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FORMER SUGAR BEET FACTORY, SPROUGHTON, SUFFOLK

ARCHAEOLOGICAL EXCAVATION

AND GEOARCHAEOLGOICAL TEST PIT

Authors: Dave Bescoby &Tom Muir (Fieldwork and report)	
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District: Babergh	Site Code: SPT059
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CONTENTS

OASIS SUMMARY SHEET

Project details			
Project name	*Former Sugar Beet Factory, Sproughton, Suffolk*		
In November 2017 Archaeological Solutions (AS) carried out an archaeological excavation and test pitting on land at the former Sugar Beet Factory, Sproughton, Suffolk (NGR TM 135 448; Figs. 1 - 2). The excavation and test pitting were undertaken in compliance with a planning requirement in advance of the proposed construction of a new commercial development, and based on the advice of Suffolk County Council Archaeological Service Conservation (SCC AS-CT). *A trial trench archaeological evaluation of the site revealed four ditches in Trench 15, two of which were judged to form a ring gully. A keyhole oven was also present within the trench (PCA 2017). Finds were sparse and included crumbs of prehistoric pottery and flint blades. The eastern part of the development site had suffered considerable modern disturbance, with deep deposits of recent made ground. Thus the site had a potential for palaeoenvironmental remains associated with its location in the river valley and gravel deposits; and for archaeology associated with early prehistoric activity.* *The excavation recorded the full extent of the ring gully, including a sterile pit at its centre, but did not reveal any evidence for the previously excavated oven. The ring gully may have formed part of a roundhouse or similar structure, but two flint blades were recovered and this gully may equally represent the remains of an early Bronze Age ring ditch. A small undated rectilinear enclosure was also identified to the west of the gully, but it was very ephemeral and possibly aligned with post-medieval field boundaries that extend down the river valley slope. Three undated pits were also excavated.* *A geoarchaeological test pit recorded a sand and gravel sequence reflecting a periglacial environment and deposits associated with braided channel systems during a cold climatic phase. A thin possible coversand is potentially interpreted as a flood deposit away from the main channels.*		
Project dates (fieldwork)	*November 2017*		
Previous work (Y/N/?)	*N*	*Future work*	*N*
P. number	*P7187*	*Site code*	*SPT059*
Type of project	*Archaeological excavation*		
Site status	*None*		
Current land use	*Former industrial buildings and associated land*		
Planned development	*Commercial development*		
Main features (+dates)	*Ring gully, small rectilinear enclosure, undated pits*		
Significant finds (+dates)	*Isolated flint blades (possibly early Neolithic)*		
Project location			
County/ District/ Parish	*Suffolk*	*Babergh*	*Sproughton*
HER/ SMR for area	*Suffolk Historic Environment Record (HER)*		
Post code (if known)	-		
Area of site	*Area of excavation: 625m2; Site: 40ha.*		
NGR	*TM 135 448*		
Height AOD (min/max)	*c.6.50m AOD*		
Project creators			
Brief issued by	*Suffolk County Council*		
Project supervisor/s (PO)	*Archaeological Solutions Ltd*		
Funded by	*Ipswich Borough Council Major Capital Schemes*		
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Authors	*Bescoby, D., & Muir, T.*		
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Date (of report)	*November 2017*		

FORMER SUGAR BEET FACTORY, SPROUGHTON, SUFFOLK

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AND GEOARCHAEOLOGICAL TEST PIT

SUMMARY

In November 2017 Archaeological Solutions (AS) carried out an archaeological excavation and test pitting on land at the former Sugar Beet Factory, Sproughton, Suffolk (NGR TM 135 448; Figs. 1 - 2). The excavation and test pitting were undertaken in compliance with a planning requirement in advance of the proposed construction of a new commercial development, and based on the advice of Suffolk County Council Archaeological Service Conservation (SCC AS-CT).

A trial trench archaeological evaluation of the site revealed four ditches in Trench 15, two of which were judged to form a ring gully. A keyhole oven was also present within the trench (PCA 2017). Finds were sparse and included crumbs of prehistoric pottery and flint blades. The eastern part of the development site had suffered considerable modern disturbance, with deep deposits of recent made ground. Thus the site had a potential for palaeoenvironmental remains associated with its location in the river valley and gravel deposits; and for archaeology associated with early prehistoric activity.

The excavation recorded the full extent of the ring gully, including a sterile pit at its centre, but did not reveal any evidence for the previously excavated oven. The ring gully may have formed part of a roundhouse or similar structure, but two flint blades were recovered and this gully may equally represent the remains of an early Bronze Age ring ditch. A small undated rectilinear enclosure was also identified to the west of the gully, but it was very ephemeral and possibly aligned with post-medieval field boundaries that extend down the river valley slope. Three undated pits were also excavated.

A geoarchaeological test pit recorded a sand and gravel sequence reflecting a periglacial environment and deposits associated with braided channel systems during a cold climatic phase. A thin possible coversand is potentially interpreted as a flood deposit away from the main channels.

1 INTRODUCTION

1.1 In November 2017 Archaeological Solutions (AS) carried out an archaeological excavation and test pitting on land at the former Sugar Beet Factory, Sproughton, Suffolk (NGR TM 135 448; Figs. 1 - 2). The excavation and test pitting were undertaken in compliance with a planning requirement in advance of the proposed construction of a new

commercial development, and was based on the advice of Suffolk County Council Archaeological Service Conservation (SCC AS-CT). It followed a trial trench evaluation of the site (PCA 2017).

1.2 The excavation and test pitting were undertaken in accordance with a brief issued by Suffolk County Council Archaeological Service Conservation Team (SCC AS-CT) (James Rolfe, dated 22nd September 2017), and a Written Scheme of Investigation prepared by AS (dated 14 November 2017) and approved by SCC AS-CT. It followed the procedures outlined in the Chartered Institute for Archaeologists' *Standard and Guidance for Archaeological Excavation* (2014). It also adhered to the relevant sections of *Standards for Field Archaeology in the East of England* (Gurney 2003).

1.3 The primary objectives were to preserve the archaeological evidence contained within the site by record and to attempt a reconstruction of the history and use of the site.

Research Priorities

1.4 Principally:

- Place the activity in context with the known activity of these dates in the surrounding area;
- Characterise the activity present within the site;
- Identify topographical/geological/geographical influences on the layout and development of the activity present within the current site and in the surrounding area; and
- Environmental reconstruction.

Planning Policy Context

1.5 The National Planning Policy Framework (NPPF 2012) states that those parts of the historic environment that have significance because of their historic, archaeological, architectural or artistic interest are heritage assets. The NPPF aims to deliver sustainable development by ensuring that policies and decisions that concern the historic environment recognise that heritage assets are a non-renewable resource, take account of the wider social, cultural, economic and environmental benefits of heritage conservation, and recognise that intelligently managed change may sometimes be necessary if heritage assets are to be maintained for the long term. The NPPF requires applications to describe the significance of any heritage asset, including its setting that may be affected in proportion to the asset's importance and the potential impact of the proposal.

1.6 The NPPF aims to conserve England's heritage assets in a manner appropriate to their significance, with substantial harm to designated heritage assets (i.e. listed buildings, scheduled

monuments) only permitted in exceptional circumstances when the public benefit of a proposal outweighs the conservation of the asset. The effect of proposals on non-designated heritage assets must be balanced against the scale of loss and significance of the asset, but non-designated heritage assets of demonstrably equivalent significance may be considered subject to the same policies as those that are designated. The NPPF states that opportunities to capture evidence from the historic environment, to record and advance the understanding of heritage assets and to make this publicly available is a requirement of development management. This opportunity should be taken in a manner proportionate to the significance of a heritage asset and to impact of the proposal, particularly where a heritage asset is to be lost.

2 DESCRIPTION OF THE SITE

2.1 The site lies adjacent to the A14 interchange at Sproughton, on the edge of the River Gipping. The former factory has been largely demolished and the site largely cleared, excepting a number of structures. The overall site extends to up to 40ha.

3 TOPOGRAPHY, GEOLOGY AND SOILS

3.1 The site is located at the base of the valley of the River Gipping, as it meanders into Ipswich before widening towards its estuary. The natural course of the river passes the western and south-eastern edges of the site, while the southern edge is bordered by the Chantry Cut, an artificial navigation. The edges of the site lie at *c.*8-9m AOD, descending slightly to *c.*6.6m towards the centre of the site; however the site has been significantly truncated and altered through the activities of the former Sugar Beet factory. To the north of the site the ground level has been reduced by at least a metre, while over 1.5m of made ground and overburden was recorded by test-pitting in the eastern area, with trial trenching archaeological features only towards the centre of the site (PCA 2017, 16 & 50-1). A trench close to the central northern edge of the site recorded the natural gravels at *c.*9.7m AOD on top of an apparent bank, with a clear cut through the gravels down to *c.*8-6m AOD evident in the same trench, reflecting the general pattern of evidence for modern quarrying, landscaping and terracing across the site.

3.2 The underlying solid geology of the site comprises the Newhaven Chalk Formation, a sedimentary formed in the Cretaceous period when the local environment was dominated by warm seas. The drift geology overlying the chalk comprises River Terrace Deposits across the bulk of the site, formed of (undifferentiated) sand and gravel laid down in the Quaternary period when the local environment was dominated by rivers. However at the southern and western edges of

the site, adjacent to the River Gipping and Chanty Cut, the drift deposits may be formed of Alluvium (clay and silt) laid down in similar conditions to the River Terrace Deposits. During the trial trench evaluation of the western part of the site (PCA 2017), the natural gravels were encountered between depths of 0.68m and 1.32m, typically being slightly deeper in the western-most areas; and almost entirely sealed below a 30-50cm thick layer of modern overburden.

4 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Palaeolithic

4.1 The site is an area of archaeological potential adjacent to the River Gipping, as recorded on the Suffolk Historic environment record (HER). This landscape would have been a topographically attractive site for multi-period occupation, notably in the prehistoric period. An Upper Palaeolithic long blade industrial site (SPT 001) was excavated *c*.400m south of the site at 'Devils Wood', located on the surface of a sand and gravel-filled former channel of the River Gipping. Thousands of blades, cores, backed blades and gravers were recovered from beneath a marsh clay layer and buried soil. Palaeolithic implements including cordate flint hand-axes and four Solutrean leaf-shaped implements were recovered from early 20th century investigations during quarrying activity at Bramford Road, c.940m northeast of the site (IPS 018). The artefacts were recovered via suction pump and therefore their exact location within the gravel sequence is not known, however it is believed they originated from between 4 and 5m AOD. Palaeolithic implements were also recovered in 1924 *c*.200m to the east (SPT 004). A Palaeolithic flake was recovered in the garden of the Old Rectory *c*.870m to the southwest (SPT 026).

Mesolithic

4.2 A Mesolithic occupation site (SPT 002) was discovered on a knoll 740m southwest of the site and 10 feet above the river flood plain. The occupation layer was recorded at 16 inches, or 0.40m below the ground level. Finds recovered over the years include: seven picks, 165 cores, 39 scrapers, *c*.986 flakes, six axes including a tranchet axe, and two microliths. A series of small scale excavations carried out in 1975-79, in the far north-west corner of the current site, revealed a scatter of flints derived from a Mesolithic blade industry (SPT 025). Finds included a tranchet axe, three other axes, 18 cores, *c*.550 flakes, a scraper and five microliths (SPT 017, SPT 003). These finds were recovered within a layer of loam, 18 inches or 0.46m below ground level. The site was subsequently covered by sludge from the sugar beet factory. A tranchet axe was also recovered from Lavenham Road, 900m south of the site (IPS 105). Cores, blades, unretouched blades and flakes, scrapers, and microliths were recovered from 'Devils Wood' 400m to the south (SPT 001).

Neolithic and Bronze Age

4.3 Neolithic pottery, including a rim of Peterborough ware, a fragment of a retouched flint axe and part of a discoid hammer, and a Bronze Age urn were also recovered from quarrying activity at Bramford Road at various stages of monitoring and *c*.940m northeast of the site (IPS 018). A chipped and reworked flint axe-head was recovered from the garden of 116 Sproughton Road *c*.600m to the north-east (IPS 097). A Neolithic perforated handaxe (IPS 917) was recovered during levelling works on Hadleigh Road during the 1920's, and further flint flakes were recovered from pits excavated in 1958 *c*.740m to the south-west (SPT 002).

4.4 A settlement area dating to the late Neolithic/Early Bronze Age was uncovered at 'Devils Wood' (SPT 001). Post holes, a pit, pottery dating to the late Neolithic, with some Beaker material and worked flint including arrowheads, a borer and a knife, scrapers, cores and waster flakes were recorded on the site. The small pit contained a cremation, possibly male with a radiocarbon date of 1340 +/- 130 BC, along with a Bronze Age dirk with a flat mid section blade (SPT 018). The features were sealed by a marsh clay.

4.5 Early Bronze Age Beaker pottery was recovered from pits excavated in 1958 *c*.740m to the south-west (SPT 002), and an Early Bronze Age collared urn (IPS 104), 4.35 inches high and undecorated was recovered from Harris Bacon Factory on Hadleigh Road *c*.600m to the south. A small area of prehistoric ground surface (IPS 449) was also recorded on the site, and in addition two modern ditches and made ground overlying river terrace gravels. An excavation at the Morrisons supermarket, to the immediate east of the site, revealed the majority of a double ring ditch (IPS 400), measuring approximately 35m in diameter. Four intersecting graves dating to the Bronze Age were recorded at the centre of the monument. The graves contained little skeletal material but did include four near complete Beaker pots. Two collared cinerary urns and fragments of others were recovered from a field drainage ditch along Gipping Road, 700m to the west of the site (SPT 005). One of the urns was 14.25 inches high, with no decoration and contained the remains of two individuals; one of which was female and one a probable female, aged 20-21 years and 17-19 years. The other vessel had internal moulding decoration, filled triangles on the collar and a row of herring bone decoration on the shoulder. No associated cremated remains were found with the vessel. A small Bronze Age cup, plain with an inturned rim was recovered on the site during the construction of the sugar beet factory *c*.1926 (SPT 010). The cropmark of a ring ditch (SPT 049) that represents a ploughed round barrow of prehistoric date can be seen 1km to the west of the study site. The ring ditch is 26m in diameter with no internal features.

Iron Age and Roman

4.6 A watching brief at the Boss Hall Estate just to the east of the site revealed a buried channel/ancient pond (IPS 867) from which Late Iron Age pottery, Romano-British tile fragments and one sawn red deer antler were recovered. Several sherds of pottery dating to the Roman and Late Saxon periods (IPS 534) were recovered from a watching brief at a site on Sproughton Road, just to the northwest of the current development site. A worn and corroded Roman coin of Vespasian, 69-79 AD was recovered from a pit at Devil's Wood (SPT 001).

Saxon and Medieval

4.7 Around 400m north east of the eastern-most edge of the site, within the Boss Hall industrial Estate, is the location of an early Anglo Saxon cemetery (IPS 986, IPS 1604). An excavation on the Boss Hall Estate in the 1990's revealed five cremations and 22 inhumations dating from the 6th to the early 7th centuries (IPS 231). One of the inhumations comprised a large chamber grave around which were four 'satellite' cremations. Grave goods recovered from the inhumations included spears, shields, knives, brooches and beads. One of the graves was for a particularly wealthy woman, buried *c.*700 AD. In 2014 an evaluation at the former Co-Op dairy site on the Boss Hall Estate uncovered Early Saxon inhumations and urned cremations in the southwest corner of the site (IPS 735). It is believed that these marked the eastern extent of the cemetery. A pit from which a sherd of Early Saxon pottery was recovered was also recorded on the site (IPS 397), and also a ring ditch thought to be of similar date (IPS 1605).

4.8 A Henry III long cross penny (IPS 499) was recovered during an evaluation at The Kings Head pub on Sproughton Road, to the immediate northeast of the site. Three rims and seven sherds of Thetford ware, and ox bones, were recovered from the northwest corner of the site (SPT 017) during excavations conducted by J V Todd in the 1970's after the bulldozing of a circular cropmark.

4.9 There is no Domesday record of a church in the parish of Sproughton, however the medieval church of All Saints (SPT 016), located at the northern edge of Sproughton, is believed to be one of two churches documented in the parish of Bramford. A red ware bottle was discovered within an original scaffold hole in the church tower wall. A groat of Henry VII has also been found in a garden in the village of Sproughton (SPT Misc).

Post Medieval

4.10 Post 17th century pottery was recovered during monitoring at Boss Hall Industrial Estate (IPS 522). On the same estate, an evaluation in 1994 uncovered four post-medieval ditches and a pit (IPS 869). Sproughton Bridge (SPT 027), which was shown on Bowen's

1755 and Hodskinson's 1783 maps crossing the River Gipping was located south of the site. Sproughton Mill, a listed late Georgian red brick mill with a pantiled roof is also located on the River Gipping (SPT 034, SPT 036). The current building has been extensively rebuilt and is on the site of an earlier mill.

Undated

4.11 Seven trackways with ditches either side and part of a ring ditch have been recorded on aerial photographs at Chantry park, 1km to the south (IPS 422). Two skulls were apparently discovered from the footpath between Bramford Road and Sproughton Road, northwest of the site (IPS 535); and a polished and sharpened distal end of a sheep's tibia was recovered from a pit at the far south-western corner of the site in the 1970's (SPT 009).

5 PREVIOUS ARCHAEOLOGICAL INVESTIGATION

5.1 A trial trench archaeological evaluation of the site revealed a ring gully and also an oven thought to date to the Iron Age (PCA 2017) (Fig. 2). Evaluation Trench 15 revealed four ditches, two of which were judged to form a ring gully. The trench also contained an adjacent keyhole oven. Finds were sparse including crumbs of prehistoric pottery. The features were undated but considered likely to be of Iron Age date. The eastern part of the site had suffered considerable modern disturbance, with deep deposits of recent made ground.

6 METHODOLOGY Fig. 2

6.1 The brief required:

> **Excavation** Controlled strip, map and excavation of a 25m x 25m area of the site where archaeological features were recorded during the preceding trial trench evaluation (centred on Evaluation Trench 15), with a contingency to extend the area should remains extend further. If significant features extended beyond the strip area an allowance had been made to extend it to further define such features.
>
> The site strip was carried out under archaeological supervision, with a back acting excavator fitted with a wide toothless ditching bucket. The excavation area was clearly demarcated and machinery was prevented from tracking across the stripped area until all archaeological investigations were complete, and the site had been signed off by SCC AS-CT and handed back to the developer.

Geoarchaeological Test Pitting A further test pit (*c*.3m x 3m) was excavated in the north-eastern corner of the site (to 3m depth) in order to characterise the gravel sequence here. The gravel deposits were recorded by a geoarchaeolgist (Dr David Bescoby)

7 DESCRIPTION OF RESULTS (EXCAVATION)

The description of the excavation is presented below:

Sample section 1 0.00 = 7.29m AOD		
0.00-0.24m	L2000	Topsoil. Firm, mid brown grey clayey silt
0.24-0.33m	L2001	Made ground. Friable, pale brown grey sandy silt with occasional small sub-angular flints
0.33-0.59m	L2002	Subsoil. Friable, dark brown grey sandy silt with occasional small sub-angular flints
0.59m +	L2004	Natural. Friable, mid brown orange sandy gravel with frequent small sub-angular flints.

Sample section 2 0.00 = 7.56m AOD		
0.00-0.18m	L2000	Topsoil. As Above.
0.18-0.30m	L2001	Made ground. As Above.
0.30-0.47m	L2002	Subsoil. As Above.
0.47-0.62m	L2003	Subsoil. Friable, mid brown grey sandy gravel with very frequent sub-angular flints
0.62m +	L2004	Natural. As Above.

Description: The excavation area revealed Rectilinear Ditch F2005; Ring Gully F2015; and Pits F2007, F2009, F2011 and F2013. A struck flint was contained in the subsoil, and a struck flint was recovered from the Ring Gully. No other finds were present.

Ditch F2005 was rectilinear in plan (8.40+ x 0.70 x 0.20m), orientated NW/SE. It had moderately sloping sides and a concave base. Its fill, L2006, was a friable, mid grey brown silty sand with frequent small to medium sized sub-angular and rounded flints. It contained a no finds. Ditch F2005 cut Pit F2007.

Pit F2007 was sub-circular in plan (1.69 x 1.15+ x 0.17m). It had gently sloping irregular sides and a concave base. Its fill, L2008, was a friable, mid grey brown silty sand with moderate small sub-angular flints. It was cut by Rectilinear Ditch F2005 and contained no finds.

Pit F2009 was sub-circular in plan (0.69 x 0.64 x 0.25m). It had moderately sloping sides and a concave base. Its fill, L2010, was a friable, dark yellow brown silty sand. It contained no finds.

Pit F2013 was sub-circular in plan (0.72 x 0.66 x 0.23m). It had moderately sloping sided and a concave base. Its fill, L2014, was a friable, mid red brown silty sand with occasional small sub-angular flints. It cut Ring Gully F2015, and it contained no finds.

Ring Gully F2015 was curvilinear in plan, its circumference measuring 24 metres, with a maximum internal diameter of 7.2m and maximum diameter of 8m. The width of the ditch varied 0.26m to 0.60m and had a maximum depth of 0.29m. It had moderately sloping sides and a concave base. Its fill, L2015, was a firm, dark yellow brown silty sand with occasional small to medium sized angular flints and gravel. It contained a struck flint (3g); and was cut by undated Pit F2013. Pit F1011, in the centre of F2015, contained no finds.

Pit F2011 was sub-circular in plan (0.9 x 0.95 x 0.51m). It had steep near vertical sides and a flattish base. Its fill, L2012, was a friable, mid grey brown silty sand with occasional small sub-rounded flints. It contained no finds.

8 CONFIDENCE RATING (EXCAVATION)

8.1 It is not felt that any factors restricted the identification of archaeological features or finds.

9 DEPOSIT MODEL (EXCAVATION)

9.1 Uppermost Topsoil L2000 was a friable, mid brown grey clayey silt (0.28 – 0.35m thick). It overlay Made Ground, L2001, a friable, pale brown grey sandy silt with occasional small sub-angular flints (0.09 – 0.12m in thickness).

9.2 Beneath was 2001, was Subsoil L2002, a friable, dark brown grey sandy silt with occasional small sub-angular flints (0.17 – 0.26m thick). In the NE corner of the site, Subsoil, L2002 overlay the natural, and in the SW sector of the site is overlay Subsoil L2003. The latter comprised a friable, mid brown grey sandy gravel with very frequent sub-angular flints (*c.*0.15m thick).

9.3 At the base of the sequence the natural deposits, L2004, comprised a friable, mid brown orange sandy gravel with frequent small sub-angular flints, and it was 0.59 – 0.62m below the present day ground surface.

10 DISCUSSION (EXCAVATION)

10.1 The recorded features are tabulated:

Context	Description	Spot Date
F2005	Rectilinear Ditch	-
F2007	Pit	-
L2009	Pit	-
F2011	Pit	-
F2013	Pit	-
F2015	Ring Gully	-

10.2 The excavation centred on the area of Trench 15 of the evaluation (PCA 2017) which contained a small ring gully and oven. The full extent of the ring gully (F2015) was revealed, with a single sterile pit (F2011) at its centre. No evidence was revealed relating to the previously-identified oven. Ring Gully F2015 measured 24 metres in its circumference, with an internal diameter of 7.2m and external diameter of 8m. Pit F1011, located at the centre of the ring gully, was of modest depth with steep sides and an even base, and may have had a structural function. F2015 may have formed the drip gully of an associated roundhouse, and though there were no other visible signs of post holes or features which would indicate the presence of a structure within the gully, a roundhouse may have utilised a sill beam construction on top of an historic land surfaces, or had partially turf built walls that held earth-fast beams.

10.3 An isolated small flint blade was contained in the ring gully, and a comparable blade also recovered from the subsoil. These finds may indicate an early Neolithic date. Similar blades were recovered from within the oven associated with the ring gully, and recorded during the previous evaluation (PCA 2017, 42). A double-ring ditch containing early Bronze Age graves was located to the immediate east of the site, and is indicator of prehistoric activity in the vicinity. Conversely there is a paucity of evidence for Iron Age occupation in the local area. The previously recorded oven also contained small scraps of prehistoric pottery with sand and possible grog-temper (PCA 2017, 43) that could potentially be consistent with an early Bronze Age date. The date and function of the ring gully is uncertain. It may represent a drip gully associated with an Iron Age roundhouse, or the remains of an early Bronze Age ring ditch.

10.4 To the west of the ring gully (F2015) was a further pit (F2007), which was cut by a rectilinear ditch (F2005). Both features are undated. The rectilinear ditch (F2005) was very shallow and ephemeral, and may represent a small agricultural enclosure or structure. It appears broadly aligned with the post-medieval field boundaries that run down the natural valley slope, perpendicular to the river.

11 THE GEOARCHAEOLOGICAL TEST PIT

Dave Bescoby

11.1 Geoarchaeological Context

The test pit (Fig.2) was located at TM 13758 45209 at a height of 7.16 m AOD occupying a broad terrace platform of undifferentiated post-Anglian river gravel deposits north of the present day course of the River Gipping, which lies 480 m to the south. Topographically, the Gipping Valley broadens at this point, tracing a wide arc as the direction of flow turns eastward. Consequently a broader belt of gravel fringes the alluvial deposits of the current floodplain, forming a wide spread of sand and gravel deposits between Bramford, Sproughton and West Ipswich within the lower levels of the valley.

The undifferentiated gravel deposits have for the most part been poorly investigated and although most likely to be Late Devensian, some variation in ages might occur at different locations along the valley. In broad terms these were associated within extensive braided channel networks, deposited under periglacial conditions and derived from the reworking of earlier deposits within the drainage basin.

Quarrying activity at the warren Livingston Pit (HER IPS 18), Bramford Road, *c.*100 m the north led to the recovery of Upper Palaeolithic lithics, including cordate flint hand axes and four Solutrean leaf-shaped implements during the early 20th Century from similarly undifferentiated gravel deposits. Recovery by suction pump precludes precise stratigraphic recording, although the artefacts are thought to have originated from between 4 and 5 m AOD. Other Upper Palaeolithic finds have been made in quarrying to the south at the Devils Wood Quarry site (HER SPT 01).

11.2 Method of Investigation

The geoarchaeological test pit was located in the north-easterly extent of the grounds of the former sugar beet factory, as close as possible to the former sand and gravel working on Bramford Road in the hope of sampling the same deposits that yielded Upper Palaeolithic lithic material. The spatial position of the test pit was recorded in the field using RTK GPS (Fig.2). The test pit was machine excavated with a ditching bucket to a depth of 3.20m, maintaining the south-east facing side as a continuous section through the gravel sequences. The test pit was successively stepped it on the remaining three sides to provide access and comply with health and safety policy. An overview shot of the test pit is shown (DP12)

Encountered sand and gravel deposits were separated out into two broad stratigraphic units during excavation (Units 2 and 3, described below) which were further sub-sampled and passed through an A-

frame sieve with 10m mesh in order to assess the presence of Palaeolithic flint artefacts and debitage.

11.3 Lithostratigraphic Description

The lithostratigraphy exposed by the south-east facing elevation was described using standard procedures for recording unconsolidated sediments, noting physical properties (Munsell colour), composition, consistency, sedimentary boundaries and inclusions. The exposed section was first cut back and cleaned by hand trowel and a photogrammetric record made, allowing the complete sequence to be viewed as a single record.

11.4 Results

An annotated image of the photogrammetric record corresponding to the lithostratigraphic descriptions below is shown in Fig.4. The following lithostratigraphic description was recorded in the field:

Local Lithostratigraphic Unit		Lithostrategraphic description
Unit 6		0.00-0.37 m. Dark brown (10YR 3/4) sandy topsoil with moderately developed, blocky peds. Occasional (5%) small red brick/tile fragments.
Unit 5		0.37-0.75 m. Made ground. Containing rubble and concrete debris.
Unit 4	b	0.75-1.16 m. Brownish grey (10YR 4/1) fine sand with 5% small sub-rounded to sub-angular clasts, predominantly flint. Abrupt boundary.
	a	1.16-1.25 m. Pale grey (10YR 4/1) fine sand with 10% poorly sorted predominantly angular flint clasts, fining upwards. Abrupt boundary.
	e	1.25-1.68 m. Mid orange (10YR 5/3) fine ferruginous sand matrix with 25% small - medium sized angular to sub-angular poorly sorted, predominantly flint clasts, increasing to 70% clasts at base of deposit. Pockets of deeper orange mottling. Occasional sandy horizons. Abrupt boundary.
	d	1.68-1.79 m. Light yellowish brown (10YR 6/4) fine sand. Homogenous with few inclusions. Sharp boundary.
Unit 3	c	1.79-1.91 m. Mid orange (10YR 5/3) fine ferruginous sand matrix with 70% poorly sorted angular flint clasts up to pebble size and of low sphericity. Very occasional sub-rounded to rounded quartzite clasts. Bands of deeper orange mottling. Abrupt boundary.
	b	1.91-1.98 m. Light yellowish brown (10YR 6/4) fine sand layer homogenous with few inclusions. Sharp boundary. [**Bulk Sampled**].
	a	1.98-2.07 m. Greyish yellow brown (10YR 6/2) fine sand matrix with 80% small to medium sized flint clasts, predominantly angular to sub-angular with low sphericity. Occasional small, sub-rounded quartzite clasts. Clear, wavy boundary with underlying layer.

Unit 2	f	2.07-2.28 m. Brownish yellow (10YR 6/6) very fine sand with 15 - 20 % small, poorly sorted angular to sub-rounded clasts. 5% granule sized angular fragments of chalk. Very occasional rounded pebble sized quartzite clasts. Clear wavy boundary.
	e	2.28-2.35 m. Very pale brown (10YR 7/3) fine sand containing 5% coarse sand sized clasts. Clear wavy boundary.
	d	2.35-2.53 m. Very pale brown (10YR 7/3) fine sand containing 35% small, predominantly sub-angular clasts. 5% angular pebble sized clasts. Clear wavy boundary.
	c	2.53-2.65 m. Very pale brown (10YR 7/4) fine sand containing 55% angular to rounded clasts up to pebble size, predominantly flint with some quartzite. Abrupt boundary.
	b	2.65-2.70 m. Very pale brown (10YR 7/3) fine sand forming a thin layer, very few inclusions.
	a	2.70-2.78 m. Pale grey (10YR 4/2) medium sand containing 50% angular to sub-angular clasts up to granule size, moderately poorly sorted and predominantly flint. Occasional well rounded quartzite clasts. Sharp boundary.
Unit 1		2.78-3.20 m. Grey (10YR 6/6) very fine sand containing 2% angular quartz granules. Several horizontally bedded (but undulating) laminae of finer silts containing mid-sand sized chalk granules. 2% Diffuse pockets of grey clay (10YR 6/1). Unit continues.

11.5 Struck Flint from sieving sub-samples from the Test Pit

Andrew Peachey

A total of 600 litres of sand and gravel was sieved on site (with 10mm mesh), split into samples from the upper (Unit 3) and lower (Unit 2) fractions of the undifferentiated geological layer, in order to sample for Palaeolithic flint artefacts, if present. A single flake (23g) was recovered from the Unit 3 sand and gravel. The raw flint is dark grey-brown and the flake is un-corticated, albeit with a low degree of semi-translucent white patination over all surfaces. The flake has a slightly irregular elongate profile with a shallow bulb of percussion on the ventral face corresponding to a complimentary removal from the same direction represented by a dorsal scar. There is no evidence of re-touch or modification, and the debitage flake may tentatively be attributed a Palaeolithic date, however it is not conclusively diagnostic.

11.6 Interpretation

The investigative record from the test pit revealed a fairly complex depositional sequence of sands and gravels. It was possible morphologically to group the resulting sequence into six broad stratigraphic units and lithofacies, interpreted below. No organic-rich, shelley clay or silt deposits were encountered and the appearance of cryoturbation features throughout the profile suggests cold climatic conditions. No clear sedimentary structures were visible within the recorded lithostratigraphy and suggested depositional environments are therefore somewhat speculative.

Unit 1: This unit consists entirely of very fine sands with horizontally interbedded laminae of silts and clays, suggestive of a low energy fluvial environment synonymous with overbank and waning flood deposits or possibly planar bed flow deposits. Only the top 0.3 m of this unit was exposed in the test pit. Contact with the overlying unit is sharp and possibly represents an erosional surface.

Unit 2: In contrast, this unit is characterised by coarser sand and gravel deposits interbedded with finer, sand dominated layers (sub units 2b and 2e). The gravel fraction in this unit is generally small, between granule and pebble sized, poorly sorted and predominantly of angular to sub-angular flint, although a smaller portion of more rounded quartile pebbles are also present, along with angular granules of chalk. The boundaries between sub-units are generally wavy, indicating a degree of cryogenic deformation within a harsh periglacial environment. Sand and gravel deposits within this unit appear to reflect a fluvial depositional environment. The presence of small chalk fragment inclusions that characterise the unit suggest the reworking glacial deposits most likely of Anglian age, such as chalky boulder clays forming the Lowestoft Till (see Boswell, 1927).

Unit 3: The gravel fraction present within this unit is noticeably larger and dominated by angular flint of low sphericity. They are poorly sorted and their arrangement is irregular. The sand fraction is coarser, more ferruginous with occasional dark orange, heavily oxidised pockets of material. This very much suggests the re-working of earlier material upstream such as exposures of Lowestoft Till, or the overlying Anglian glacio-fluvial sands and gravels. The upper sequences of the Lowestoft Formation around the valley flanks are typically decalcified and oxidised sands and gravels (see Mathers et al., 2007 and Allender & Hollyer, 1981), which would fit with the material encountered.

Sub-unit 3b is comprised of a fine sand of seemingly unimodal grain size with almost no additional inclusion which may be wind blown in origin. Such coversand deposits are common in eastern England and thought to have accumulated before or during the last intense periglaciation in the Devensian (see Perrin et al., 1974 & Catt et al., 1971).

Unit 4: This unit is dominated by fine sandy deposits with a small quantity of gravel, fining upwards and reflecting a transition to a lower energy environment. No evidence of soil development was apparent and it is possible that a degree of truncation of earlier surfaces has taken place.

Unit 5: Made up ground reflecting activity relating to the former sugar beet factory.

Unit 6: Extant topsoil layer.

11.7 Conclusion

From the above it can be surmised that the sand and gravel sequence recorded locally as Units 3 and 2 reflect a periglacial environment and deposition associated with braided channel systems during a cold climatic phase and probably relate to some form of debris-flow deposits. Deposited sands and gravel are in all likelihood derived from earlier Anglian glacial deposits of the Lowestoft Formation. A thin layer of possible coversand was recorded in Unit 3. Regionally, such coversands are interpreted as belonging to the late Devensian. Deposits characterised by Unit 1 reflect a lower energy deposition regime and probably represent flood deposits away from the main

channels. A single lithic flake of potential Palaeolithic date was recovered from Unit 3, but it is not diagnostic and may be the result of geological formation processes.

DEPOSITION OF THE ARCHIVE

Archive records, with an inventory, will be deposited with any donated finds from the site at Suffolk County Store. The archive will be quantified, ordered, indexed, cross-referenced and checked for internal consistency.

ACKNOWLEDGEMENTS

Archaeological Solutions would like to thank Ipswich Borough Council, Major Capital Schemes for funding the works (in particular Mr Zach Tebbutt and Mr Roly Arbon for their assistance).

AS would also like to acknowledge the input and advice of Mr James, Rolfe, Suffolk County Council Archaeological Service Conservation Team (SCC AS-CT)

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Concordance of Finds

SPT059 - P7187, Sugar Beet Factory, Sproughton, Ipswich

Feature	Context	Segment	Trench	Description	Spot Date (Pot Only)	Pot Qty	Pottery (g)	CBM (g)	A.Bone (g)	Other Material	Other Qty	Other (g)
	2002			Subsoil						S.Flint	1	3
2015	2016	C		Fill of Ring Gully						S.Flint	1	3

APPENDIX 2 SPECIALIST REPORT (EXCAVATION)

The Struck Flint

Andrew Peachey

The archaeological excavation recovered two pieces (6g) of struck flint contained in Subsoil L2002 and Curvilinear Ditch F2015 (Seg.C). These comprise equally-sized small blades manufactured in mid grey raw flint; produced using systematic core technology reflected in distinctive parallel dorsal scars. This technology is indicative of an origin in the late Mesolithic to early Neolithic periods, but further conclusions are curtailed by the limited context and quantity of the flint blades

APPENDIX 3 SPECIFICATION

SUGAR BEET FACTORY, SPROUGHTON, SUFFOLK

WRITTEN SCHEME OF INVESTIGATION FOR ARCHAEOLOGICAL EXCAVATION

3rd November 2017
Rev 14th November 2017

Archaeological Solutions is an independent archaeological contractor providing the services which satisfy all archaeological requirements of planning applications, including:

Desk-based assessments and environmental impact assessments
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SUGAR BEET FACTORY, SPROUGHTON, SUFFOLK

WRITTEN SCHEME OF INVESTIGATION FOR ARCHAEOLOGICAL EXCAVATION

1 INTRODUCTION

1.1 This Written Scheme of Investigation has been prepared in response to a brief issued by Suffolk County Council Archaeological Service Conservation Team (SCC AS-CT) (James Rolfe, dated 22nd September 2017). It provides for a programme of archaeological excavation in association with condition of planning approval (Planning Approval TBC) for a new commercial development at the former Sugar Beet Factory, Sproughton, Suffolk (NGR TM 135 448). The requirement follows a trial trench evaluation of the site. The WSI has been prepared for the approval of SCC AS-CT and the LPA.

2 COMPLIANCE

2.1 The terms and conditions contained in the SCC AS-CT brief have been read, understood and are accepted. The project will adhere also to the *Code of Conduct* of the Chartered Institute for Archaeologists. The investigation will adhere to the CIfA's *Standard and Guidance for Archaeological Excavation* and *Watching Briefs (both revised 2014);* the SCC AS-CT document *Requirements for Archaeological Excavation 2017* and *Standards for Field Archaeology in the East of England* (Gurney 2003).

3 SITE DESCRIPTION NATURE OF THE DEVELOPMENT & ARCHAEOLOGICAL REQUIREMENTS

3.1 It is proposed to erect a new commercial development on the former Sugar Beet factory site at Sproughton. The site lies adjacent to the A14 interchange at Sproughton, on the edge of the River Gipping. The former factory has been largely demolished and the site largely cleared, excepting a number of structures. The overall site extends to up to 40ha.

3.2 The Suffolk Historic Environment Record (HER) confirms that the site is an area of archaeological potential adjacent to the River Gipping, which would have been a topographically attractive site for multi-period occupation. Evidence of Mesolithic activity in the form of in-situ lithic scatters and features has been found in and adjacent to the site during previous small investigations (HER SPT 003, SPT 017 and SPT 025). Earlier evidence of implements of Palaeolithic date has been found directly adjacent to the site in quarry workings at the

warren Livingston Pit (HER IPS 018). And further Palaeolithic/Mesolithic material was found in quarrying to the south at the Devils Wood Quarry site (HER SPT 018). A recent archaeological evaluation of the site revealed a ring gully and also an oven believed to date to the Iron Age (PCA 2017). Evaluation Trench 15 revealed four ditches, two of which were believed to form a ring gully, and an adjacent keyhole oven. Finds were very sparse, with crumbs of prehistoric pottery and sparse residual and intrusive items and the features remain undated, but considered likely to be of Iron Age date. The eastern part of the site was found to have suffered considerable modern disturbance, with deep deposits of recent made ground.

3.3 The site thus has a potential for palaeoenvironmental remains associated with the location in the river valley and gravel deposits, for features and finds associated with early prehistoric activity, and for evidence of later activity.

3.4 An updated HER search will be obtained prior to preparation of project reports, which will take into account the results of any recent nearby archaeological investigations.

4 REQUIREMENTS MITIGATION STRATEGY COMPRISING EXCAVATION

4.1 All stages of the excavation will be carried out in accordance with the brief, and procedures and guidance contained within *Management of Archaeological Projects 2,* English Heritage (1991) and MoRPHE (HE 2015) and the SCC AS-CT *Requirements for Archaeological Excavation 2017.*

5 MITIGATION STRATEGY DETAILS

5.1 Aims and Objectives

5.1.1 The primary objective is to preserve the archaeological evidence contained within the site by record and to attempt a reconstruction of the history and use of the site.

5.2 Research Priorities

5.2.1 Principally:

- Place the activity in context with the known activity of these dates in the surrounding area
- Characterise the activity present within the site
- Identify topographical/geological/geographical influences on the layout and development of the activity present within the current site and in the surrounding area.

- Environmental reconstruction

5.2.2 The research priorities for the region are set out in Glazebrook (1997) and Brown & Glazebrook (2000) and updated by Medlycott and Brown (2008) and Medlycott (2011). See 9 below. These will be used to discuss the significance of the results of the project.

6 PROGRAMME OF WORKS

6.1 The brief requires:

> **Excavation** Controlled strip, map and excavation of a 25m x 25m area of the site where archaeological features were recorded during the preceding trial trench evaluation (centred on Evaluation Trench 15 – see appended plan), with a contingency to extend the area should remains extend further. If significant features extend beyond the strip area an allowance has been made to extend it to further define such features.

6.2 The site strip will be carried out under archaeological supervision, with a back acting excavator fitted with a wide toothless ditching bucket. The excavation area will be clearly demarcated and machinery will be prevented from tracking across the stripped area until all archaeological investigations are complete, and the site has been signed off by SCC AS-CT and handed back to the developer.

6.3 Archaeological Test Pitting

A further test pit (c.3m x 3m) is to be excavated in the north eastern corner of the site (to 3m depth) in order to characterise the gravel sequence here. The gravel deposits will be recorded by a geoarchaeolgist (Dr David Bescoby)

6.4 Details of proposed work are presented below.

6.5 All of the above stages and operations will be carried out in accordance with MAP2 (EH 1991), MORPHE (HE 2015) and the CIFA *Standard and Guidance for Archaeological Excavations* and *Watching Briefs* (both revised 2014), as well as the documents listed in Section 4 (above). A Method Statement for dealing with archaeological remains, if present, is presented below (Appendix 2).

7 EXCAVATION METHODOLOGY

7.1 As set out in the brief. A Method Statement is presented (Appendix 1).

7.2 The research design and details of proposed work amplify the methodology.

8 SPECIFIC REQUIREMENTS

8.1 As set out in the brief.

8.2 The SCC AS attaches considerable importance to the public archaeology associated with the work. AS also has a commitment to educational work, and will arrange for outreach as required as part of the project. If practical, an Open Day would be arranged, though it is appreciated that is unlikely to be practical on the current site. Visits to local schools and a parish-based presentation of the archaeological remains may also be undertaken.

8.3 A programme of environmental sampling will be undertaken according to guidelines of the document *Environmental Archaeology; A guide to the theory and practice of methods, from sampling and recovery to post-excavation,* Centre for Archaeology Guidelines, English Heritage (now Historic England), 2011. The results of the project will be made known to the Historic England Regional Advisor in Archaeological Science. A method statement for sampling and scientific analysis is presented (Appendix 1).

9 GENERAL REQUIREMENTS

9.1 STAFF

9.1.1 Archaeological Team

As to be set out in the brief. Details, including the name, qualifications and experience of the site director and all other key project personnel are provided (as required) (Appendix 2).

Senior Project Manager	Claire Halpin MCIfA
Project Manager	Jon Murray MCIfA
Project Officer	TBC

All have extensive experience of the archaeology of the local area.

All senior AS Field Staff have experience of the use of metal detectors during excavation projects.

AS is recognised as an Investor in People, a Registered Organisation of the Chartered Institute for Archaeologists and is certified to BSI ISO: 9001 & 14001.

9.2 RESEARCH DESIGN

9.2.1 The previous archaeological evaluation of the site has revealed a ring gully and oven of possible Iron Age date only. The archaeological excavation is to target these features, excavate and record them. The gravel sequence will also be characterised in the north eastern part of the site.

Research Potential

9.2.2 The general research priorities for the region are set out in Glazebrook (1997) and Brown & Glazebrook (2000) and updated by Medlycott and Brown (2008) and Medlycott (2011). Research topics for the Iron Age set out by Bryant (in Brown & Glazebrook 2000, 14-18) include further research into chronologies, precise dating and ceramic assemblages, further research into the development of the agrarian economy (particularly with regard to field systems), research into settlement chronology and dynamics, research into processes of economic and social change during the late Iron Age and Romano-British transition (particularly with regard to the development of Aylesford/Swarling and Roman culture, and also regional differences and tribal polities in the late Iron Age and further research into *oppida* and ritual sites), further analysis of development of social organisation and settlement form/function in the early and middle Iron Age, further research into artefact production and distribution and the Bronze Age/Iron Age transition. Medlycott & Brown (2008) and Medlycott (2011, 29-32) build on these themes, paying particular attention to chronological and spatial development and variation and adding subjects as the Bronze Age/Iron Age transition and manufacturing and industry.

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10 DETAILS OF PROPOSED WORK

10.1 Areas of Excavation

The brief requires formal archaeological excavation of a 25m x 25m area, and a test pit in the north eastern part of the site. A plan is appended to show these areas.

The excavation will address the research priorities listed above

10.2 Excavation Methodology

Methodology for the excavation is contained in Appendix 1.

It is understood that the excavation should comprise the following stages:

- Mechanical stripping of topsoil and overburden within the defined area
- Cleaning/base planning of archaeological features
- Review with SCCAS. This will be an ongoing part of management of the project at regular intervals. Monitoring visits will include all phases of the excavation and will be essential at key points e.g. decisions to vary requirements in the brief or this WSI, any proposal for supplementary machine stripping of layers or features, before any area is treated as completed and backfilled or otherwise degraded.
- Full excavation and recording of the archaeological deposits as specified in the brief and Appendix 1

The above will be carried out according the requirements of the document *Management of Research Projects in the Historic Environment. The MoRPHE Project Managers Guide* (Historic England 2015).

10.3 Archaeological Test-pitting

10.3.1 The brief requires the test-pitting of the gravels in the north eastern part of the site

The test pit will be c.3m x 3m and will be excavated to a depth of 3m. It will aim to characterise the gravel deposits and the presence of any

palaeoliths/faunal remains. This will be undertaken under the supervision of Dr David Bescoby, who will record the gravel deposit sequence, contextualize them and place them in their regional setting.

The recording will include detailed descriptions of the profiles, in addition to the measurement of accurate levels. Should silt or sand deposits be encountered within the profile, these will be sampled and submitted for particle size analysis by an appropriate laboratory. It is not anticipated that there will be extensive preservation of organic remains within the gravel deposits but should such material be identified, appropriate palaeoenvironmental sampling will be undertaken.

The deposits will be sieved using an A-frame sieve with 2cm mesh in order to sub-sample the deposits to assess the presence of Palaeolithic/Mesolithic flint artefacts and debitage. *c*.500 litres will be sieved from each gravel deposit. The sieving exercise will be co-ordinated on site by AS' lithics specialist, Dr Andrew Peachey.

The post-excavation report will comprise detailed stratigraphic descriptions of the profile, accompanied by appropriate photographs and section drawings. An interpretative section through the site will also be created from the data.

AS' preferred geoarchaeological specialist is Dr David Bescoby

10.4 Arrangements for Access

Access is to be arranged by the client.

10.5 Security

Throughout all site works care will be taken to maintain all existing security arrangements and to minimise disruption to landowners and local residents.

10.6 Reinstatement

The initial excavation areas will be subject to simple backfilling as required.

10.7 TIMETABLE FOR THE PROPOSED WORK

10.7.1 As required
Excavation Duration c.1 week following site strip

Composition of the excavation team:

Project Officer, 4 Archaeological Excavators (to be deployed as necessary after the site has been stripped and planned).

10.8 DETAILS OF ALL SPECIALISTS

10.8.1 Details of all specialists are presented (Appendix 2) as required

10.9 METHOD OF RECORDING

10.9.1 Details of the method of recording are presented (Appendix 1) as required.

10.10 LEVELS AND GRADES OF ALL KEY PROJECT STAFF

10.10.1 The levels and grades of all key project staff are presented (Appendix 2) as required. AS is a recognised Investor in People.

10.11 POST-EXCAVATION ANALYSIS & PUBLICATION

10.11.1 This specification includes provision for the post-excavation assessment, analysis and final publication of the project results, to the requirements and timescales set out in the SCC AS brief, and to be agreed with SCC AS following the results of the excavation and assessment. An interim report will be prepared immediately on conclusion of the site works, followed by a Post-Excavation Assessment (PXA). This will follow the guidelines and format outlined in MAP2 (English Heritage 1991) and MoRPHE (Historic England 2015), and the *Draft Post-Excavation Assessments: Notes on a New Guidance Document* (East Anglian Archaeology 2012). The need for a full PXA will be discussed and formally agreed with ASS AC-ST within 4 weeks of the conclusion of fieldwork.

10.11.2 The PXA will present a clear and concise assessment of the archaeological significance and value of the results and identify the research potential, using the *East Anglian Archaeological Research Frameworks*. It will present and Updated Project Design with a timetable for analysis, dissemination and archive deposition.

10.11.3 Provision for full publication of the project results will be made in the appropriate county journal or the relevant national period-

specific journal, depending on the results of the project. As a minimum, a summary will be prepared for the annual round-up of archaeological projects in *Proceedings of the Suffolk Institute for Archaeology & History.*

11 CONSTRAINTS

11.1 All constraints will be identified prior to the start of works.

12 HUMAN REMAINS

12.1 As set out in the brief and also Appendix 1.

13 RISK ASSESSMENT & INSURANCES

13.1 A risk assessment will be prepared prior to the commencement of the field work .

13.2 AS is a member of FAME, formerly the Standing Conference of Archaeological Unit Managers (SCAUM) and operates under the 'Health & Safety in Field Archaeology Manual'.

13.3 AS is a member of the Council for British Archaeology and is insured under their policy for members.

14 ARRANGEMENTS FOR THE LONG TERM STORAGE AND DEPOSITION OF ALL ARTEFACTS

14.1 As set out in the brief and Method Statement (Appendix 1). Any necessary conservation of items will be carried out by the specialists listed in Appendix 2. Long-term storage and deposition of all artefacts will be at the Suffolk County Archive Store and in accordance with *Guidelines for Deposition of Archaeological Archives in Suffolk (2017).*

15 PROJECT ARCHIVE

15.1 The Suffolk County Archive Store will be the depository for the resulting project archive. The deposition of the archive will be agreed prior to the commencement of the fieldwork. A unique event number for the report and monument number for any finds will be obtained from the HER.

16 MONITORING

16.1 It is understood that SCCAS-CT will monitor the project on behalf of the local planning authority.

16.2 ***Notification*** Archaeological Solutions will give SCCAS-CT notification prior to the commencement of the project on site

16.3 ***Monitoring*** SCCAS-CT will be responsible for monitoring progress and standards throughout the project, both on site and during the post-survey/report stages, to ensure compliance with the planning requirement, the approved WSI and any subsequent Brief and approved WSI for further fieldwork, analyses and publication.

16.4 Any variations to the WSI will be agreed in advance with SCCAS-CT prior to them being carried out.

17 CHANGES TO THE SPECIFICATION ACKNOWLEDGEMENT OF SCCAS

17.1 As set out in the brief

18 OASIS REPORTING

18.1 The results of the project will be communicated to the OASIS project. An outline OASIS record will be completed and a copy of the summary record will be included in the archaeological report.

APPENDIX 1

METHOD STATEMENT

The archaeological excavations will be conducted in accordance with the project brief, and the code and guidelines of the Chartered Institute for Archaeologists, and the SCC AS-CT document *Requirements for Archaeological Excavation 2017*

1 Topsoil Stripping

1.1 A mechanical excavator with a 1.8-2 m wide toothless bucket will be used to remove the topsoil. The machine will be powerful enough for a clean job of work and be able to mound spoil neatly, at a safe distance from the trench edges.

1.3 Removal of overburden will be controlled, under the full-time supervision of an experienced archaeologist.

2 Grid and Bench Marks

2.1 Following the stripping the temporary bench marks (with corrected levels) and an accurate site grid (pegs at 5-10 m intervals) will be surveyed.

3 Site Location Plan

3.1 On conclusion of the site stripping, a `site location plan', based on the current Ordnance Survey 1:1250 map and indicating site north, will be prepared. This will be supplemented by an `area plan' at 1:200 (or 1:100) which will show the location of the area(s) investigated in relationship to the development area, OS grid and site grid. The location of the OS bench marks used and site TBMs will also be indicated.

4 Manual Cleaning & Base Planning of Archaeological Features

4.1 As set out in the brief.

4.2 Ahead of any excavation a complete site plan will be composed. The principal purpose will be to quantify the composition of the site from the outset in order to agree a detailed excavation strategy.

5 Archaeological Excavation

The archaeological features will be excavated according to the requirements of the SCCAS brief

Archaeological Excavation Strategy

Negative features will be half-sectioned and box sections may be excavated through more homogeneous layers as appropriate. These may provide a window into any underlying deposits present on the site.

Where archaeological features are encountered at a 'high' level; e.g. cutting earlier horizons, they will be base planned, cleaned, hand excavated and recorded prior to excavation proceeding to the underlying archaeological horizons.

100% excavation will be undertaken of

- **structural features;** (including post holes unless clearly not part of a recognisable structure)

- **surviving internal floors;** e.g. within ring gullies, or buildings, will be fully exposed, carefully cleaned, planned (at 1:50 or 1:20) and photographed, prior to being hand excavated to reveal possible underlying features. Where appropriate these surfaces will be excavated in a grid of $1m^2$ test pits, in 5cm spits in order to assess artefact density and distribution.

- **positive features obscuring earlier features;** will be cleaned, photographed and planned (at 1:50 or 1:20) prior to being excavated stratigraphically and in phase. Component deposits or structural elements will be recorded on *pro-forma* recording (Context) sheets and in section if appropriate prior to 100% excavation.

- **hearths;** will be hand cleaned and planned, hand excavation of 50% of the feature will be carried out stratigraphically and in phase in order for a profile to be drawn and a full assessment the component deposits be made. Additional environmental and specialist sampling will be carried out on specialist advice, prior to 100% hand excavation of the feature.

- **graves or animal burials;** each grave cut will be cleaned, fully defined and planned. The grave fill(s) will be hand excavated in phase and any skeletal remains carefully cleaned and exposed; environmental bulk samples will be taken from the grave fill(s) and abdominal cavity (for stomach contents, kidney stones etc) as appropriate. The exposed skeletal remains will be recorded using *pro forma* recording (Skeleton) sheets photographed and

planned at 1:20 or 1:10 dependant on size and complexity. Small finds such as grave goods, shroud pins or coffin fittings will be will be three dimensionally recorded.

- **industrial features**; (pottery kilns, furnaces etc) will be excavated stratigraphically and in phase. Sections will be recorded through the length of each feature (large features such as a limekiln may be quadranted) incorporating any surviving flue or stoke hole allowing a full assessment the component deposits be made and any industrial waste, or structural components (e.g. kiln furniture, tuyeres) to be identified. These features will photographed and planned at 1:20. All industrial features will be sampled for appropriate scientific analysis (e.g. archaeometallurgical, artefactual and environmental analysis). The document Archaeomaetallurgy (English Heritage Centre for Archaeology Guidelines 2001) will be used to give guidance to the project. Advice on archaeomagnetic dating will be obtained from the relevant specialists (e.g. Dr Cathy Batt, University of Bradford) as necessary.

wells; will be hand excavated stratigraphically and in phase. The backfills of the well shaft will be 'half-sectioned' to a maximum depth of 1.2m. The deposits revealed will be recorded using *pro-forma* recording (Context) sheets, photographed and drawn at 1:10 or 1:20 as appropriate, any lining or structure will be cleaned and recorded prior to 100% excavation and investigation of any possible construction cut. Excavation will only continue beyond a depth of 1.2m once the area of excavation has been made safe either by 'stepping' or shoring. Specialist advice (such as Maisie Taylor) will be sought if a preserved wooden lining or water-logged remains are encountered.

50% excavation will be undertaken of

discrete features, pits, post and stake holes (the latter which are clearly not part of a structure). Pits with a suggestion of 'placed' deposits or which contain significant artefactual/ecofactual assemblages will be 100% excavated as required, as will other features to be agreed with SCC

AS-CT on site, as set out in the SCC AS-CT document *Requirements for*

Archaeological Excavation 2017

10% excavation will be undertaken of

simple linear features not directly associated with core settlement, with more detailed investigation of intersections/terminals/re-cuts/specialised deposits etc

A minimum of 25% excavation will be undertaken of linear features associated with settlement in hand excavated slots up to 2m in length.

Building remains

Building remains may be encountered. These structures are likely to comprise stake holes, post holes, beam slots, gullies and, more rarely masonry foundations or low masonry walls. Associated features may be represented e.g. stone, tile floors, cobbled yard surfaces and hearths.

These features will be fully excavated in plan/phase.

Where encountered the structural remains of early buildings will be hand cleaned to reveal their full extent and then planned at 1:50 or 1:20 as appropriate.

The internal areas will be stratigraphically excavated and recorded by quadrants where appropriate to establish the sequence of post-use deposition and abandonment and to identify any *in situ* occupation or floor surfaces.

Any surviving walls or foundations of structures will be cleaned and recorded using *pro forma* recording (Masonry) sheets. Elevations will be drawn of external and internal wall faces as appropriate. Sections will be excavated and recorded through the fabric of the walls in order to fully understand their construction.

Samples of worked stone, early tile and any bonding or render material will be taken for specialist analysis.

Waterlogged Deposits/Remains

Should deposits such as the above be encountered, provision has been made for controlled hand excavation and sampling. Appropriate specialists will be on hand to advise as necessary.

All industrial features will be sampled for appropriate scientific analysis (eg archaeometallurgical, artefactual and environmental analysis). The document Archaeomaetallurgy (English Heritage Centre for Archaeology Guidelines 2001) will be used to give guidance to the project.

Sieving Strategy

Dry-sieving of onsite deposits will be carried out to enhance finds recovery.

6 Written Record

6.1 All archaeological deposits and artefacts encountered during the course of the excavation will be fully recorded on the appropriate context, finds and sample forms.

6.2 The site will be recorded using AS's excavation manual which is directly comparable to those used by other professional archaeological organisations, including English Heritage's (now Historic England's) own Central Archaeological Service. Information contained on the site record forms will be entered into a database programme to enable computerised manipulation of the data. The data entry will be undertaken in tandem with the fieldwork.

7 Photographic Record

7.1 An adequate photographic record of the investigations will be made. It will include black and white prints and colour transparencies (on 35mm) illustrating in both detail and general context the principal features and finds discovered. It will also include 'working and promotional shots' to illustrate more generally the nature of the archaeological operations. The black and white negatives and contacts will be filed, and the colour transparencies will be mounted using appropriate cases. All photographs will be listed and indexed.

8 Drawn Record

8.1 A record of the full extent, in plan, of all archaeological deposits encountered will be drawn on A1 permatrace. The plans will be related to the site, or OS, grid and be drawn at a scale of 1:50. Where appropriate, e.g. recording an inhumation, additional plans at 1:10 will be produced. The sections of all archaeological contexts will be drawn at a scale of 1:10 or, where appropriate, 1:20. The OD height of all principal strata and features will be calculated and indicated on the appropriate plans and sections.

9 Recovery of Finds

GENERAL

The principal aim is to ensure that adequate provision is made for the recovery of finds from all archaeological deposits.

The Small Finds, e.g. complete pots or metalwork, from all excavations will be 3-Dimensionally recorded.

A metal detector will be used to enhance finds recovery. The metal detector survey will be conducted on conclusion of the topsoil stripping, and thereafter during the course of the excavation. The spoil tips will also be surveyed. Regular metal detector surveys of the excavation area and spoil tips will reduce the loss of finds to unscrupulous users of metal detectors (treasure hunters). All non-archaeological staff working on the site should be informed that the use of metal detectors is forbidden.

In the event of items considered as being defined as treasure being found, then the requirements of the Treasure Act 1996 (with subsequent amendments) will be followed. Any such finds encountered during the investigation will be reported immediately to the Suffolk Portable Antiquities Scheme Finds Liaison Officer who will in turn inform the Coroner within 14 days

WORKED FLINT

When flint knapping debris is encountered large-scale bulk samples will be taken for sieving.

POTTERY

It is important that the excavators are aware of the importance of pottery studies and therefore the recovery of good ceramic assemblages. A ceramic specialist will visit during the excavations as required, to provide on-site advice.

The pottery assemblages are likely to provide important evidence to be able to date the structural history and development of the site.

The most important assemblages will come from 'sealed' deposits which are representative of the nature of the occupation at various dates, and indicate a range of pottery types and forms available at different periods.

'Primary' deposits are those which contain sherds contemporary with the soil fill and in simple terms this often means large sherds with unabraded edges. The sherds have usually been deposited shortly after being broken and have remained undisturbed. Such sherds are more reliable in indicating a more precise date at which the feature was 'in use'. Conversely, 'secondary' deposits are those which often have small, heavily abraded sherds lacking obvious conjoins. The sherds are derived from earlier deposits.

The pottery specialist is likely to seek important or key groups which will be studied in detail.

If several sherds from a single pot are found, the other half of the feature will be dug to obtain conjoins and a more complete pottery profile.

METALWORKING

The excavation team will be made fully aware of the potential presence of any early metalworking evidence. It is envisaged that where there is evidence for industrial activity, large technological residues will be collected by hand. Separate smaller samples will be collected for micro-slags, as detailed in the EH/HMS *Archaeometallurgy in Archaeological Projects*, Centre for Archaeology Guidelines 2001. Appropriate specialists (e.g. Jane Cowgill/Oxford University Research Laboratory for Archaeology) will be invited to visit the site if significant deposits (e.g. slag) are encountered.

The requirements of the Treasure Act 1996 (with subsequent amendments) will be adhered to, in the event of significant items of metalwork being recovered.

HUMAN BONE

Human remains will be encountered. AS will obtain an exhumation licence for human remains from the Ministry of Justice.

Post-excavation analysis will follow the guidelines outlined in the English Heritage document *Human Bones from Archaeological Sites, Guidelines for producing assessment documents and analytical reports*, Centre for Archaeology Guidelines 2002.

ANIMAL BONE

Animal bone is one of the principal indicators of diet. As with pottery the excavators will be alert to the distinction of primary and secondary deposits. It will also be important that the bone assemblages are derived from dateable contexts. All animal bone will be collected.

SAMPLING

Provision will be made for the sampling of appropriate materials for specialist and/or scientific analysis (e.g. radiocarbon dating, environmental analysis). The location of samples will be 3-dimensionally recorded and they will also be shown on an appropriate plan. AS has its own environmental sampling equipment (including a pump and transformer) and, if practical, provision will be made to process the soil samples during the fieldwork stage of the project.

The programme of environmental sampling will adhere to the guidelines, in particular, it will accord with *Model clauses on Archaeological Science for Briefs and Specifications* (EH Advisors for Archaeological Science from all 9 regions), December 2000 and the document *Environmental Archaeology; a guide to the theory and practice of methods, from sampling and recovery to post-excavation*, English Heritage, Centre for Archaeology Guidelines 2011.

If waterlogged remains are found advice on sampling will be obtained on site from Dr Rob Scaife/Dr John Summers. Dr Rob Scaife/Dr John Summers and AS will seek advice from the Historic England Regional Scientific Advisor if significant environmental remains are found.

The study of environmental archaeology seeks to understand the local and near-local environment of the site in relation to phases of human activity and as such is an important and integral part of any archaeological study. The evaluation report notes the potential of deposits within the site for the preservation of charred plant remains.

Environmental remains, both faunal and botanical, along with pedological and sedimentological analyses may be used to understand the environment and the impact of human activity.

There may be a potential for the recovery of a range of environmental remains (ecofacts) from which data pertaining to past environments, land use and agricultural economy should be forthcoming.

To realise the potential of the environmental material encountered, a range of specialists from different disciplines is likely to be required. The ultimate goal will be the production of an interdisciplinary environmental study which can be of value to an understanding of, and integrated with, the archaeology.

Organic remains may allow study of the contemporary landscape (Romano-British occupation/industrial/agricultural impact and land use) and also changes after the abandonment of the site.

The nature of the environmental evidence

Aspects of sampling and analysis may be divided into four broad categories; faunal remains, botanical remains, soils/sediments and radiocarbon dating measurements.

a) Faunal remains: These comprise bones of macro and microfauna, birds, molluscs and insects.

a.i) Bones: The study of the animal bone remains, in particular domestic mammals, domestic birds and marine fish will enhance

understanding of the development of the settlement in terms of the local economy and also its wider influence through trade. The study of the small animal bones will provide insight into the immediate habitat of any settlement.

The areas of study covered may include all of the domestic mammal and bird species, wild and harvested mammal, birds, marine and fresh water fish in addition to the small mammals, non-harvest birds, reptiles and amphibia.

Domestic mammalian stock, domestic birds and harvest fish

The domestic animal bone will provide insight into the different phases of development of any occupation and how the population dealt with the everyday aspect of managing and utilising all aspects of the animal resource.

Small animal bones

Archaeological excavation has a wide role in understanding humans' effect on the countryside, the modifications to which have in turn affected and continue to affect their own existence. Small animals provide information about changing habitats and thereby about human impact on the local environment.

a.ii) Molluscs: Freshwater and terrestrial molluscs may be present in ditch and pit contexts which are encountered. Sampling and examination of molluscan assemblages if found will provide information on the local site environment including environment of deposition.

a.iii) Insects: If suitable waterlogged contexts (pit, pond and ditch fills) are encountered (which can potentially be expected to be encountered on the project), sampling and assessment will be carried out in conjunction with the analysis of waterlogged plant remains (primarily seeds) and molluscs. Insect data may provide information on local site environment (cleanliness etc.) as well as proxies for climate and vegetation communities.

b) Botanical remains: Sampling for seeds, wood, pollen and seeds are the essential elements which will be considered. The former are most likely to be charred but possibly also waterlogged should any wells/ponds be encountered.

b.i) Pollen analysis: Sampling and analysis of the primary fills and any stabilisation horizons in ditch and pit contexts which may provide information on the immediate vegetation environment including aspects of agriculture, food and subsistence. These data will be integrated with seed analysis.

b.ii) Seeds: It is anticipated that evidence of cultivated crops, crop processing debris and associated weed floras will be present in ditches and pits. If waterlogged features/sediments are encountered (for example, wells/ponds) these will be sampled in relation to other environmental elements where appropriate (particularly pollen, molluscs and possibly insects).

c) Soils and Sediments: Characterisation of the range of sediments, soils and the archaeological deposits are regarded as crucial to and an integral part of all other aspects of environmental sampling. This is to afford primary information on the nature and possible origins of the material sampled. It is anticipated that a range of 'on-site' descriptions will be made and subsequent detailed description and analysis of the principal monolith and bulk samples obtained for other aspects of the environmental investigation. Where considered necessary, laboratory analyses such as loss on ignition and particle size may also be undertaken. A geoarchaeologist will be invited to visit the site as necessary to advise on sampling.

d) Radiocarbon dating: Archaeological/artifactual dating may be possible for most of the contexts examined, but radiocarbon dating should not be ruled out

Sampling strategies

Provision will be made by the environmental co-ordinator that suitable material for analysis will be obtained. Samples will be obtained which as far as possible will meet the requirements of the assessment and any subsequent analysis.

a) Soil and Sediments: Samples taken will be examined in detail in the laboratory. An overall assessment of potential will be carried out. Analysis of particle size and loss on ignition, if required would be undertaken as part of full analysis if assessment demonstrates that such studies would be of value.

b) Pollen Analysis: Contexts which require sampling may include stabilisation horizons and the primary fills of the pits and ditches, and possibly organic well/pond fills. It is anticipated that in some cases this will be carried out in conjunction with sampling for other environmental elements, such as plant macrofossils, where these are also felt to be of potential.

c) Plant Macrofossils: Principal contexts will be sampled directly from the excavation for seeds and associated plant remains. It is anticipated that primarily charred remains will be recovered, although provision for any waterlogged sequences will also be made (see below). Sampling for the former will, where possible (that is, avoiding contamination) comprise samples of an average of 40-60 litres which will be floated in the AS facilities for extraction of charred plant

remains. Both the flot and residues will be kept for assessment of potential and stored for any subsequent detailed analysis. The residues will also be examined for artifactual remains and also for any faunal remains present (cf. molluscs). Where pit, ditch, well or pond sediments are found to contain waterlogged sediments, principal contexts will be sampled for seeds and insect remains. Standard 5 litre+ samples will be taken which may be sub-sampled in the laboratory for seed remains if the material is found to be especially rich. The full sample will provide sufficient material for insect assessment and analysis. Where wood is found, representative material will be sampled during the excavation and stored wet/moist to facilitate later identification.

d) Bones: Predicting exactly how much of what will be yielded by the excavation is clearly very difficult prior to excavation and it is proposed that in order to efficiently target animal bone recovery there should be a system of direct feedback from the archaeozoologist to the site staff during the excavation, allowing fine tuning of the excavation strategy to concentrate on the recovery of animal bones from features which have the highest potential. This will also allow the faunal remains to materially add to the interpretation as the excavation proceeds. Liaison with other environmental specialists will need to take place in order to produce a complete interdisciplinary study during this phase of activity. In addition, this feedback will aid effective targeting of the post-excavation analysis.

e) Insects: If contexts having potential for insect preservation are found, samples will be taken in conjunction with waterlogged plant macrofossils. Samples of 5 litres will suffice for analysis and will be sampled adjacent to waterlogged seed samples and pollen; or where insufficient context material is available provision will be made for exchange of material between specialists.

f) Molluscs: Terrestrial and freshwater molluscs. Samples will be taken from a column from suitable ditches. Pits may be sampled, based on the advice of the Environmental Consultant and / or Historic England Regional Advisor. Provision will also be made for molluscs obtained from other sampling aspects (seeds) to be examined and/or kept for future requirements.

g) Archiving: Environmental remains obtained should be stored in conditions appropriate for analysis in the short to medium term, that is giving the ability for full analysis at a later date without any degradation of samples being analysed. The results will be maintained as an archive at AS and supplied to the HE regional co-ordinator as requested.

Waterlogged Deposits/Remains

Should waterlogged deposits (such as wells/deep ditches) be encountered, provision has been made for controlled hand excavation and sampling. Dr Rob Scaife/Dr John Summers will visit to advise of sampling as required, and AS will take monolith samples as necessary for the recovery of palaeoenvironmental information and dating evidence.

Scientific/Absolute Dating

- Samples will be obtained for potential scientific/absolute dating as appropriate (eg Carbon-14).

FINDS PROCESSING

The Project Manager (and Project Officer) will have overall responsibility for the finds and will liaise with AS's own finds personnel and the relevant specialists. A person with particular responsibility for finds on site will be appointed for the excavation.
The person will ensure that the finds are properly labelled and packaged on site for transportation to AS's field base. The finds processing will take place in tandem with the excavations and will be under the supervision of AS's Finds Officer.

The finds processing will entail first aid conservation, cleaning (if appropriate), marking (if appropriate), categorising, bagging, labelling, boxing and basic cataloguing (the compilation of a Small Finds Catalogue and quantification of bulk finds), i.e., such that the finds are ready to be made available to the specialists.

The Finds Officer, having been advised by the Project Officer and relevant specialists, will select material for conservation. AS's Finds Officer, in conjunction with the Project Officer, will arrange for the specialists to view the finds for the purpose of report writing.

APPENDIX 2
ARCHAEOLOGICAL SOLUTIONS LIMITED: PROFILES OF STAFF & SPECIALISTS

ARCHAEOLOGICAL SOLUTIONS LIMITED: PROFILES OF STAFF & SPECIALISTS

DIRECTOR
Claire Halpin BA MCIfA

Qualifications: Archaeology & History BA Hons (1974-77). Oxford University Dept for External Studies In-Service Course (1979-1980). Member of Institute of Archaeologists since 1985: IFA Council member (1989-1993)
Experience: Claire has 25 years' experience in field archaeology, working with the Oxford Archaeological Unit and English Heritage's Central Excavation Unit (now the Centre for Archaeology). She has directed several major excavations (e.g. Barrow Hills, Oxfordshire, and Irthlingborough Barrow Cemetery, Northants), and is the author of many excavation reports e.g. St Ebbe's, Oxford: *Oxoniensia* 49 (1984) and 54 (1989). Claire moved into the senior management of field archaeological projects with Hertfordshire Archaeological Trust (HAT) in 1990, and she was appointed Manager of HAT in 1996. From the mid 90s HAT has enlarged its staff complement and extended its range of skills. In July 2003 HAT was wound up and Archaeological Solutions was formed. The latter maintains the same staff complement and services as before. AS undertakes the full range of archaeological services nationwide.

DIRECTOR
Tom McDonald MCIfA

Qualifications: Member of the CIfA
Experience: Tom has twenty years' experience in field archaeology, working for the North-Eastern Archaeological Unit (1984-1985), Buckinghamshire County Museum (1985), English Heritage (Stanwick Roman villa (1985-87) and Irthlingborough barrow excavations, Northamptonshire (1987)), and the Museum of London on the Royal Mint excavations (1986-7)., and as a Senior Archaeologist with the latter (1987-Dec 1990). Tom joined HAT at the start of 1991, directing several major multi-period excavations, including excavations in advance of the A41 Kings Langley and Berkhamsted bypasses, the A414 Cole Green bypass, and a substantial residential development at Thorley, Bishop's Stortford. He is the author of many excavation reports, exhibitions etc. Tom is AS's Health and Safety Officer and is responsible for site management, IT and CAD. He specialises in prehistoric and urban archaeology, and is a Lithics Specialist.

OFFICE MANAGER (ACCOUNTS)
Rose Flowers

Experience: Rose has a very wide range of book-keeping skills developed over many years of employment with a range of companies, principally Rosier Distribution Ltd, Harlow (now part of Securicor) where she managed eight

accounts staff. She has a good working knowledge of both accounting software and Microsoft Office.

OFFICE ADMINISTRATOR
Sarah Powell

Experience: Sarah is an experienced and efficient administrative assistant with more than ten years' experience of working in a variety of office environments. She is IT literate and proficient in the use of Microsoft Word, particularly Microsoft Excel. She has completed NVQ 2 & 3 in Administration and Office Skills. She recently attended and completed a course in Microsoft Excel – Advanced Level.

OFFICE MANAGER (LOGISTICS)
Jennifer O'Toole

Experience: Jennifer's professional career has included a variety of roles such as Operations Director with The Logistics Network Ltd, Tutor/Trainer & Deputy Manager with Avanta TNG and Training and Assessment Consultant with PDM Training and Consultancy Ltd. Jennifer's career history emphasises her organisational and interpersonal skills, especially her ability to efficiently liaise with and manage individuals on various levels, and provide a range of supportive/ administrative services. Jennifer holds professional qualifications in a number of subjects including recruitment practice, customer service, workplace competence and health and safety. In her role with Archaeological Solutions Ltd, Jennifer has assisted in the delivery of the company's services on a variety of projects as well as co-ordinating recruitment and providing a range of complex administrative support.

SENIOR PROJECTS MANAGER
Jon Murray BA MCIfA

Qualifications: History with Landscape Archaeology BA Hons (1985-1988).
Experience: Jon has been employed by HAT (now AS) continually since 1989, attaining the position of Senior Projects Manager. Jon has conducted numerous archaeological investigations in a variety of situations, dealing with remains from all periods, throughout London and the South East, East Anglia, the South and Midlands. He is fluent in the execution of (and now projectmanaes) desk-based assessments/EIAs, historic building surveys (for instance the recording of the Royal Gunpowder Mills at Waltham Abbey prior to its rebirth as a visitor facility), earthwork and landscape surveys, all types of evaluations/excavations (urban and rural) and environmental archaeological investigation (working closely with Dr Rob Scaife), preparing many hundreds of archaeological reports dating back to 1992. Jon has also prepared numerous publications; in particular the nationally-important Saxon site at Gamlingay, Cambridgeshire (*Anglo-Saxon Studies in Archaeology & History*). Other projects published include Dean's Yard, Westminster (*Medieval Archaeology*), Brackley (*Northamptonshire Archaeology*), and a medieval cemetery in Haverhill he excavated in 1997 (*Proceedings of the Suffolk Institute of Archaeology).* Jon is a member of the senior management team, principally preparing specifications/tenders, co-ordinating and managing the field teams. He also has extensive experience in preparing and

supporting applications for Scheduled Monument Consent/Listed Building Consent

PROJECT OFFCICER
Gareth Barlow MSc

Qualifications: University of Sheffield, MSc Environmental Archaeology & Palaeoeconomy (2002-2003)
King Alfred's College, Winchester, Archaeology BA (Hons) (1999-2002)
Experience: Gareth worked on a number of excavations in Cambridgeshire before pursuing his degree studies, and worked on many archaeological projects across the UK during his university days. Gareth joined AS in 2003 and has worked on numerous archaeological projects throughout the South East and East Anglia with AS. Gareth was promoted to Supervisor in the Summer 2007. Gareth is qualified in the Construction Skills Certification Scheme (CSCS) and is a qualified in First Aid at Work (St Johns Ambulance).

PROJECT OFFCICER
Vincent Monahan BA

Qualifications: University College Dublin: BA Archaeology (2007-2012)
Experience: Professionally, Vincent has worked for various archaeological groups and projects including the Stonehenge Riverside Project (Site Assistant/ Supervisor; 2008), University College Dublin Archaeological Society (Auditor; 2009-2010) and the Castanheiro do Vento Research Project (Site Assistant/ Supervisor; 2009-2010 (seasonal)). Vincent has gained good experience of archaeological fieldwork including excavation, various sampling techniques and on-site recording. He also gained experience of museum-grade curatorial practice during his undergraduate degree.

SUPERVISOR
Kerrie Bull BSc

Qualifications: University of Reading: BSc Archaeology (2008-2011)
Experience: During her undergraduate degree at the University of Reading Kerrie worked on the Lyminge Archaeological Project (2008), the Silchester 'Town Life' Project (2009) and the Ecology of Crusading Research Programme (2011). Through her academic and professional career, Kerrie has gained good experience of archaeological fieldwork and post-excavation techniques.

SUPERVISOR
Thomas Muir BA MSc
Qualifications: University of Edinburgh: BA Archaeology (2007-2011)
University of Edinburgh: MSc Mediterranean Archaeology (2011-2012)
Experience: Thomas is an affiliate member of the Chartered Institute for Archaeologists. Throughout his higher education, Thomas volunteered on research excavations at sites including Port Sec Sud, Bourges (France; 2008), the Hill of Barra (the Hillforts of Strathdon Project; 2010) and Prastio Mesorotsos, Cyprus (2010-2012). In 2013 Thomas returned to Prastio

Mesorotsos – a research project run by the Cyprus American Archaeological Institute – in a supervisory capacity. Professionally, Thomas has worked for CFA Archaeology (2013) and thereafter AS Ltd. Through his academic and professional career, Thomas has gained a broad working knowledge of archaeological fieldwork and post-excavation techniques including environmental sampling, on-site recording and digital archiving.

SUPERVISOR
Katie Lee-Smith BA MA

Qualifications: Durham University (2010 - 2013) BA Archaeology
Leiden University (2014 - 2015) MA Archaeology and Museum Studies

Experience: Katie has a good academic record, including a sound background in British archaeology, and from 2008 has engaged in a number of work experience roles, including fieldwork with the *Ambel Project* (Spain), outreach work with Suffolk Archaeology and an internship at the British Museum. She also has a practical understanding of geographical information systems, CAD and photographic and other software. Prior to joining Archaeological Solutions Ltd, Katie held the role of Assistant Supervisor with Oxford Archaeology, a company she originally joined as a graduate trainee following her undergraduate degree. In this role she gained a broad experience of professional fieldwork, including detailed recording/ interpretation, finds and environmental processing, and project supervisory roles. In 2016, Katie also spent a short period as a research assistant at Leiden University. Katie holds a CSCS accreditation.

SUPERVISOR
Freya Townley BA (Hons) MSc

Qualifications: University of Warwick (2012 - 2015) BA Ancient History and Classical Archaeology
University of the Highlands and Islands (2015 - 2016) MSc Archaeological Practice

Experience: Freya has an excellent academic record, culminating in a Masters in Archaeological Practice at the University of the Highlands and Islands. This course provided a good grounding in fieldwork techniques including geophysical prospection and excavation. In addition to her academic achievements, Freya has gained practical experience as a volunteer with various projects/ organisations including Skylarks Experimental Archaeology (Nottinghamshire) and Tankerness House Museum (Orkney). In 2016, Freya worked as an intern at the Highland Council Historic Environment Record (HER) and before joining Archaeological Solutions Ltd, worked in a voluntary capacity at South Yorkshire HER. She has also completed the CIfA training course *Professionalism in Archaeology* and holds a CSCS accreditation.

SUPERVISOR
Niomi Edwards BSc (Hons) MSc

Qualifications: Bridgend College (2010 - 2012) BTEC National Diploma in Applied Science (Forensics)
Bournemouth University (2012 - 2015) BSc Archaeology, Anthropology and Forensic Science
Bournemouth University (2015 - 2016) MSc Forensic Anthropology

Experience: Niomi's higher education has provided her with a solid foundation in archaeological theory and practice. With Bournemouth

University she undertook 16 weeks of archaeological fieldwork training as part of the Professional Archaeological Studies and Training Project, and also participated in the simulated excavation of a mass grave. Professionally, Niomi has worked as a trainee with Cotswold Archaeology, where she furthered her practical knowledge of fieldwork skills on a number of commercial projects. Niomi holds a CSCS accreditation.

PROJECT OFFICER (DESK-BASED ASSESSMENTS)
Kate Higgs MA (Oxon)

Qualifications: University of Oxford, St Hilda's College Archaeology & Anthropology MA (Oxon) (2001-2004)
Experience: Kate has archaeological experience dating from 1999, having taken part in clearance, surveying and recording of stone circles in the Penwith area of Cornwall. During the same period, she also assisted in compiling a database of archaeological and anthropological artefacts from Papua New Guinea, which were held in Scottish museums. Kate has varied archaeological experience from her years at Oxford University, including participating in excavations at a Roman amphitheatre and an early church at Marcham/ Frilford in Oxfordshire, with the Bamburgh Castle Research Project in Northumberland, which also entailed the excavation of human remains at a Saxon cemetery, and also excavating, recording and drawing a Neolithic chambered tomb at Prissé, France. Kate has also worked in the environmental laboratory at the Museum of Natural History in Oxford, and as a finds processor for Oxford's Institute of Archaeology. Since joining AS in November 2004, Kate has researched and authored a variety of reports, concentrating on desk-based assessments in advance of archaeological work and historic building recording.

ASSISTANT PROJECTS MANAGER (POST-EXCAVATION)
Andrew Newton MPhil PCIFA

Qualifications: University of Bradford, MPhil (2002-04)
University of Bradford, BSc (Hons) Archaeology (1998-2002)
University of Bradford, Dip Professional Archaeological Studies (2002)
Experience: Andrew has carried out geophysical surveys for GeoQuest Associates on sites throughout the UK and has worked as a site assistant with BUFAU. During 2001 he worked as a researcher for the Yorkshire Dales Hunter-Gatherer Research Project, a University of Bradford and Michigan State University joint research programme, and has carried out voluntary work with the curatorial staff at Beamish Museum in County Durham. Andrew is a member of the Society of Antiquaries of Newcastle-upon-Tyne and a Practitioner Member of the Institute for Archaeologists. Since joining AS in early Summer 2005, as a Project Officer writing desk-based assessments, Andrew has gained considerable experience in post-excavation work. His principal role with AS is conducting post-excavation research and authoring site reports for publication. Significant post-excavation projects Andrew has been responsible for include the Ingham Quarry Extension, Fornham St. Genevieve, Suffolk – a site with large Iron Age pit clusters arranged around a possible wetland area; the late Bronze Age to early Iron Age enclosure and early Saxon cremation cemetery at the Chalet Site, Heybridge, Essex; and, Church Street, St Neots, Cambridgeshire, an excavation which identified the continuation of the Saxon settlement previously investigated by Peter Addyman in the 1960s. Andrew also writes and co-ordinates

EnvironmentalImpact Assessments and has worked on a variety of such projects across southern and eastern England. In addition to his research responsibilities Andrew undertakes outreach and publicity work and carries out some fieldwork.

PROJECT OFFICER (POST-EXCAVATION)
Antony Mustchin BSc MSc DipPAS

Qualifications: University of Bradford BSc (Hons) Bioarchaeology (1999-2003)
University of Bradford MSc Biological Archaeology (2004-2005)
University of Bradford Diploma in Professional Archaeological Studies (2003)

Experience: Antony has over 14 years' experience in field archaeology, gained during his higher education and in the professional sector. Commercially in the UK, Antony has worked for Archaeology South East (2003), York Archaeological Trust (2004) and Special Archaeological Services (2003). He has also undertaken a six-month professional placement as Assistant SMR Officer/ Development Control Officer with Kent County Council (2001-2002). Antony's academic interests have led to his gaining considerable research excavation experience across the North Atlantic region. He has worked for projects and organisations including the Old Scatness & Jarlshof Environs Project, Shetland (2000-2003), the Viking Unst Project, Shetland (2006-2007), the Heart of the Atlantic Project Føroys Fornminnissavn, Faroe Islands (2006-2008) and City University New York/ National Museum of Denmark/ Greenland National Museum and Archives, Greenland (2006 & 2010). Shortly before Joining Archaeological Solutions in November 2011, Antony spent three years working for the Independent Commission for the Location of Victims Remains, assisting in the search for and forensic recovery of 'the remains of victims of paramilitary violence ("The Disappeared") who were murdered and buried in secret arising from the conflict in Northern Ireland'. Antony has a broad experience of fieldwork and post-excavation practice including specialist (archaeofauna), teaching, supervisory and directing-level posts.

POTTERY, LITHICS AND CBM RESEARCHER
Andrew Peachey BA MCIfA

Qualifications: University of Reading BA Hons, Archaeology and History (1998-2001)

Experience: Andrew joined AS (formerly HAT) in 2002 as a pottery researcher, and rapidly expanded into researching CBM and lithics. Andrew specialises in prehistoric and Roman pottery and has worked on numerous substantial assemblages, principally from across East Anglia but also from southern England. Recent projects have included a Neolithic site at Coxford, Norfolk, an early Bronze Age domestic site at Shropham, Norfolk, late Bronze Age material from Panshanger, Hertfordshire, middle Iron Age pit clusters at Ingham, Suffolk and an Iron Age and early Roman riverside site at Dernford, Cambridgshire. Andrew has worked on important Roman kiln assemblages, including a Nar Valley ware production site at East Winch Norfolk, a face-pot producing kiln at Hadham, Hertfordshire and is currently researching early Roman Horningsea ware kilns at Waterbeach, Cambridgeshire. Andrew is an enthusiastic member of the Study Group for Roman Pottery, and also

undertakes pottery and lithics analysis as an 'external' specialist for a range of archaeological units and local societies in the south of England.

POTTERY RESEARCHER
Peter Thompson MA

Qualifications: University of Bristol BA (Hons), Archaeology (1995-1998)
University of Bristol MA; Landscape Archaeology (1998-1999)
Experience: As a student, Peter participated in a number of projects, including the excavation of a Cistercian monastery cemetery in Gascony and surveying an Iron Age promontory hillfort in Somerset. Peter has two years excavation experience with the Bath Archaeological Trust and Bristol and Region Archaeological Services which includes working on a medieval manor house and a post-medieval glass furnace site of national importance. Peter joined HAT (now AS) in 2002 to specialise in Iron Age, Saxon and medieval pottery research and has also produced desk-based assessments. Pottery reports include an early Iron pit assemblage and three complete Early Anglo-Saxon accessory vessels from a cemetery in Dartford, Kent.

PROJECT OFFICER (OSTEOARCHAEOLOGY)
Dr Julia Cussans

Qualifications: University of Bradford, PhD (2002-2010)
University of Bradford, BSc (Hons) Bioarchaeology (1997-2001)
University of Bradford, Dip. Professional Archaeological Studies (2001)
Experience: Julia has over 14 years of archaeozoological experience. Whilst undertaking her part time PhD she also worked as a specialist on a variety of projects in northern Britain including Old Scatness (Shetland), Broxmouth Iron Age Hillfort and Binchester Roman Fort. Additionally Julia has extensive field experience and has held lead roles in excavations in Shetland and the Faroe Islands including, Old Scatness, a large multi-period settlement centred on an Iron Age Broch; the Viking Unst Project, an examination of Viking and Norse houses on Britain's most northerly isle; the Laggan Tormore Pipeline (Firths Voe), a Neolithic house site in Shetland; the Heart of the Atlantic Project, an examination of Viking settlement in the Faroes and Við Kirkjugarð, an early Viking site on Sanday, Faroe Islands. Early on in her career Julia also excavated at Sedgeford, Norfolk as part of SHARP and in Pompeii, Italy as part of the Anglo-American Project in Pompeii. Since joining AS in October 2011 Julia has worked on animal bone assemblages from Beck Row, a Roman agricultural site at Mildenhall, Suffolk and Sawtry, an Iron Age, fen edge site in Cambridgeshire. Julia is a full and active member of the International Council for Archaeozoology, the Professional Zooarchaeology Group and the Association for Environmental Archaeology.

ENVIRONMENTAL ARCHAEOLOGIST
Dr John Summers

Qualifications: 2006-2010: PhD "The Architecture of Food" (University of Bradford)
2005-2006: MSc Biological Archaeology (University of Bradford)
2001-2005: BSc Hons. Bioarchaeology (University of Bradford)

Experience: John is an archaeobotanist with a primary specialism in the analysis of carbonised plant macrofossils and charcoal. Prior to joining Archaeological Solutions, John worked primarily in Atlantic Scotland. His research interests involve using archaeobotanical data in combination with other archaeological and palaeoeconomic information to address cultural and economic research questions. John has made contributions to a number of large research projects in Atlantic Scotland, including the Old Scatness and Jarlshof Environs Project (University of Bradford), the Viking Unst Project (University of Bradford) and publication work for Bornais Mound 1 and Mound 2 (Cardiff University). He has also worked with plant remains from Thruxton Roman Villa, Hampshire, as part of the Danebury Roman Environs Project (Oxford University/ English Heritage). John's role at AS is to analyse and report on assemblages of plant macro-remains from environmental samples and provide support and advice regarding environmental sampling regimes and sample processing. John is a member of the Association for Environmental Archaeology.

SENIOR GRAPHICS OFFICER
Kathren Henry

Experience: Kathren has over twenty-five years' experience in archaeology, working as a planning supervisor on sites from prehistoric to late medieval date, including urban sites in London and rural sites in France/ Italy, working for the Greater Manchester Archaeological Unit, Passmore Edwards Museum, DGLA and Central Excavation Unit of English Heritage (at Stanwick and Irthlingborough, Northamptonshire). She has worked with AS (formerly HAT) since 1992, becoming Senior Graphics Officer. Kathren is AS's principal photographer, specializing in historic building survey, and she manages AS's photographic equipment and dark room. She is in charge of AS's Graphics Department, managing computerised artwork and report production. Kathren is also the principal historic building surveyor/illustrator, producing on-site and off-site plans, elevations and sections.

GRAPHICS OFFICER
Thomas Light

Qualifications: University of Kent (2009-2012) BA Classical and Archaeological Studies
University of Kent (2012-2013) MA Roman History and Archaeology

Experience: Since completing his higher education, Thomas has gained good practical experience in the archaeological and heritage sector, working in a voluntary capacity for Guilford Institute Library and Archive, and Surrey County Archaeological Unit. Before becoming a graphics officer, Thomas held the position of Site Assistant and has excavated on a variety of commercial projects. In his current capacity Thomas has produced extensive illustrative material, including figures and plates for nationally and internationally distributed journal publications.

HISTORIC BUILDING RECORDING
Tansy Collins BSc

Qualifications: University of Sheffield, Archaeological Sciences BSc (Hons) (1999-2002)

Experience: Tansy's archaeological experience has been gained on diverse sites throughout England, Ireland, Scotland and Wales. Tansy joined AS in 2004 where she developed skills in graphics, backed by her grasp of archaeological interpretation and on-site experience, to produce hand drawn illustrations of pottery, and digital illustrations using a variety of packages such as AutoCAD, Corel Draw and Adobe Illustrator. She joined the historic buildings team in 2005 in order to carry out both drawn and photographic surveys of historic buildings before combining these skills with authoring historic building reports in 2006. Since then Tansy has authored numerous such reports for a wide range of building types; from vernacular to domestic architecture, both timber-framed and brick built with date ranges varying from the medieval period to the 20th century. These projects include a number of regionally and nationally significant buildings, for example a previously unrecognised medieval aisled barn belonging to a small group of nationally important agricultural buildings, one of the earliest surviving domestic timber framed houses in Hertfordshire, and a Cambridgeshire house retaining formerly hidden 17th century decorative paint schemes. Larger projects include The King Edward VII Sanatorium in Sussex, RAF Bentley Priory in London as well as the Grade I Listed Balls Park mansion in Hertfordshire.

HISTORIC BUILDING RECORDING
Lauren Wilson

Qualifications: University of Chester (2010-2013) BA (Hons) Archaeology
University of York (2013-2014) MA Archaeology of Buildings

Experience: Throughout her higher education, Lauren has gained extensive practical archaeological experience, including small finds processing and cataloguing at Norton Priory, Runcorn and assisting in the excavation of a Roman villa as part of the *Santa Marta Project*, Tuscany. Lauren also participated in a training excavation at Grovesnor Park, Chester, centred on a Roman road and 16th century chapel. As part of her Masters dissertation, Lauren worked with the Historic Property Manager of Middleham Castle, North Yorkshire, gaining a good practical knowledge of public outreach and events planning. Since joining Archaeological Solutions Ltd, Lauren has contributed to complex historic buildings recording projects at Landens Farm, Horley (Surrey) and the Ostrich Inn, Colnbrook (Berkshire). She also conducts background research and contributes to archaeological report writing.

ARCHIVES ADMINISTRATOR
Claire Wootton

Experience: Throughout her professional career, Claire has gained extensive administrative experience. Her past roles include Administrative Officer with the Court Service (Royal Courts of Justice; 1988-1997) and Discovery Centre Administrator at St Edmundsbury Cathedral (2012-2015). Claire's Advanced Level qualifications include History, English and Law. Since joining Archaeological Solutions Ltd, Claire has gained a thorough experience of archives administration through a programme of work-based training on numerous projects.

ARCHIVES ADMINISTRATOR
Karen Cleary

Experience: Karen started her administrative career as Youth Training Administrator for a training company (TSMA Ltd) in 1993, where she provided administrative support for NVQ Assessors' of trainees and apprentices on the youth training scheme and in work placements they'd helped set up. Amongst her administrative duties she was principally in charge of preparing the Training Credits Claims and sending off for government funding. She gained NVQ's Level's 2 and 3 in Administration whilst working in this role. Karen started out with AS as Office Assistant in February 2009 and within a few months was promoted to Archives Assistant. Principally her role involves the preparation of Archaeological archives for long term deposition with museums. She has developed a good understanding of the preparation process and follows each individual museum's guidelines closely. She has a good working knowledge of Microsoft Office and is competent with *FileZilla*-Digital File Transfer software and *Fastsum*-Checksum Creation software.

ARCHAEOLOGICAL SOLUTIONS: PRINCIPAL SPECIALISTS

GEOPHYSICAL SURVEYS	David Bescoby Dr John Summers
AIR PHOTOGRAPHIC ASSESSMENTS	Air Photo Services
PHOTOGRAPHIC SURVEYS	Ms K Henry
PREHISTORIC POTTERY	Mr A Peachey
ROMAN POTTERY	Mr A Peachey
SAXON & MEDIEVAL POTTERY	Mr P Thompson
POST-MEDIEVAL POTTERY	Mr P Thompson
FLINT	Mr A Peachey
GLASS	H Cool
COINS	British Museum, Dept of Coins & Medals
METALWORK & LEATHER	Ms Q Mould, Ms N Crummy
SLAG	Mr A Newton
ANIMAL BONE	Dr J Cussans
HUMAN BONE:	Ms S Anderson
ENVIRONMENTAL CO-ORDINATOR	Dr J Summers
POLLEN AND SEEDS:	Dr R Scaife
CHARCOAL/WOOD	Dr J Summers
SOIL MICROMORPHOLOGY	Dr R MacPhail, Dr C French
CARBON-14 DATING:	Historic England Ancient Monuments Laboratory (for advice).
CONSERVATION	University of Leicester

OASIS DATA COLLECTION FORM: England

Printable version

OASIS ID: archaeol7-304793

Project details

Project name	Former Sugar Beet Factory, Sproughton, Suffolk
Short description of the project	In November 2017 Archaeological Solutions (AS) carried out an archaeological excavation and test pitting on land at the former Sugar Beet Factory, Sproughton, Suffolk (NGR TM 135 448; Figs. 1 - 2). The excavation and test pitting were undertaken in compliance with a planning requirement in advance of the proposed construction of a new commercial development, and based on the advice of Suffolk County Council Archaeological Service Conservation (SCC AS-CT). A trial trench archaeological evaluation of the site revealed four ditches in Trench 15, two of which were judged to form a ring gully. A keyhole oven was also present within the trench (PCA 2017). Finds were sparse and included crumbs of prehistoric pottery and flint blades. The eastern part of the development site had suffered considerable modern disturbance, with deep deposits of recent made ground. Thus the site had a potential for palaeoenvironmental remains associated with its location in the river valley and gravel deposits; and for archaeology associated with early prehistoric activity. The excavation recorded the full extent of the ring gully, including a sterile pit at its centre, but did not reveal any evidence for the previously excavated oven. The ring gully may have formed part of a roundhouse or similar structure, but two flint blades were recovered and this gully may equally represent the remains of an early Bronze Age ring ditch. A small undated rectilinear enclosure was also identified to the west of the gully, but it was very ephemeral and possibly aligned with post-medieval field boundaries that extend down the river valley slope. Three undated pits were also excavated. A geoarchaeological test pit recorded a sand and gravel sequence reflecting a periglacial environment and deposits associated with braided channel systems during a cold climatic phase. A thin possible coversand is potentially interpreted as a flood deposit away from the main channels.
Project dates	Start: 01-11-2017 End: 30-11-2017
Previous/future work	No / No
Any associated project reference codes	P7187 - Contracting Unit No.
Any associated project reference codes	SPT059 - Sitecode
Type of project	Recording project
Site status	None
Current Land use	Other 3 - Built over
Monument type	RECTILINEAR DITCH Uncertain
Monument type	PITS Uncertain

Monument type	RING GULLY Uncertain
Significant Finds	STRUCK FLINT Uncertain
Investigation type	"Full excavation","Test-Pit Survey"
Prompt	Planning condition

Project location

Country	England
Site location	SUFFOLK BABERGH SPROUGHTON Former Sugar Beet Factory, Sproughton, Suffolk
Study area	625 Square metres
Site coordinates	TM 135 448 52.059838371637 1.114790483536 52 03 35 N 001 06 53 E Point
Height OD / Depth	Min: 6.5m Max: 6.5m

Project creators

Name of Organisation	Archaeological Solutions Ltd
Project brief originator	Suffolk County Council Archaeological Service Conservation Team
Project design originator	Jon Murray
Project director/manager	Jon Murray
Project supervisor	Archaeological Solutions Ltd

Project archives

Physical Archive recipient	Suffolk County Archaeological Store
Physical Contents	"Worked stone/lithics"
Digital Archive recipient	Suffolk County Archaeological Store
Digital Contents	"Survey"
Digital Media available	"Images raster / digital photography","Survey","Text"
Paper Archive recipient	Suffolk County Archaeological Store
Paper Contents	"Survey"
Paper Media available	"Drawing","Photograph","Plan","Report","Survey "

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Former Sugar Beet Factory, Sproughton, Suffolk
Author(s)/Editor(s)	Bescoby, D
Author(s)/Editor(s)	Muir, T

Other bibliographic details	Archaeological Solutions Report No. 5492
Date	2017
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Entered by	Sarah Powell (info@ascontracts.co.uk)
Entered on	22 December 2017

OASIS:

PHOTOGRAPHIC INDEX

1
View of the site showing Ring Ditch 2015

2
Ditch 2005A

3
Ditch 2005A

4
Pit 2009

5
Pit 2011

6
Ring Ditch 2015A

7
Ring Ditch 2015B

8
Ring Ditch 2015C

9
Ring Ditch 2015D

10
Ring Ditch 2015E

11
Ring Ditch 2015F and Pit 2013

12
View of the final Test Pit

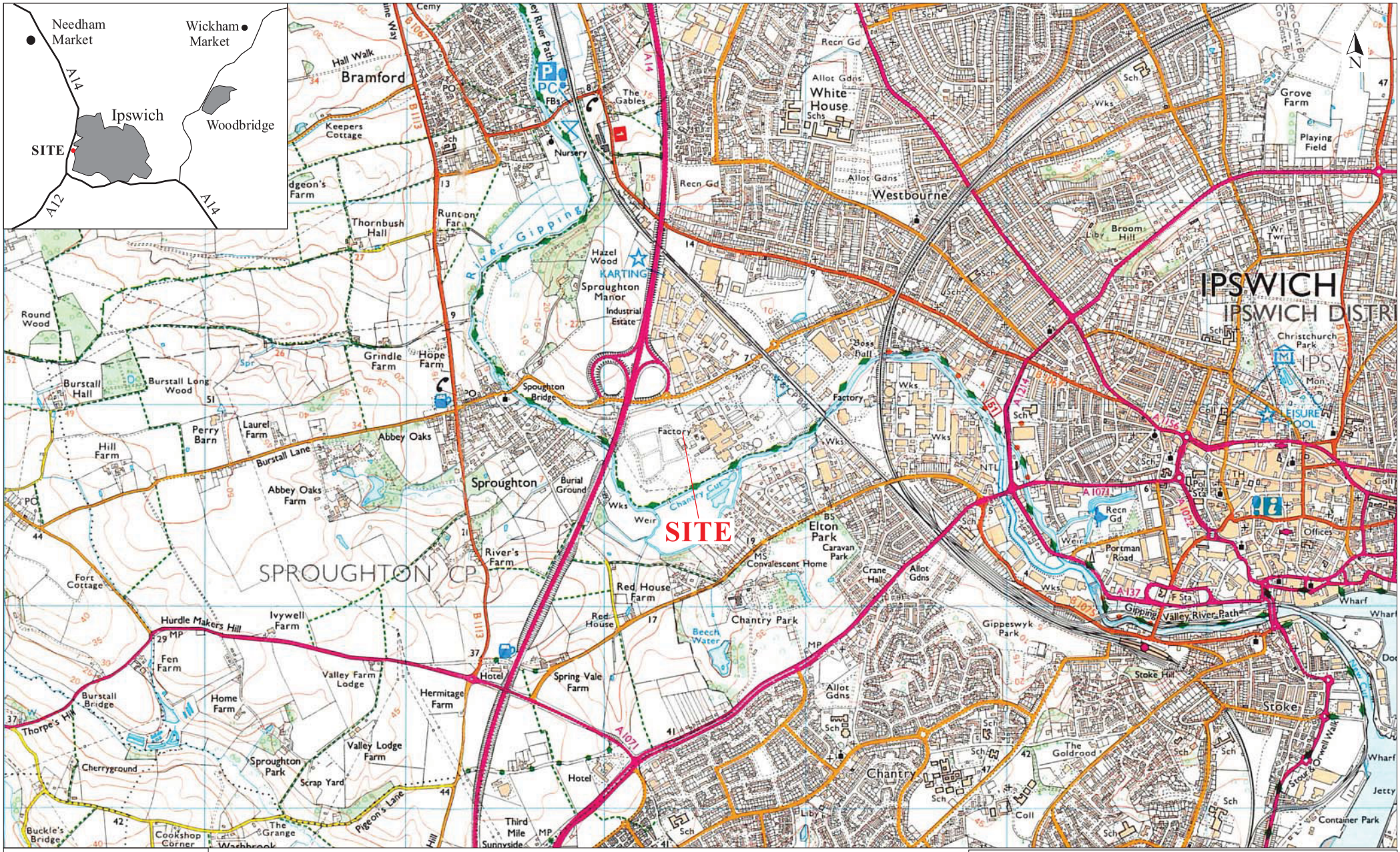

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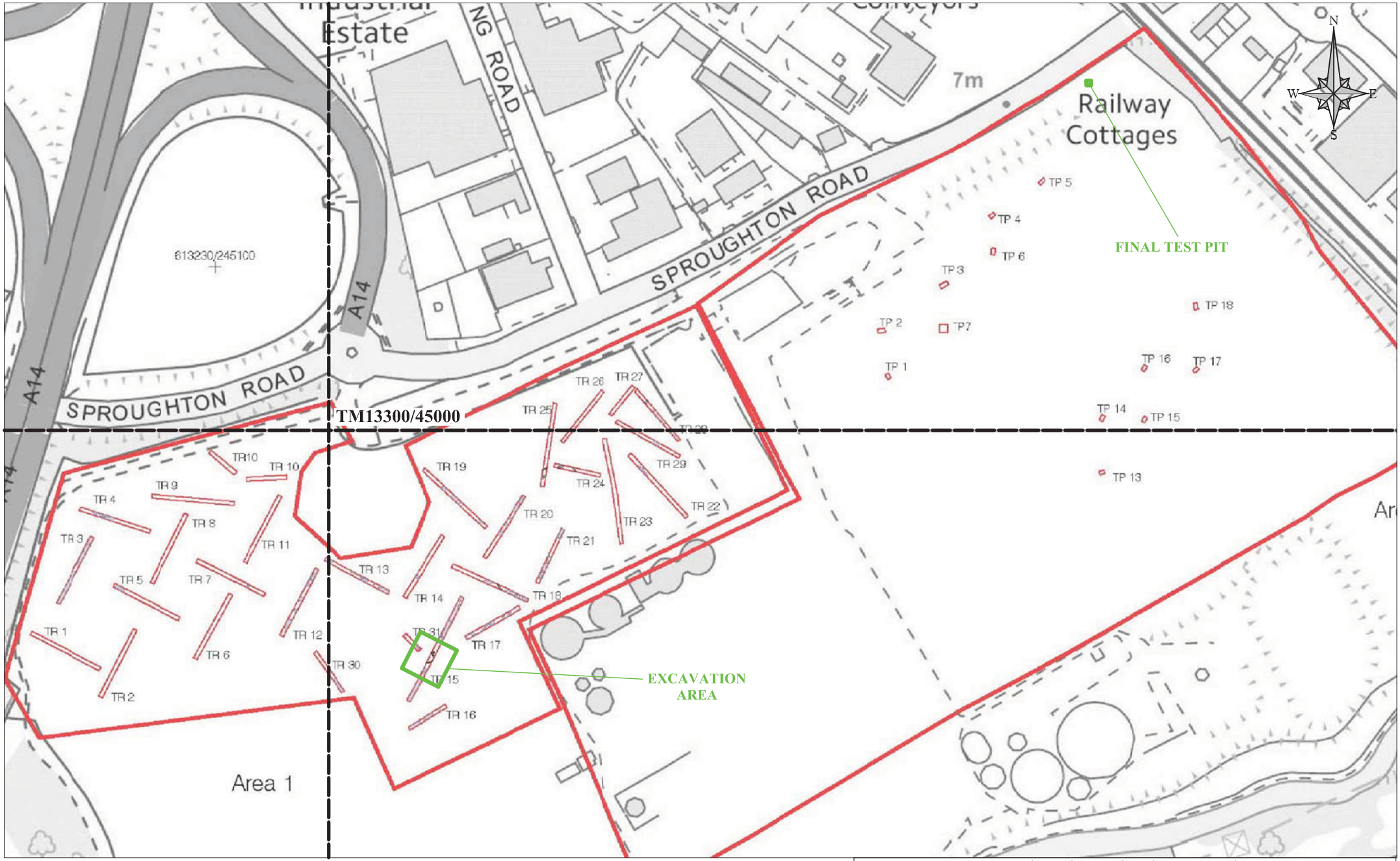
Fig. 1 Site location plan

Scale 1:25,000 at A4

Sugar Beet Factory, Sproughton, Ipswich, Suffolk (P7187)



0 250m

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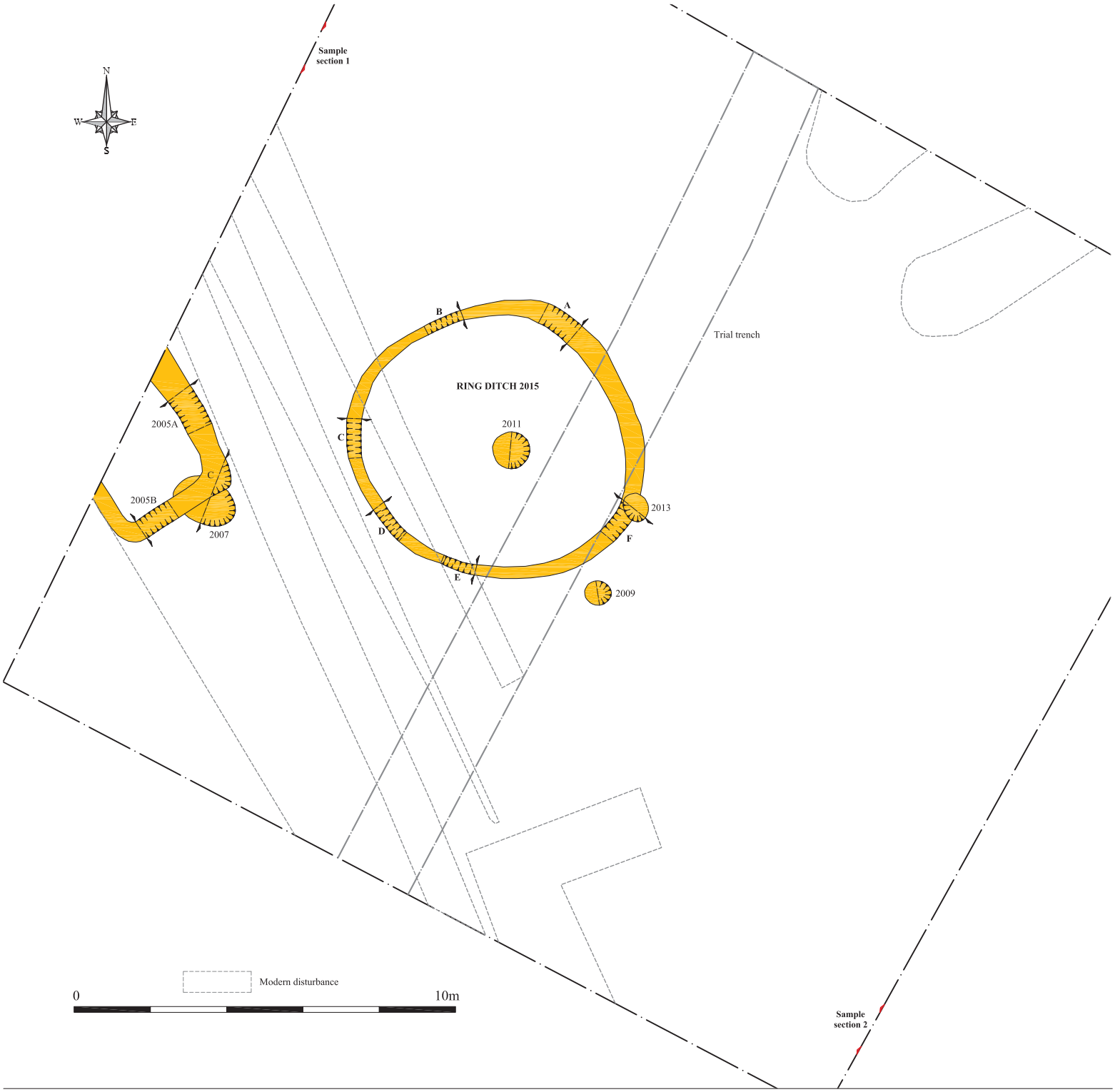
Fig. 2 Detailed site location plan

Scale 1:3000 at A4

Sugar Beet Factory, Sproughton, Ipswich, Suffolk (P7187)



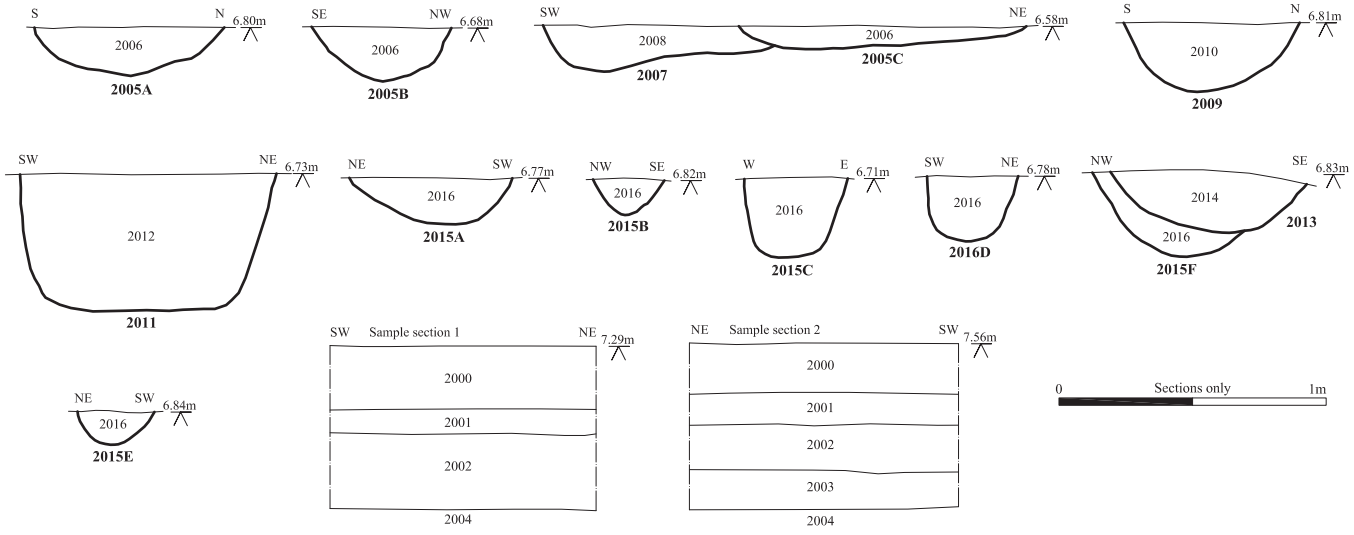


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Fig. 3 Trench plan and sections

Scale Plan 1:100, sections 1:20 at A3

Sugar Beet Factory, Sproughton, Ipswich, Suffolk (P7187)

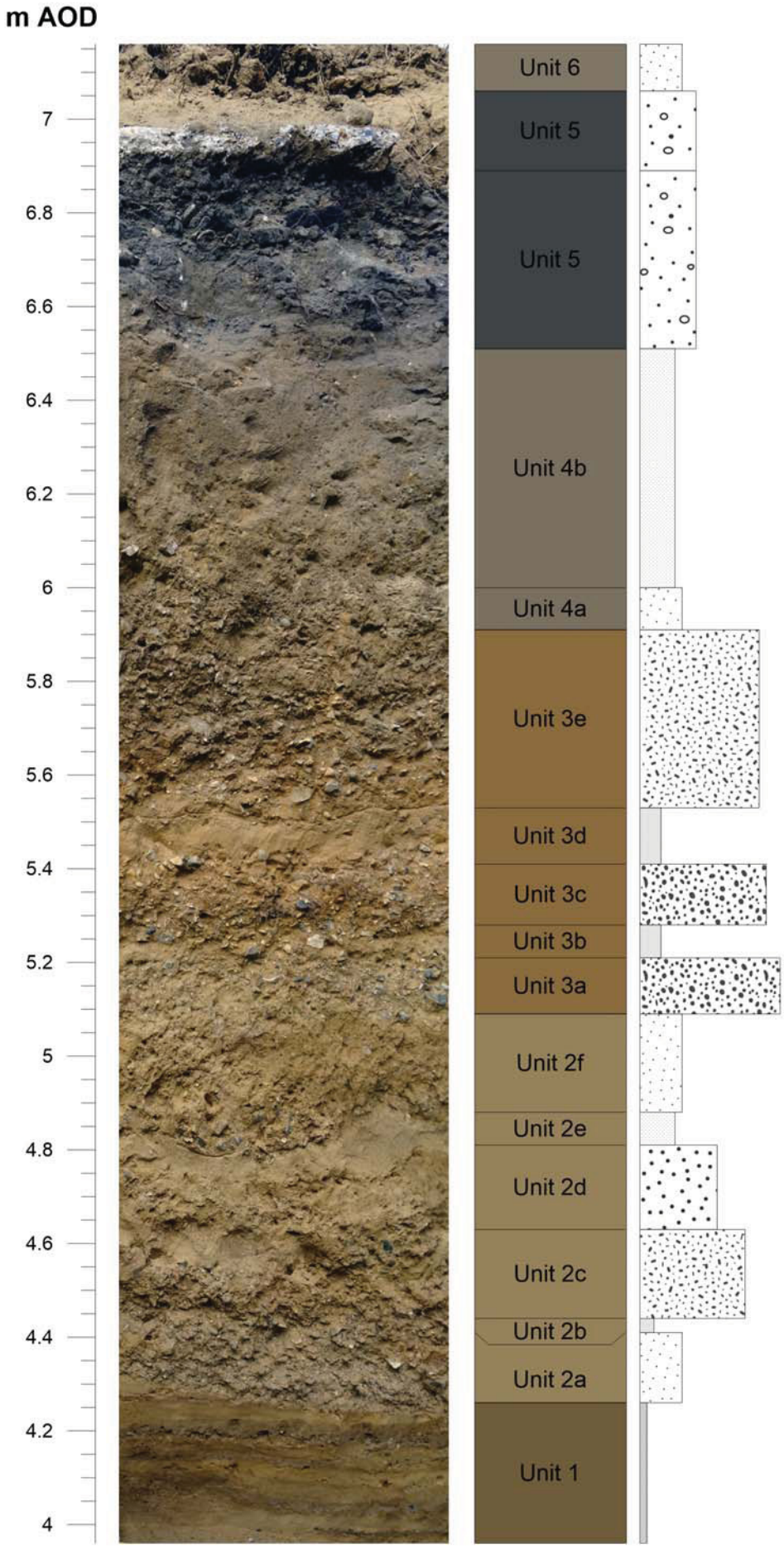

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Fig. 4 Photogrammetric record of the test pit
Scale As scale bar
Sugar Beet Factory, Sproughton, Ipswich, Suffolk (P7187)