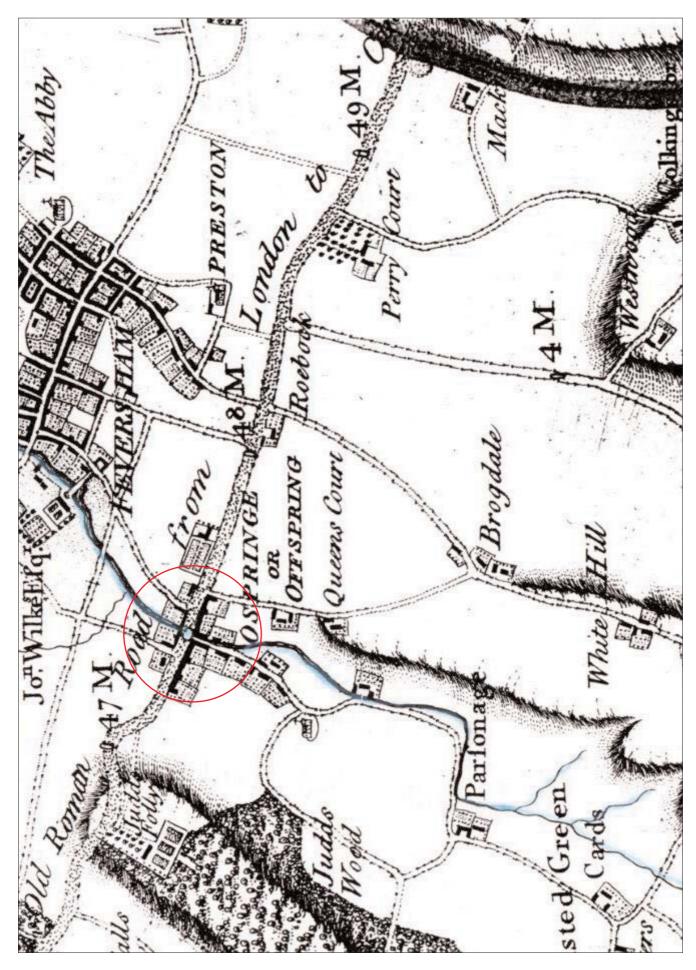




**Fig. 4.** Map by Edward Jacob and dated to c.1745. This detail shows Ospringe Street and the area of the development site ringed in red.



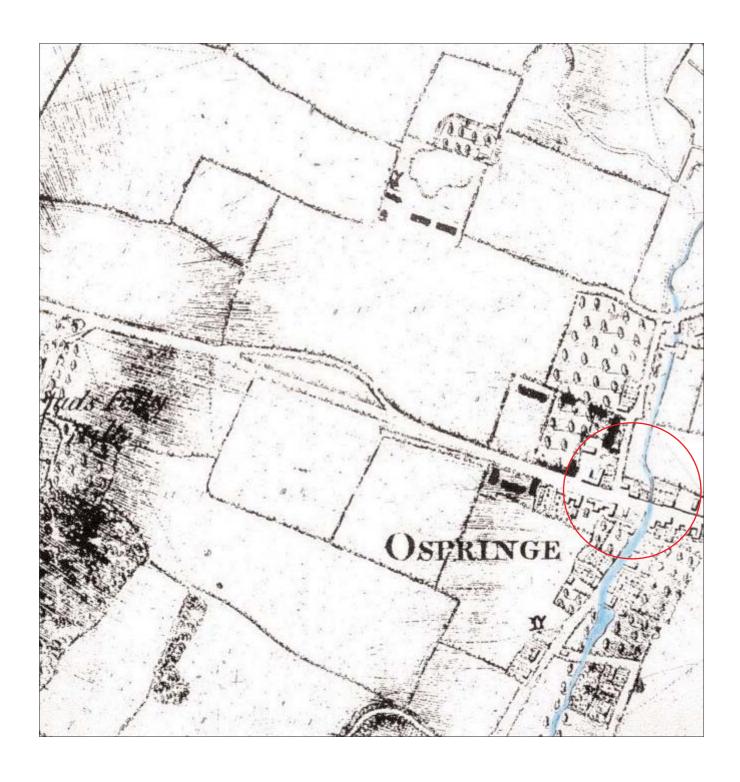
**Fig. 5.** Map by Andrew, Drury and Herbert dated to 1769 at a scale of 2 inches to 1 mile. The area of the development site is ringed in red.



**Fig. 6.** Map by Andrew, Drury and Herbert dated to 1769 at a scale of 2 inches to 1 mile. The development site is ringed in red.



Fig. 7. Map by Hasted 1788-99 with the area of the development site ringed in red.



**Fig. 8.** The Ordnance Survey Surveyors Drawing dated to 1795. A b/w copy with the area of the development site ringed in red.



**Fig. 9.** The Ordnance Survey Surveyors Drawing dated to 1795. The original coloured map with the area of the development site ringed in red.



**Fig. 10.** The Ordnance Survey Surveyors Drawing dated to 1795. The original colour map showing more of the area around Ospringe with the development site ringed in red.

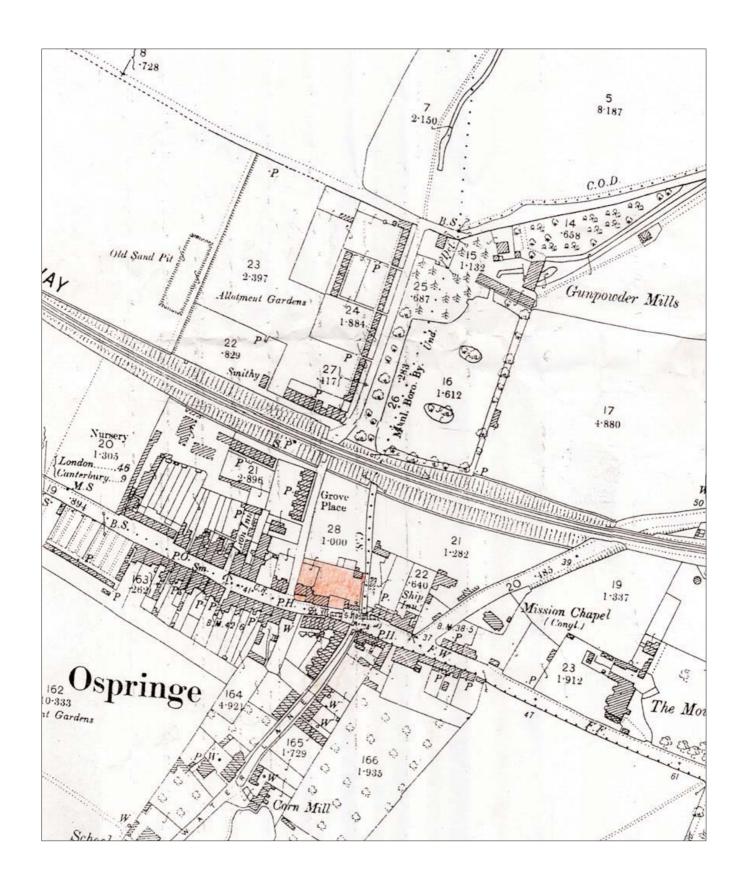
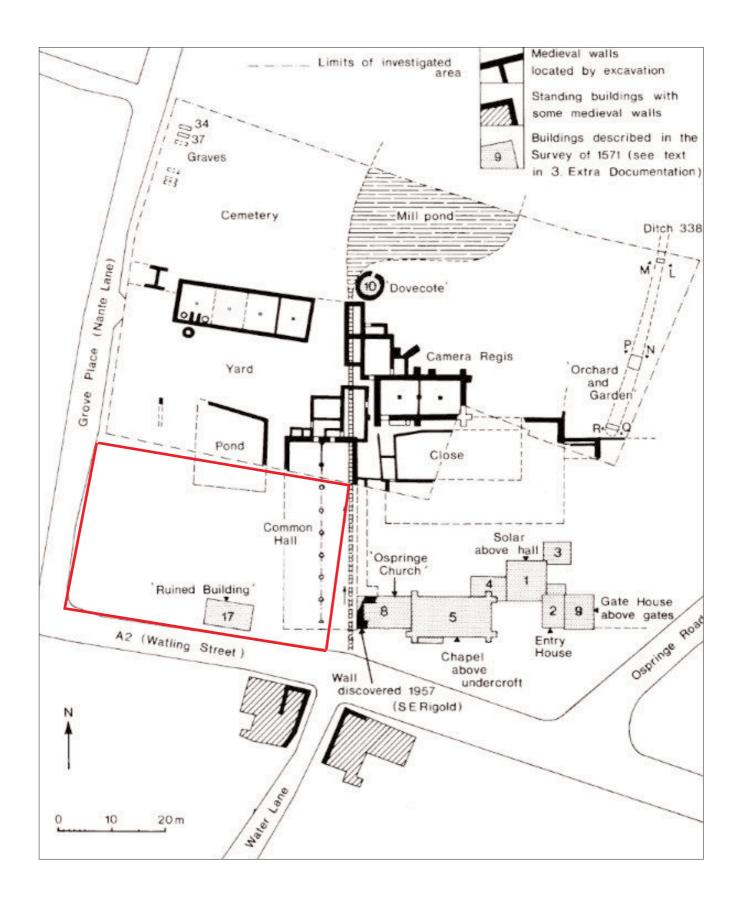
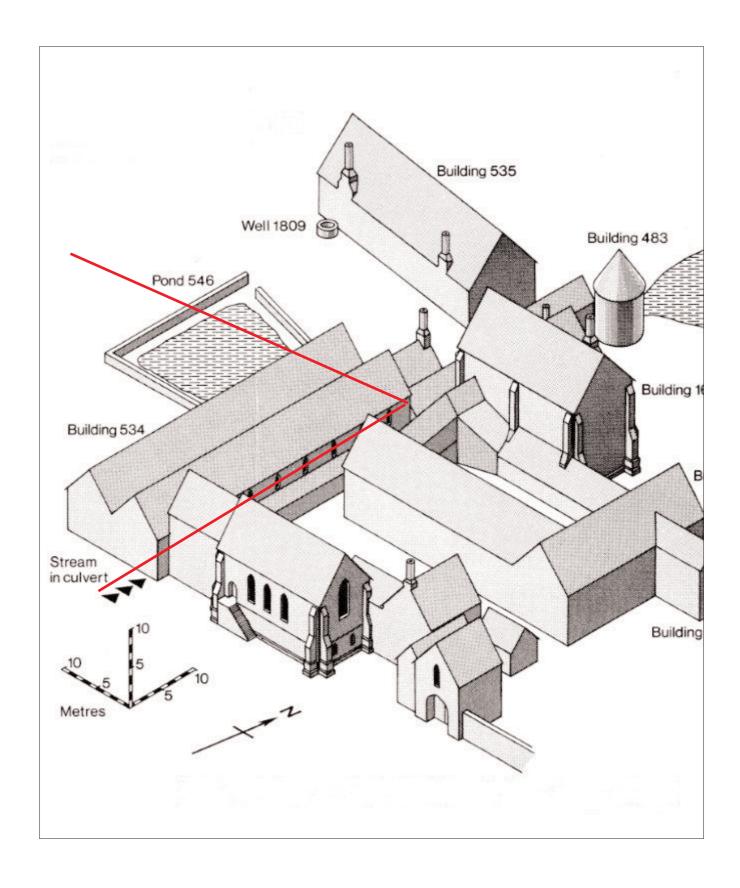


Fig. 11. OS map of 1885 showing the area of the development site shaded in red.



**Fig. 12.** Plan of Smith's excavations north of the A2 in 1977. The area of the development site is outlined in red.



**Fig. 13.** Smith's interpretation of how the excavated area north of the A2 should have looked. The development site is in the area of Building 534 and Pond 546.

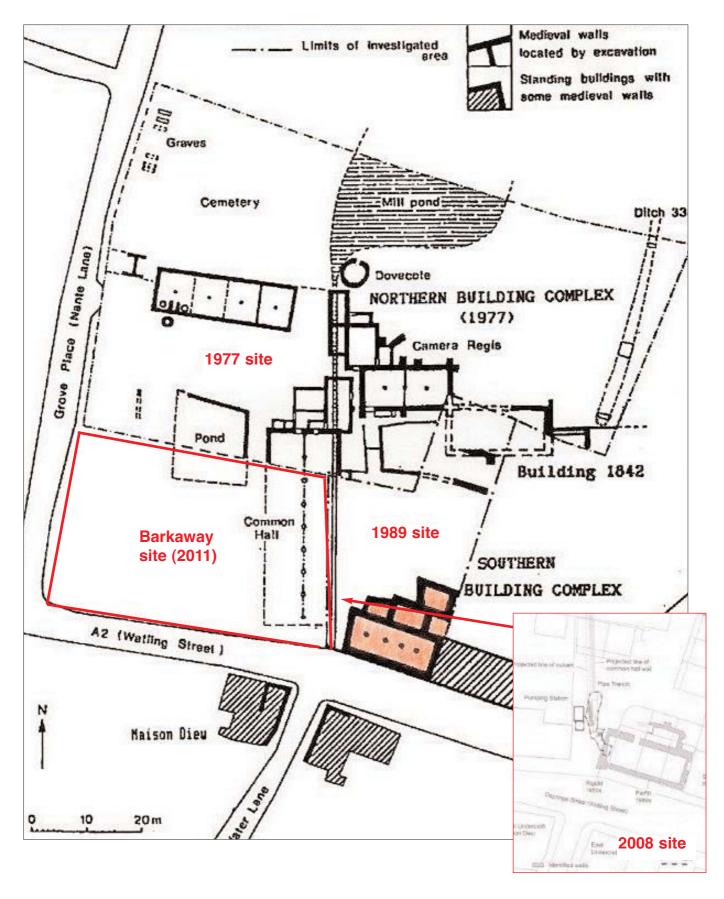


Fig. 14. Showing the various areas excavated by archaeologists prior to development.

## Appendix 2

# Geophysics Survey at Syndale, Ospringe, Faversham, 27-29 August, 2010

W E Martin

## **Summary**

- S.I. This report presents the results of a geophysics survey carried out by W E Martin and members of the Kent Field Archaeology School on 27-29 August, 2010. A previous survey with missing provenance has been relocated and overlaid on the most recent results.
- S.2 The site is located in an uncultivated privately owned field South of the A2 near Ospringe, Faversham, Kent. It is not an ancient monument. Portions of a Roman road and adjacent signatures of demolition rubble from several structures are described.
- S.3 Date of report February 2011. National Grid Reference is NGR TQ 9975 6099 (51 18 46.15; 0 51 58.91). Author of the report is Prof W E Martin, Martin Technology Consultants Ltd.



Figure 1. Aerial View of Site (centred) (Google Earth, 03/21/2007)

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#### 1 Introduction

1.1 This survey was suggested by Dr Paul Wilkinson of the Kent Archaeological Field School as a training exercise for members with the objective of repeating part of and extending an earlier survey on the site which was under excavation at the time of this survey. There is a known Roman road passing through the site and there are various building remains adjacent to the presumed course of the road which were being excavated. A previous resistivity survey was available but the provenance and details were not sufficient locate it to site benchmarks. The site is not an ancient monument.

## 2 Methodology

- 2.1 The methodology for the survey follows best practice suggested by English Heritage in *Geophysics Survey in Archaeological Field Evaluation* (P Linford, 1995)
- 2.2 Survey locations adjacent to the excavations were selected having enough area to contain the course of the Roman road and some surrounding area. Resistivity was measured with an M.M Instruments 216M meter. Measurements were taken at one meter transverse separations at one meter intervals. The instrument configuration was twin-probe with 0.5m electrode separation.
- 2.3 The weather was stable during the survey with dry and relatively warm conditions. The positional accuracy of this data is better than +-0.2m with reference to the site benchmarks. The data is presented at 16 grey levels in the figures to follow and is in units of resistance [ohms]. Conversion to resistivity [multiplication by a geometrical constant] can be accomplished using processed data files if absolute comparisons are needed with other surveys.

## 3. The Survey

3.1The survey took place over a total of three days from 27-29 August 2010. The survey results are plotted in Figure 2 in 16 grey levels for the processed data range of 90-140 ohms and overlaid on the grid to an accuracy of 0.2 m. Each small square is one square meter. The course of the Roman road is clear and previous excavation trenches are seen at the Eastern end of the grid that is furthest West. The usual histogram table for the site resistivity measurements has been omitted for brevity.

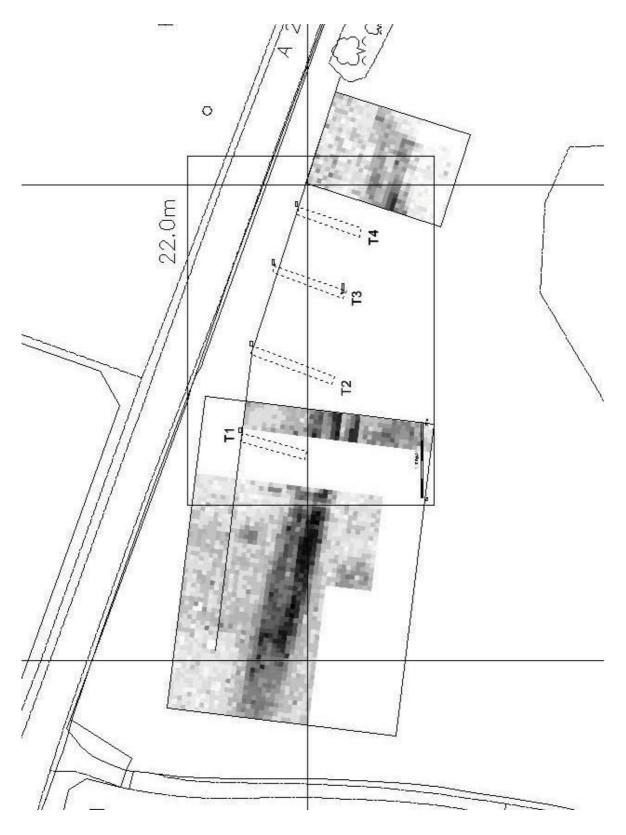


Figure 2. 16 Level grey scale plot overlain on the site OS tile with benchmarks.

North is to the left.

3.2 The previous survey was not available with sufficient information to allow immediate use on the site. A scanned image is given below in Fig. 3 and by inspection several facts are apparent on comparison to the site. The survey is likely to have been made on a standard one meter grid and was probably done over at least three days or perhaps as three separate surveys as seen in the horizontal contrast variations. The North arrow is likely to be considerably in error as the North edge of the site is bounded by the A2 which does not run East-West at the site location. By careful scaling of the survey image it can be overlaid on the latest survey data provided the scanning process was linear in both axes. Various features common to both surveys were used, particularly the road itself and the prior excavation across the road in the left half of the image, were used to produce a best fit overlay which is seen in Fig. 4. The accuracy of the overlay is estimated at +-1m provided the image scanning process was linear. The overall old image size is scaled on the assumption of one meter square sampling.

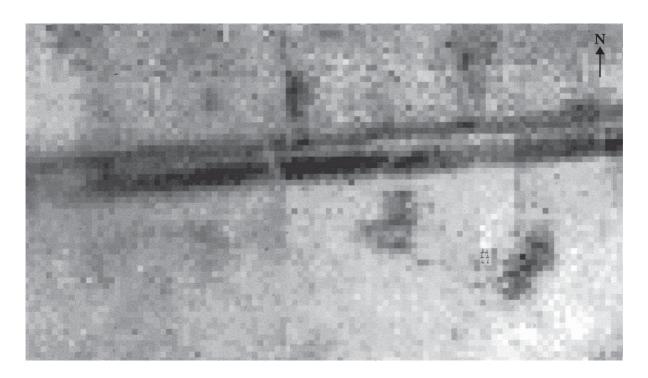


Figure 3. Scanned image of the old survey [no reference available].

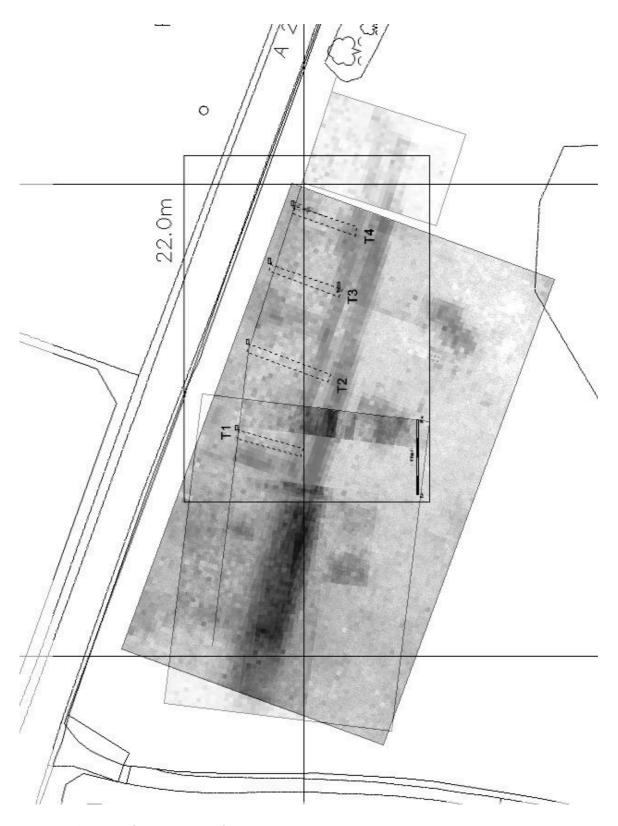


Figure 4. Best fit overlay of old and new survey. The contrast has been reduced in each image so that common features are enhanced. North is to the left.

### 4. Interpretation and Conclusions

4.1 The surveys easily show the course of the Roman road and areas of adjacent high resistivity consistent with structures and/or compacted floors. There appears to be regularly spaced areas of high resistivity on both sides of the Roman road. In Figure 5 areas marked 1-5 are consistent with demolition scatter from small structures. Area 6 may be two adjacent buildings or structures. Areas 7 and 8 are most distinct on the old survey and may be well preserved footings or substantial remains of small structures. Area 8 is close to a large tree as indicated on the old survey data. This latter area may be considerably distorted by the drying action of the tree roots.

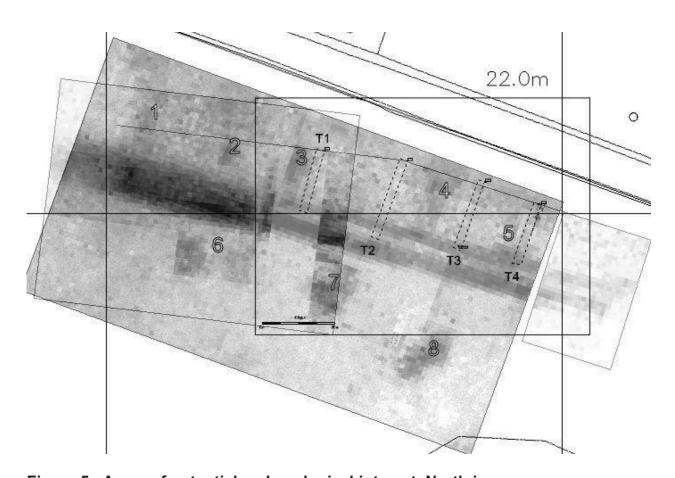


Figure 5. Areas of potential archaeological interest. North is up.

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