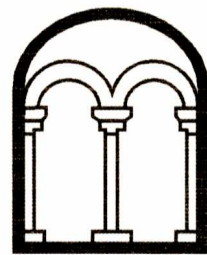


**BASMEAD MANOR
STAPLOE
BEDFORDSHIRE**

**ARCHAEOLOGICAL TRIAL TRENCH
EVALUATION**

Albion
archaeology



**BASMEAD MANOR
STAPLOE
BEDFORDSHIRE**

**ARCHAEOLOGICAL TRIAL TRENCH
EVALUATION**

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Preface

Every effort has been made in the preparation of this document to provide as complete a summary as possible within the terms of the method statement. All statements and opinions in this document are offered in good faith. Albion Archaeology cannot accept responsibility for errors of fact or opinion resulting from data supplied by a third party, or for any loss or other consequence arising from decisions or actions made upon the basis of facts or opinions expressed in this document.

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Key Terms

The following abbreviations are used throughout this report:

EH	English Heritage
HER	Bedford Borough Council's Historic Environment Record
HET	Bedford Borough Council's Historic Environment Team
IfA	Institute for Archaeologists
LPA	Local Planning Authority
WSI	Written Scheme of Investigation



Non-Technical Summary

Planning consent has been granted for the conversion, alteration, and extension of existing buildings to form a wedding venue at Basmead Manor in the Bedfordshire parish of Staploe, c. 3km west of St Neots (Cambridgeshire) and the River Great Ouse. The site is set within a moated medieval enclosure (scheduled ancient monument NHLE no. 1012067) and is therefore archaeologically sensitive. A programme of archaeological works is required by respective conditions of planning permission and scheduled monument consent. This report presents the results of archaeological monitoring undertaken during initial enabling/investigative works by the developer and archaeological trial trench excavation.

Excavation of service trenches on land outside the moated enclosure, to the east, indicated the presence of boundary ditches and a mottled clay deposit. These features may have formed part of a rectangular enclosure shown on historical maps. The mottled clay deposit may correspond with a water-filled ditch which appears on a 17th-century map as an eastward extension of the south arm of the moat.

Monitoring of boreholes, demolition works and trial trench excavation was undertaken inside the moated area. Trial Trenches 5, 6 and 7 in the south-east part of the island demonstrate that the ground in this area was deliberately raised during the later 19th century with a layer of imported clay. This build-up deposit has sealed an earlier cobbled yard surface which lies directly on the underlying undisturbed geological deposit (boulder clay). Monitoring during the removal of modern intrusions showed that the deeper intrusions extended into the underlying geology but that a significant proportion of the slighter wall foundations did not extend below the earlier cobbled surface. The results here demonstrate the survival and potential survival of features cut into the underlying geological deposit which lies between 0.3m and 0.7m below the current ground surface. This area, below the demolished modern farm buildings, is excluded from the scheduling; however, any archaeological features within it have potential to contribute to the significance of this nationally important heritage asset.

Trial Trench 8 located in the north-west quadrant of the island uncovered two intersecting ditches cut into undisturbed subsoil and boulder clay. These may have been for drainage, probably feeding into the north arm of the moat. The lower fill of one contained post-medieval ceramics and glass dateable to the 18th or 19th century. Trench 8 demonstrates the survival of features cut into undisturbed geology 0.4m below the current ground surface.

This report sets out the results of the archaeological evaluation in order to inform decisions concerning the requirements for the next stage of the archaeological strategy to mitigate the effects of the development upon significant archaeological remains. An appropriate mitigation strategy will be determined in consultation with the Local Planning Authority, English Heritage and the client. The work will be on a scale appropriate to the significance of the affected heritage assets and the severity of the development impact.



1. INTRODUCTION

1.1 *Planning background*

In March 2012 Bedford Borough Council (BBC) granted planning consent (11/02504/FUL) for the conversion, alteration, and extension of existing buildings to form a wedding venue at Basmead Manor, Staploe in north Bedfordshire. The development is situated within an archaeologically sensitive area and affects the scheduled ancient monument known as “Bassmead Manor Farm moated enclosure” (NHLE no. 1012067).

On the advice of the Historic Environment Team (HET) of BBC and in line with national and local planning frameworks, planning conditions required a staged archaeological mitigation strategy to be implemented along with a programme of building recording. A brief detailing requirements for the first stage of archaeological mitigation (namely trial trench evaluation) and historic building recording was issued by the HET (BBC 2012).

The development must also to comply with conditions of scheduled monument consent, which was granted by the Secretary of State for Culture Media and Sport, advised by English Heritage, on 22 November 2011.

A Written Scheme of Investigation (WSI) sets out the procedures and methods to be employed for the evaluation and building recording (Albion Archaeology 2011b). The WSI also included provision for archaeological watching brief on enabling works for the development.

The present report sets out the results of the archaeological evaluation in order to inform decisions concerning the requirements for next stage of the archaeological strategy to mitigate the effects of the development upon any significant heritage assets identified.

1.2 *Site location*

Basmead (or Bassmead) Manor lies in the Bedfordshire parish of Staploe, *c.* 3km west of St Neots (Cambridgeshire) and the River Great Ouse (Figure 1). Its main access is from the south, along a straight access road forking off from the Staploe to Upper Staploe road, and a causeway leading across the moat.

The 15th-century Grade II* listed manor house stands in the north-west corner of the moated enclosure, adjacent to a late 19th-century barn and 20th-century farm buildings. Along the line of the south arm of the moat, and flanking the entrance into the site, are 18th-century farm buildings. Much of the central and east part of the site is occupied by 20th-century farm buildings and concrete yards. A largely grassed garden with several mature trees exists along the west arm of the moat.

Externally the moat is bordered by a small area of woodland, Home Wood, to the north and west, while to the south and east lie arable fields.



1.3 Topography and geology

The development area lies on the west side of the Great Ouse Valley on the slightly higher clay lands. The underlying geology is till drift over Oxford clay formation mudstone.

The moated site lies at *c.* 47m OD near the top of a SE-facing slope, which overlooks the hamlet of Staploe and the Duloe Brook, a tributary to the Great Ouse. It is centred on grid reference TL 14005 61185.

1.4 Archaeological and historical background

The archaeological and historical background was collated in a comprehensive desk-based heritage assessment for the proposed development (Albion Archaeology 2011a). The results are summarised below.

1.4.1 Prehistoric and Roman

A small curvilinear enclosure (HER 16762) was identified from cropmarks in the field to the east of Basmead Manor, just outside of the development area. It could be a prehistoric enclosure; however, it has not been investigated. A number of overlapping curvilinear and rectilinear enclosures (HER 14058) have also been identified to the south of Basmead Manor, just north of the Staploe road.

Roman pits and ditches were excavated in 1935 further east of the moated site (HER 496) and aerial photographs show polygonal enclosures in the same area. The line of a possible Roman road identified by the Viatores project (HER 736, Viatores 231) includes the farm track and footpath immediately south of Basmead Manor. Many of the Viatores roads in Bedfordshire have since been discredited (Simco 1984) and the proposed line adjacent to the manor may be a later farm track.

1.4.2 Medieval

Staploe is a small hamlet which formerly lay in the parish of Eaton Socon, to the west of the Great North Road (A1) and close to the medieval Augustinian priory of Bushmead. It was only created as a separate parish in 1965, when Eaton Socon was moved into Cambridgeshire.

Basmead Manor was one of several manors held by the barony of Eaton. The earliest tenants of the manor were the de Bath or de Baa family who owned land in the parish from or before the reign of King John (1166-1216). Robert Wauton held the manor from the end of the 13th century and it appears to have been in the Wauton family until the beginning of the 16th century (Page 1912).

Basmead Manor is a designated Scheduled Ancient Monument (NHLE 1012067). It consists of a moated enclosure (HER 495) which forms a rectangular island, measuring *c.* 105m x 85m in size. It is surrounded on all sides by 8m-wide water-filled ditches with a causewayed entrance to the south. The manor house is a Grade II* listed building (HER 3272, NHLE 1321617) which lies in the north-west corner of the enclosure. It is of late 15th- to 18th-century date (Alcock and Addyman 1969, 43-4). Basmead is an isolated moated site and not part of a readily identifiable larger settlement or



estate. Brown and Taylor suggest that the origin of a number of sites of this type may be due to medieval assarting or settlement expansion in other ways (Brown and Taylor 1991, 29). The de Bath family, the earliest tenants of the manor, are first mentioned in connection with the parish of Eaton when Reginald de Bath acquired 26 acres of assart from Robert de Meisil (Page 1912).

1.4.3 Post-medieval/industrial period

The manor house was altered and extended from the 16th to the 19th centuries. A range of farm buildings along the southern arm of the moat includes an 18th-century aisled barn (HER 12498). Historical maps show that the interior of the moated enclosure was occupied by a sequence of farm buildings from at least the 18th century onwards.

A brickyard (HER 8722) in use from 1854-57 is believed to be associated with the estate, although its exact location is not known.

1.5 Project Objectives

The principal objective of the trenching evaluation was to determine whether archaeological remains were present at the site and, if so, to determine their date, nature, extent, condition, and significance. This information was required to inform decisions with regard to the impact of the proposed development on any archaeological remains present, and to help in the formulation of appropriate mitigation measures to protect remains either by preservation or excavation.



2. METHODOLOGY

Prior to the trial trench evaluation enabling works were undertaken by the developer. These comprised geotechnical boreholes, re-routing of mains power cables and the demolition of modern buildings. All of the enabling works with the potential to impact on below ground remains were archaeologically monitored. The results of this monitoring are included with the evaluation results in this report.

The trial trenching took place between 3rd and 8th January 2013. Four of the eight trenches indicated in the WSI were excavated. These comprise Trenches 5, 6 and 7 in the footprint of the new wedding barn (WSI zone E) and Trench 8 within the footprint of a projected new garage building (WSI zone M).

The trenches were opened by a mechanical excavator fitted with a flat-edged bucket, operated by an experienced driver under close archaeological supervision. Overburden was removed down to the top of the archaeological deposits or undisturbed geological deposits, whichever were encountered first. Any potential archaeological features were cleaned, excavated by hand and recorded using Albion Archaeology's pro forma sheets. All features were assigned a unique context number. Each trench was subsequently drawn and photographed as appropriate. A full methodology is provided in the project WSI (Albion Archaeology 2012).

The project adhered throughout to the standards prescribed in the following documents:

• Albion Archaeology	<i>Procedures Manual: Volume 1 Fieldwork</i> (2nd edn, 2001).
• Bedford Borough Council	<i>Preparing Archaeological Archives for Deposition in Registered Museums in Bedford</i> (1998)
• EAA	<i>Standards for Field Archaeology in the East of England</i> (2003)
• English Heritage	<i>Management of Research Projects in the Historic Environment (MoRPHE) Project Managers' Guide</i> (2006)
	<i>Environmental Archaeology: A guide to the theory and practice of methods, from sampling and recovery to post-excavation</i> , 2nd edition (2011)
• HET	<i>Brief for a Programme of Archaeological Field Evaluation and Historic Building Recording at Bassmead Manor, Staploe, Bedfordshire.</i> (April 2012)
• IfA	<i>By-Laws and Code of Conduct</i>
	<i>Standard and Guidance for Archaeological Field Evaluation (updated 2008) and finds (updated 2008)</i>

Trenches 1 to 4 were omitted from the trial excavation stage with the agreement of the HET and the architect. These trenches were intended to investigate the proposed locations of the foundations for the abutments of pedestrian and vehicle bridges over the east arm of the moat. The abutments



are to be close to the edge of the moat and, in view of the heavy rain over recent months and saturated ground conditions, there was a very real danger that these trial trenches might destabilise the sides of the moat, possibly causing erosion to occur before the bridge footings could be constructed. To avoid this risk, it is now proposed that Trenches 1 to 4 will be excavated during construction works as part of a scheme of archaeological investigation and recording.



3. RESULTS

The results of archaeological monitoring and trial trench evaluation are detailed in the following section. Detailed context summaries are provided for all archaeological contexts in Appendices 1 and 2. The results are shown in Figures 2–4. The locations of the observations have been cross-referenced to the Zones referred to in the WSI and these are shown in Figure 5 of this report.

3.1 *Monitoring of boreholes and test-pits*

Geotechnical boreholes and engineering test-pits were archaeologically monitored on 13th July 2012. Five boreholes were drilled within the projected footprint of the new build for the wedding barn (Zone E) and three small test-pits were dug to examine the foundations of the long barn (Figure 2).

The test-pits were excavated against the north side of the long barn (Zone G). These pits were approximately 0.3m wide and 0.4m long and 0.6–0.9m deep. The deposits next to the foundations consisted of mid yellow-brown clay with fragments of brick rubble and occasional pockets of dark organic soil. The uppermost deposits in the western and central test-pits (TP-A and TP-B) consisted of the existing concrete yard surface. In the test-pit excavated towards the east end of the long barn (TP-C) a surface made of large rounded cobbles was observed beneath a humic soil layer, probably decayed leaf litter.

The boreholes located undisturbed geology consisting of boulder clay at a depth of 0.5–1.2m below the existing yard surfaces. The greatest depth of build-up over the boulder clay occurred in the three westernmost boreholes (BH1 to 3). In the two boreholes in the eastern part of the area (BH4 and 5) the boulder clay lay closer to the ground surface, only 0.5m deep in BH5. Above the geological deposits a dark organic silty layer occurred at a depth of 0.4–0.6m below the ground surface. In BH1 this organic deposit lay above a distinct layer of pebbles.

3.2 *Monitoring of service trenches*

Archaeological monitoring was carried out between 26th and 30th July 2012 during the excavation of two trenches to re-route electrical cables across land outside the moat, to the east (Zone A) (Figure 4).

The soil profile in this area consisted of 0.3m of plough soil (1) above a layer of mid reddish brown subsoil (2) up to 0.24m thick which lay above yellow brown boulder clay (3) at approximately 0.5m below the ground surface. Part of the area had been covered with brick and concrete rubble to form an access track and hard standing for farm machinery stored in and around the large pole barn on the southern edge of the field.

Three linear features were identified, two aligned approximately north-south [4] and [11] and one aligned approximately east-west [8]. These are likely to represent drainage or boundary ditches. The fills of these features were mostly derived from the geological deposits through which they were cut with some darker fills derived from the topsoil.



In the south of the area was a layer (13) of mid- to dark grey clayey silt with brown mottling. The layer was at least 11m wide from east to west and may represent the fill of a waterlogged depression or pond.

No dating evidence or other artefacts were recovered from the features in this area.

3.3 Monitoring of demolition

Demolition contractors removed a group of 20th-century farm buildings within the development area in advance of the trial excavation. These comprised two large brick structures formerly used as workshops and vehicle stores and a metal framed grain store. The initial phase of the demolition works involving the removal of the above ground structures commenced on 19th November 2012. Archaeological monitoring of demolition works was undertaken from 10th to 14th December 2012. During this phase of works, concrete yard surfaces, floor slabs, foundations and other modern sub-surface structures in the development area were removed under constant archaeological observation (Areas D, E and F in Figure 5). The results of the observations are shown in Figure 2 and summarised and tabulated in Appendix 1.

The uppermost surface consisted mainly of modern concrete surfaces (100), either external yards or internal floor slabs, over a layer of rubble hardcore (101). Adjacent to the eastern half of the Long Barn, however, traces of a cobbled surface survived at ground level (105). This surface was seen in Test-pit C during monitoring of the boreholes. The level of this cobbled surface corresponds to the floor level of the Long Barn, a range of 19th-century farm buildings which run along the south edge of the moated area.

A layer of imported yellow brown clay (107) containing brick rubble was observed over much of the area below the concrete and cobble surfaces. This was a make-up or levelling layer used to raise and level the area. The deposit contained some fragments of yellow gault brick, similar to those used in the Long Barn. The levelling layer was thickest in the mid part of the demolition area and thinned towards the eastern edge, close to the moat on this side.

A layer of dark grey clay (108) or black silt (103 and 110) was noted in many places below the levelling layer. This dark material appears to be a farmyard deposit, probably a mixture of organic material and accumulated soil. It lay directly over an earlier cobbled yard surface (109 and 104). Where observed, this cobbled yard surface lay directly on the undisturbed boulder clay (102) with no trace of any subsoil deposit above the geological deposit.

3.4 Evaluation trenches

Excavation of evaluation trial trenches was undertaken between 3rd and 8th January 2013. Four trenches were opened, Trenches 5, 6 and 7 in Zone E and Trench 8 in Zone M. Contexts are summarised in Appendix 2. The trench locations are shown on Figure 2, with detailed plans and sections on Figure 3.

3.4.1 Trench 5 (Figure 3: section C)

The upper 0.3m of the trench comprised two layers (1600 and 1601) which contained a large amount of brick and tile rubble. These overlay the remains



of a cobbled surface (1602), up to 0.12m thick, made with closely packed rounded stones measuring 5–10cm. The surface was relatively poorly preserved in this area.

The surface had been laid on greyish yellow clay with chalk inclusions (1603), i.e. undisturbed boulder clay.

3.4.2 Trench 6 (Figure 3: section B)

Layers (1700–1703) represent demolition and build-up of the ground level prior to construction. Two layers of mid yellow/brown clay (1700) and (1703), 0.22m and 0.27m thick respectively, contained a relatively small amount of brick and tile. This material appeared to be imported boulder clay used to raise and level the ground surface. Layers (1701) and (1702) contained significantly more rubble suggesting that they could have incorporated some demolition material.

A cobbled surface (1705), corresponding to the one in Trench 5, was present. The cobbles measured 5–15cm and were better preserved at this point. The level of the surface dropped towards the south end of the trench. It was overlain by a brownish black organic deposit (1704), up to 0.04m thick, probably comprising a farmyard trample deposit. The cobbles were left *in situ*.

A square posthole [1709] containing a large wooden post had been inserted through the cobbled surface. The cut was 0.8m square and the post had been packed with blue/grey clay (1708).

3.4.3 Trench 7 (Figure 3: section D)

This revealed similar deposits to Trench 6. A rubble and hardcore layer (1800), 0.13m thick, was probably associated with the construction of the most recent concrete surface, removed during demolition. Two layers (1801) and (1802) with a combined thickness of up to 0.25m probably comprised imported material used to raise and level the ground surface.

Cobbled surface (1805) was equivalent to that seen in Trenches 5 and 6 but was better preserved. As in Trench 6, it was overlain by a layer of organic material (1804) up to 0.08m thick, which related to its latest period of use. Part of the surface was lifted at the eastern end of the trench; this showed that it lay directly on undisturbed boulder clay (1806).

3.4.4 Trench 8 (Figure 3: section A)

This trench was excavated inside a modern farm building, a pole barn which forms Zone M. The concrete floor (1900) of the building overlay a number of levelling and consolidation layers. The upper layers (1901) and (1902), containing rubble and hardcore, extended to a depth of 0.2m and are probably associated with the construction of the concrete floor. Lower levelling layers (1903–1905) and (1916–1917) may also be associated with this or earlier levelling. Containing a large amount of brick rubble, layer (1916) in particular appears to have been used to consolidate the ground above the underlying ditch [1912].



Two ditches were present within this trench. The larger more visible of the two [1912] was 2.1m wide and 1.1m deep, with steep sides and a flat base. On a broadly north-south alignment the ditch lies perpendicular to the moat and may have originally joined the moat which is situated approximately 12m to the north. A thin layer of wood (1918) was found in the base of the ditch. A smaller east-west aligned ditch [1909], 1.5m wide and 0.7m deep, was partially visible in the west side of the trench. This appeared to join the larger ditch and was probably broadly contemporary.

The ditches were cut through a thin layer of clay (1906) over undisturbed subsoil (1907) and boulder clay (1908).

A small, mixed finds assemblage was recovered from the lower fill (1913) of ditch [1912]. Pottery comprises an abraded late medieval reduced ware body sherd (21g: fabric E01¹); a sherd of post-medieval brown salt-glazed stoneware (27g: fabric P36A); and two sherds (51g) of 18th- to early 19th-century creamware (fabric P38).

Sand-tempered building material datable to the post-medieval period totals two amorphous brick fragments (63g), and five pieces of flat roof tile (376g: thickness 15mm). Two vessel glass fragments (132g) representing the dome or bell-shaped kick base from a probable cylindrical wine bottle are datable to the mid-late 18th century. The feature also contained a long bone fragment (22g) from an animal of indeterminate species.

¹ Fabric type defined in accordance with the Bedfordshire Ceramic Type Series, currently maintained by Albion Archaeology.



4. SYNTHESIS OF RESULTS

Archaeological features were recorded during monitoring work in the field to the east of the moat (Figure 4). These consisted of north-south and east-west aligned ditches (see section 3.2). No dating evidence was recovered from the ditches which contained minerogenic fills derived from the surrounding geology and some darker material presumably derived from topsoil. A layer of mottled dark grey clay found in the southern part of the area is likely to represent the fill of a waterlogged hollow or pond. Historical maps from the 18th to the 19th centuries show a rectangular enclosure attached to the east arm of the moat (Albion Archaeology 2011a, figs 4 to 8). In a plan of 1671 it is labelled as “The Old Hopp Ground” whilst in the 18th century it is shown as an orchard. All of the plans up to the late 19th century show a wide water-filled ditch demarcating the south edge of this area which may correspond to the layer of dark mottled clay layer.

In the south-east quadrant of the moated area monitoring and trial excavation produced a consistent picture of the archaeological deposits (Figure 3) — a cobbled surface sealing clean boulder clay. This surface was covered with a thin dark silty layer, probably an organic farmyard deposit which was in turn buried by a layer of imported clay used to raise and level the area. The depth of the levelling deposit varies across the area; it is greatest in the west and the middle, thinning towards the east arm of the moat. Fragments of yellow gault brick noted in the make-up layer suggest a 19th-century date for this deposit. Remnants of a cobbled surface survived at ground level, above the make-up layer. The levelling of the farmyard appears to have been contemporary with the rebuilding and construction of a range of buildings along the south edge of the area (the Long Barn) during the later 19th century.

Evaluation in the north-west quadrant of the moat (Trench 8) showed a sequence of layers above a steep-sided north-south aligned ditch and a smaller gully. Artefacts recovered from the ditch fill indicate that it was filled in the 18th or 19th century. The features in this trench were cut through a layer of subsoil over boulder clay.

The results of the evaluation indicate the potential for the survival of archaeological deposits across all of the areas examined. In the field to the east of the moat (Zone A) undated ditches may form part of an enclosure shown on maps from the 17th century onwards. Investigations in the south-east quadrant of the moated area (Zones E, D and F) showed a cobbled surface buried beneath a deep layer of imported clay which was used to raise the ground level in the later 19th century. No features were identified beneath the earlier cobbled surface but the results indicate potential for the survival of earlier features. The presence of the levelling layer has reduced the destructive impact of the 20th-century foundations on potential underlying archaeological deposits. A number of the modern foundations did not extend below the level of the earlier cobbled yard surface (see Figure 2). Although this area is excluded from the scheduling, any archaeological features within it have potential to contribute to the significance of the nationally important heritage asset.



The presence of archaeological features in the single evaluation trench excavated in the north-west quadrant of the moated site (Zone M) confirms the potential in this area of the scheduled monument.



5. REVISED IMPACT ASSESSEMENT

5.1 *The development*

The development includes a number of elements which may impact on potential below-ground heritage assets (summarised in Figure 5).

5.1.1 **Impacts of development within the moat**

The demolition of the standing buildings in the south-east quadrant of the moat (Zones D to F) has been completed as part of the enabling works. The floor slabs and sub-surface structures in this area have been removed under archaeological supervision (see section 3.3).

The remaining groundworks are summarised as follows:

- Foundations for the new dining barn and single-storey barn are currently proposed as a concrete raft foundation with deeper strip foundations of 600mm wide and 1m deep for the walls (dimensions to be confirmed by structural engineer) (Figure 5, Zone E). The impact of these foundations will depend on their actual depths. It is anticipated that the strip foundations will impact on potential archaeological deposits. The foundation raft is likely to represent a low impact in the mid and western part of the area where 19th century make-up deposits up to 0.7m deep cover the potential archaeological deposits. It may however impact on archaeological deposits towards the eastern arm of the moat close to evaluation trench 5 where the geological deposit is approximately 0.3m below the current ground surface.
- Construction of the footbridge involves the excavation of two foundation pads 2m long by 1m wide and 1m deep either side of the moat (Figure 5, Zone B). The deposits here have not been tested during the evaluation due to the risk of destabilising the ground next to the moat. With the agreement of the HET these foundations will be subject to archaeological observation and investigation during the construction phase of the project.
- The service bridge will have concrete foundations 5m long by 1m wide and 1.5m deep (Figure 5, Zone C). For the same reasons as the foot bridge this area will be subject to archaeological observation and investigation during the construction phase.
- The impact of extending the western garden area eastwards, and the landscaping of ground within the area formed by the wedding barns, is likely to be low, as long as the planting scheme avoids deep-rooted trees and shrubs (Figure 5, Zone D).

5.1.2 **Impacts of development on land outside the moated site**

At the same time as the trial trench evaluation an area adjacent to Basmead Farm Cottages was reduced to form a driveway and car park area (Figure 5, Zone K). This was undertaken after consultation and with the agreement of the HET under archaeological supervision. The reduction had a minimal impact in this area consisting of only topsoil removal and no archaeological deposits were observed.



The remaining groundworks outside of the moat consist of the construction of a car park to the east of the moat (Figure 5, Zone A). As part of the enabling works two service trenches were excavated across this area so that the mains power supply could be rerouted in advance of demolition works. The excavation of the trenches was archaeologically monitored (see section 3.2). A small number of undated linear features were identified which were cut into the subsoil at a depth of 0.3m below the ground surface. It is currently assumed that the groundworks for the car park construction will involve the removal of *c.* 0.3m of material to provide a base for the import of the required subgrade, base and surface courses for the car park. The impact of the car park construction on any archaeological assets is therefore anticipated to be low.

5.2 Mitigation

Archaeological monitoring during enabling works and the results of the trial trench evaluation have demonstrated the survival and potential survival of archaeological remains inside the moat (Zones D, E, F and M) and to the east of the moat (Zone A).

Evaluation has demonstrated that construction works will potentially have a detrimental impact on potential sub-surface heritage assets. Therefore, in accordance with section 5.6 of the brief (BBC 2012), the HET has advised that further stages of archaeological work will be necessary. The nature of these works will be determined in consultation with the LPA, EH and the client. The work will be on a scale appropriate to the significance of the affected heritage assets and the severity of the development impact.



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7. APPENDIX 1: SUMMARY MONITORING RESULTS

West		East		Interpretation
(100) concrete	(100) concrete	(105) cobbled surface	(100) concrete	Cobbled yard and concrete slabs
(101) hardcore	(101) hardcore	(106) sandy-gravel makeup	(101) hardcore	
(112) mid grey silt + CBM	(107) brown-yellow clay + CBM	(107) brown-yellow clay + CBM		Levelling layer
(110) black silt +CBM	(108) blue/grey clay + CBM	(108) blue/grey clay	(103) black organic silt	Organic farmyard deposit
	(109) cobbled surface	(109) cobbled surface	(104) yellow-brown sandy silt with large stones	Earlier cobbled yard surface
(102) boulder clay	(102) boulder clay	(102) boulder clay	(102) boulder clay	Undisturbed geological deposits

Table 1: Summary results of monitoring demolition in Zones D to F

The table shows deposits recorded during monitoring of the demolition works in Zones D to F. The table shows the deposits arranged stratigraphically with the columns representing observations across the site from the west edge of the demolition area to the east. The depths of the deposits varied across the area. The levelling deposit was thickest in the west and mid part of the area becoming thinner towards the east where the earlier cobbled surface and undisturbed boulder clay occurred approximately 0.5m below the ground surface.

* CBM = ceramic building material.



8. APPENDIX 2: CONTEXT DETAILS



Area: A
Extent (ha): 0.25
OS Co-ordinates: TL1410061200
Description: Zone A. New car parking area to east of moat

Context:	Type:	Description:	Excavated:	Finds Present:
1	Topsoil	Dark grey clay silt occasional small stones	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Subsoil	Mid red brown sandy clay	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	Natural	Light yellow brown clay occasional small-medium chalk, occasional small-medium stones	<input type="checkbox"/>	<input type="checkbox"/>
4	Ditch	Linear N-S sides: 45 degrees base: concave dimensions: max breadth 4.m, max depth 0.8m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	Upper fill	Dark grey brown clay silt occasional small-medium stones	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	Fill	Mid yellow brown silty clay	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7	Primary fill	Mid grey clay silt occasional small stones. With brown mottling	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8	Ditch	Linear E-W sides: steep	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9	Secondary fill	Mid yellow brown silty clay	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10	Lower fill	Dark grey clay silt	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11	Ditch	Linear N-S sides: 45 degrees dimensions: max breadth 1.5m, min depth 0.4m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12	Fill	Dark brown clay loam occasional small stones	<input checked="" type="checkbox"/>	<input type="checkbox"/>
13	Layer	Dark grey clay silt . With brown mottling	<input checked="" type="checkbox"/>	<input type="checkbox"/>



Area: DF
Extent (ha): 0.13
OS Co-ordinates: TL1403561175
Description: Zones D to F. Archaeological monitoring of demolition works in SE quadrant of moat

Context:	Type:	Description:	Excavated:	Finds Present:
100	Concrete	0.25m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
101	Make up layer	Thickness: 0.35m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
102	Natural	Firm light grey yellow silty clay occasional small chalk	<input type="checkbox"/>	<input type="checkbox"/>
103	Layer	Friable dark grey black silt . Thickness: 0.11m	<input type="checkbox"/>	<input type="checkbox"/>
104	Make up layer	Friable mid yellow brown sandy silt occasional large stones. Thickness: 0.15m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
105	External surface	Compact . Cobbled surface. Large smooth pebbles. Placed. Probably contemporary with adjacent 19th century building. Thickness: 0.2m	<input type="checkbox"/>	<input type="checkbox"/>
106	Make up layer	Friable mid orange sandy gravel . Thickness: 0.2m	<input type="checkbox"/>	<input type="checkbox"/>
107	Levelling layer	Plastic mid brown yellow clay occasional small-medium CBM. Thickness: 0.2m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
108	Levelling layer	Plastic mid blue grey clay occasional small-medium CBM, occasional small chalk. Thickness: 0.25	<input checked="" type="checkbox"/>	<input type="checkbox"/>
109	External surface	Compact . Deliberately placed cobble surface. Consisting mostly of pebbles and stones 5-15cm with occasional brick fragments included	<input type="checkbox"/>	<input type="checkbox"/>
110	Layer	Friable dark black silt moderate medium-large CBM. Thickness: 0.23m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
111	Make up layer	Loose mid grey silty gravel frequent medium-large CBM. Thickness: 0.3m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
112	Make up layer	Friable mid grey silt occasional small-medium CBM. Thickness: 0.3m	<input checked="" type="checkbox"/>	<input type="checkbox"/>



Trench: 5

Max Dimensions: Length: 4.00 m. Width: 2.00 m. Depth to Archaeology Min: 0.2 m. Max: 0.25 m.

Co-ordinates: OS Grid Ref.: TL (Easting: 14045: Northing: 61188)

Reason: Evaluate archaeological potential

Context:	Type:	Description:	Excavated:	Finds Present:
1600	Make up layer	Rubble Thickness: 0.11m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1601	Dump material	Loose black silty rubble Thickness: 0.15m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1602	External surface	Compact Deliberately placed cobble surface. Consisting mostly of pebbles and stones 5-10cm with occasional brick fragments included. Poorly preserved in this area. Thickness: 0.12m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1603	Natural	Firm light grey yellow silty clay occasional small chalk	<input type="checkbox"/>	<input type="checkbox"/>



Trench: 6

Max Dimensions: Length: 4.50 m. Width: 2.00 m. Depth to Archaeology Min: 0.65 m. Max: 0.7 m.

Co-ordinates: OS Grid Ref.: TL (Easting: 14028; Northing: 61182)

Reason: Evaluate archaeological potential

Context:	Type:	Description:	Excavated:	Finds Present:
1700	Levelling layer	Plastic mid yellow brown clay occasional small-large CBM Thickness: 0.22m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1701	Dump material	Loose black silty rubble Thickness: 0.18m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1702	Demolition layer	Loose mid grey silty clay frequent small-large CBM Thickness: 0.1m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1703	Levelling layer	Plastic mid brown yellow clay occasional small-medium CBM Thickness: 0.27m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1704	Layer	Compact dark brown black silty peat Thickness: 0.04m	<input type="checkbox"/>	<input type="checkbox"/>
1705	External surface	Compact Deliberately placed cobble surface. Consisting mostly of pebbles and stones 5-15cm with occasional brick fragments included. Left in situ.	<input type="checkbox"/>	<input type="checkbox"/>
1706	Natural	Firm light grey yellow silty clay occasional small chalk	<input type="checkbox"/>	<input type="checkbox"/>
1707	Posthole		<input type="checkbox"/>	<input type="checkbox"/>
1708	Packing	Plastic light blue grey clay	<input type="checkbox"/>	<input type="checkbox"/>
1709	Timber		<input type="checkbox"/>	<input type="checkbox"/>



Trench: 7

Max Dimensions: Length: 6.00 m. Width: 2.00 m. Depth to Archaeology Min: 0.5 m. Max: 0.5 m.

Co-ordinates: OS Grid Ref.: TL (Easting: 14033: Northing: 61160)

Reason: Evaluate archaeological potential

Context:	Type:	Description:	Excavated:	Finds Present:
1800	Demolition layer	Silty rubble Thickness: 0.13m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1801	Levelling layer	Loose black tarmac Thickness: 0.14m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1802	Levelling layer	Loose mid grey silt frequent small-large CBM Thickness: 0.2m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1803	Levelling layer	Plastic mid brown yellow clay moderate small-large CBM Thickness: 0.22m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1804	Layer	Compact dark brown black silty peat Thickness: 0.09m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1805	External surface	Compact Deliberately placed cobble surface. Consisting mostly of pebbles and stones 5-10cm with occasional brick fragments included. C.2m removed at eastern end of trench. Thickness: 0.1m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1806	Natural	Firm light grey yellow silty clay occasional small chalk	<input type="checkbox"/>	<input type="checkbox"/>



Trench: 8

Max Dimensions: Length: 2.70 m. Width: 2.00 m. Depth to Archaeology Min: 0.3 m. Max: 0.4 m.

Co-ordinates: OS Grid Ref.: TL (Easting: 14001: Northing: 61210)

Reason: Evaluate archaeological potential

Context:	Type:	Description:	Excavated:	Finds Present:
1900	External surface	Concrete Thickness: 0.6m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1901	Make up layer	Compact mid orange brown silty gravel frequent small CBM Thickness: 0.2m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1902	Make up layer	Compact mid brown grey silty gravel frequent small CBM Thickness: 0.17m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1903	Levelling layer	Plastic mid blue grey silty clay Thickness: 0.15m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1904	Levelling layer	Firm mid brown yellow clay Thickness: 0.1m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1905	Levelling layer	Firm mid grey brown silty clay frequent small-medium CBM Thickness: 0.3m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1906	Layer	Plastic mid brown yellow clay Thickness: 0.09m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1907	Subsoil	Firm mid brown silty clay Thickness: 0.3m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1908	Natural	Firm light grey yellow silty clay occasional small chalk	<input type="checkbox"/>	<input type="checkbox"/>
1909	Ditch	Linear E-W sides: steep base: concave dimensions: max breadth 1.5m, max depth 0.7m, min length 0.7m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1910	Fill	Friable dark grey clay silt occasional small CBM, occasional small stones Thickness: 0.45m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1911	Fill	Plastic dark grey silty clay occasional small-medium CBM, occasional small stones Thickness: 0.45m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1912	Ditch	Linear N-S sides: steep base: flat dimensions: max breadth 2.1m, max depth 1.1m, min length 2.m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1913	Fill	Friable dark grey clay silt occasional large stones Thickness: 0.55m	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1914	Fill	Plastic dark grey silty clay occasional small CBM, occasional small stones Thickness: 0.18m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1915	Backfill	Friable mid brown grey clay silt moderate small-medium CBM Thickness: 0.4m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1918	Lining	Thin layer of wood placed along base of ditch. Thickness: 0.01m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1916	Levelling layer	Friable mid grey brown clay silt frequent small-large CBM Thickness: 0.28m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1917	Make up layer	Firm mid brown silty clay occasional small-medium CBM Thickness: 0.8m	<input checked="" type="checkbox"/>	<input type="checkbox"/>

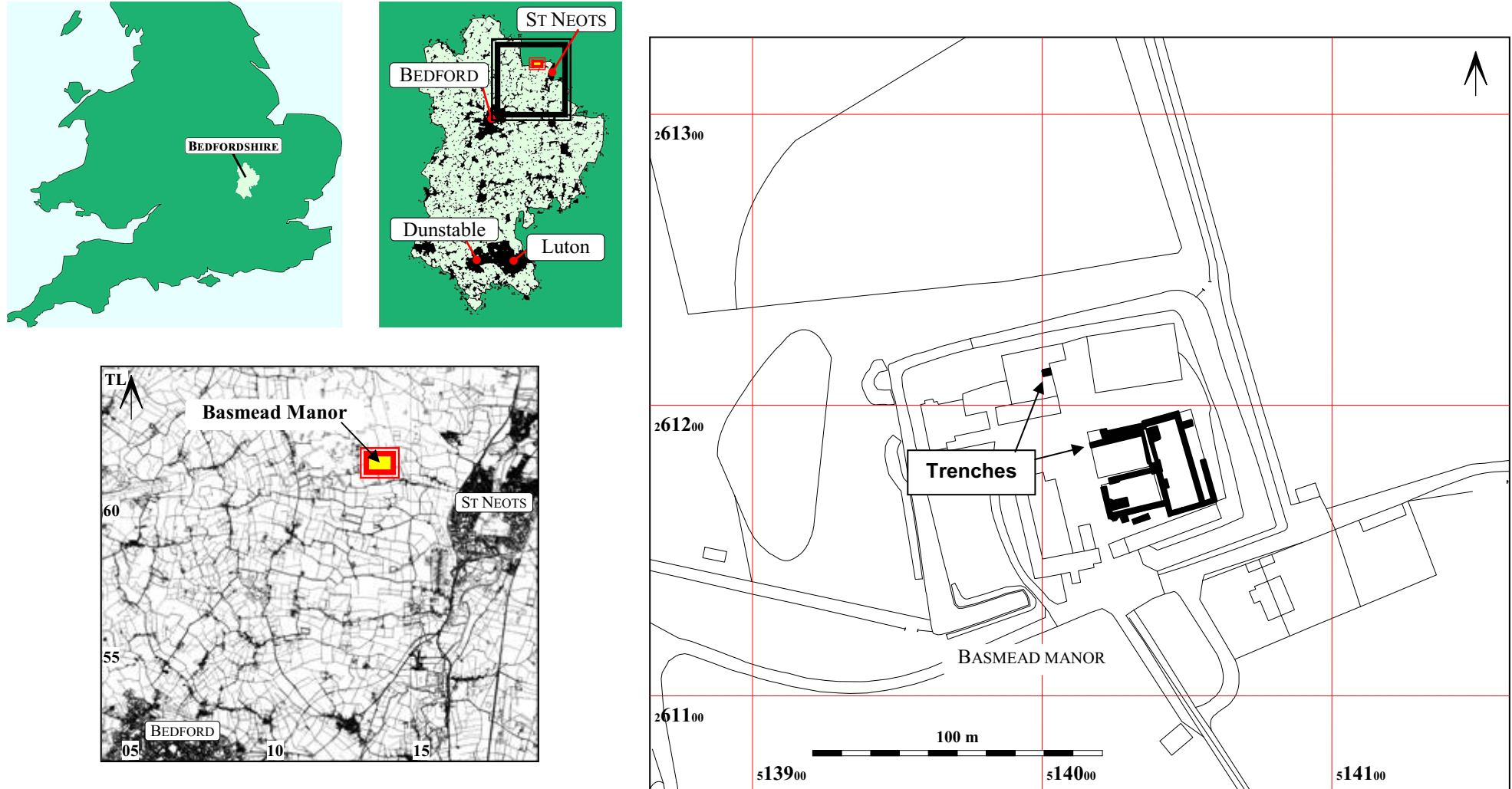
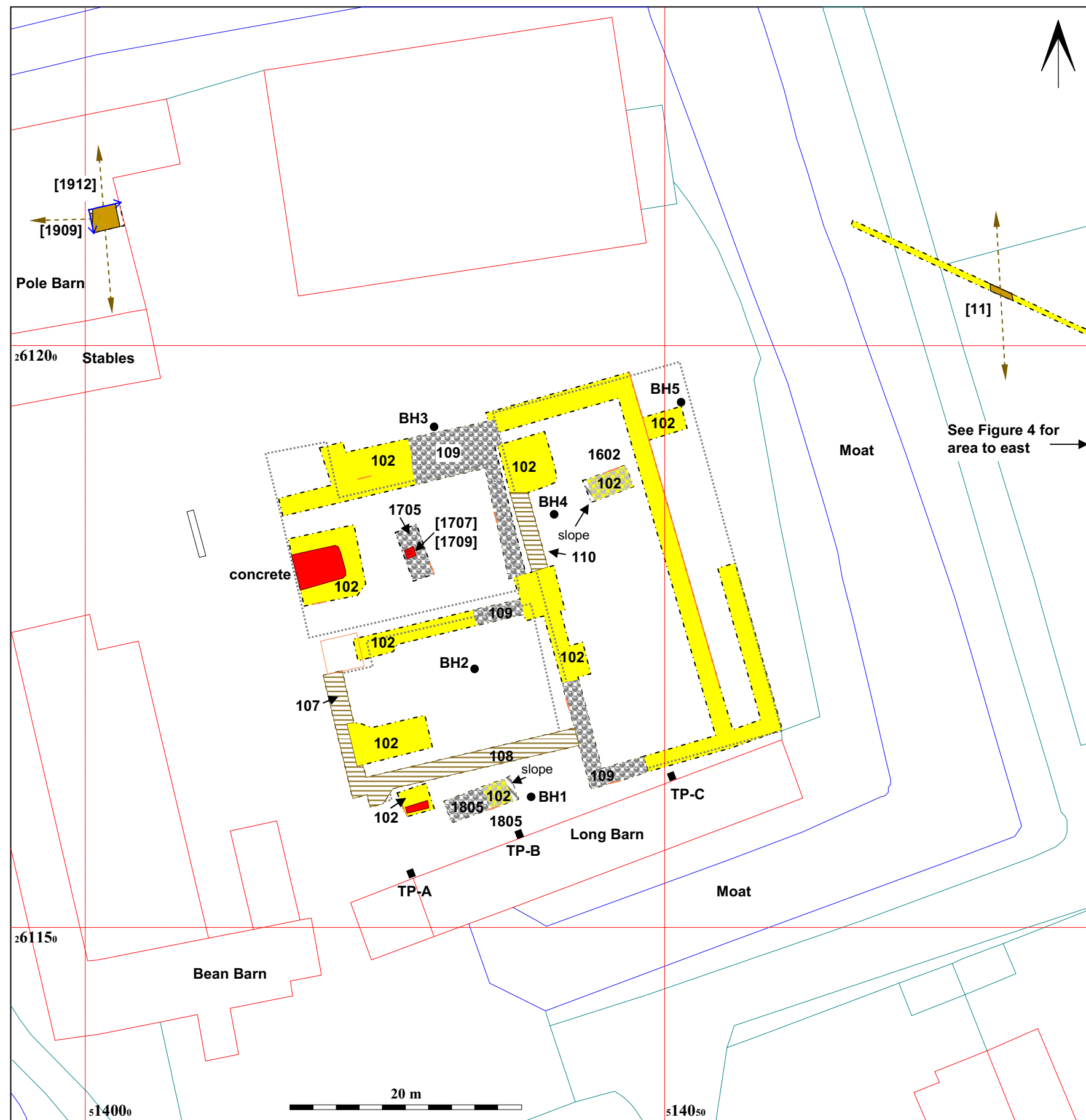


Figure 1: Site location plan

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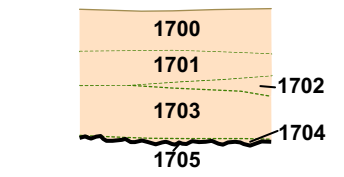
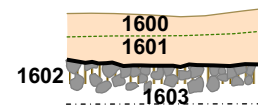
-  Features
-  Boulder clay
-  Cobbled surface
-  Cobbled surface removed down to boulder clay
-  Layers
-  Modern features
-  Test pit
-  Bore hole

Figure 2: All features

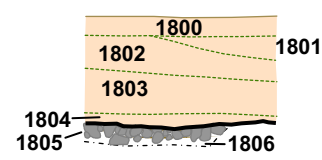
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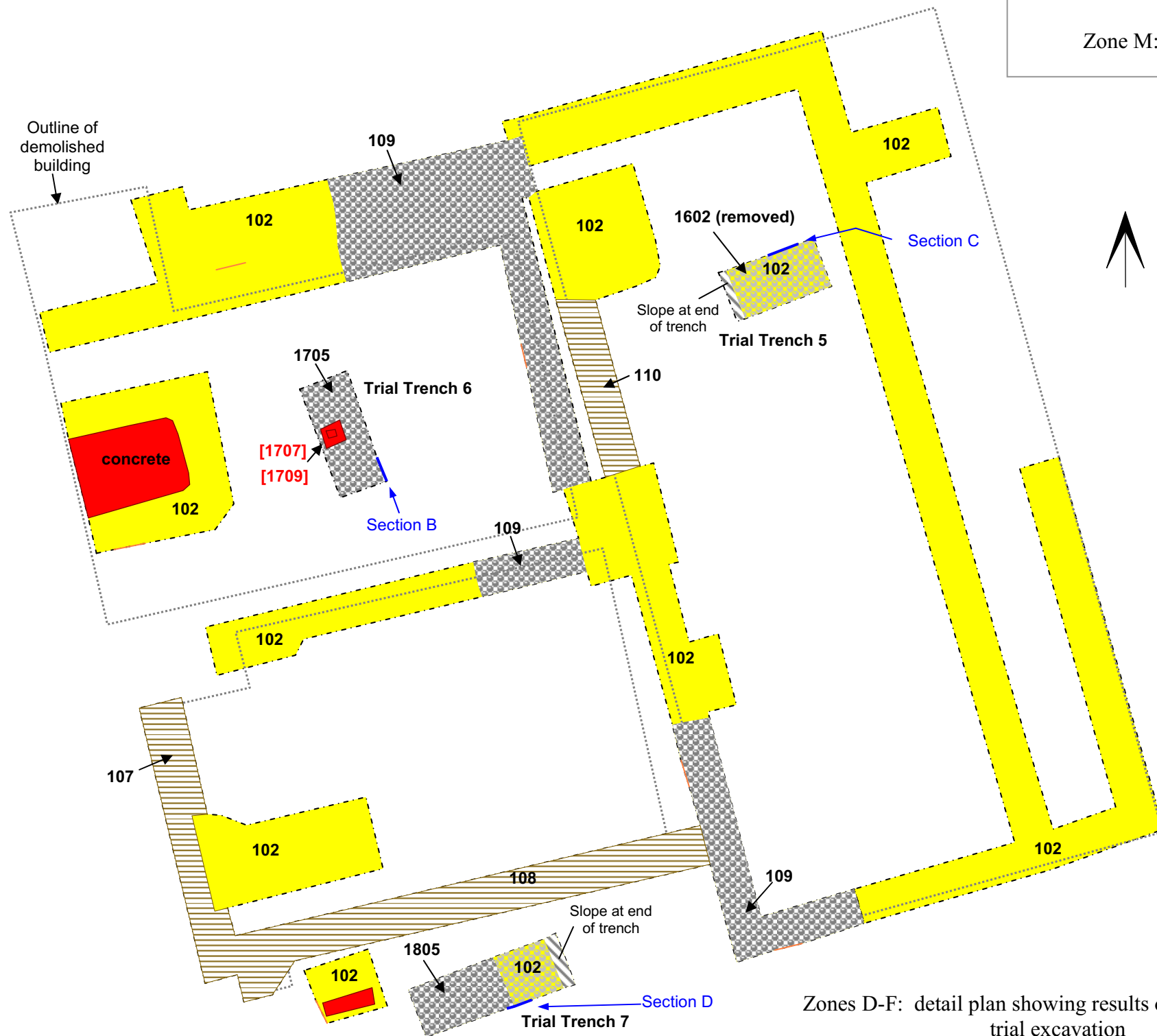
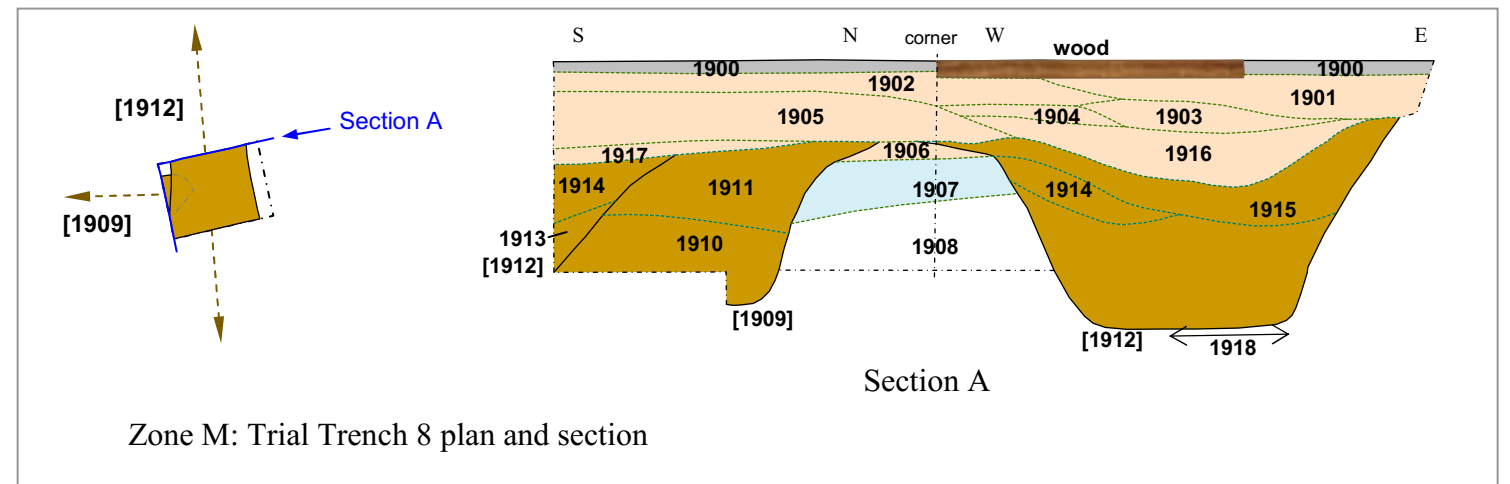
Section B. Trial Trench 6



Section C. Trial Trench 5



Section D. Trial Trench 7



Zones D-F: detail plan showing results of monitoring and trial excavation

Key to plans

- Features
- Boulder clay
- Cobbled surface
- Cobbled surface removed down to natural
- Layers
- Modern features

Key to sections

- Concrete
- Layer
- Fill
- Cobbled surface
- Subsoil
- Boulder clay

Plans scale

10 m



Sections scale

1 m



Figure 3: Details of Areas D-F and M

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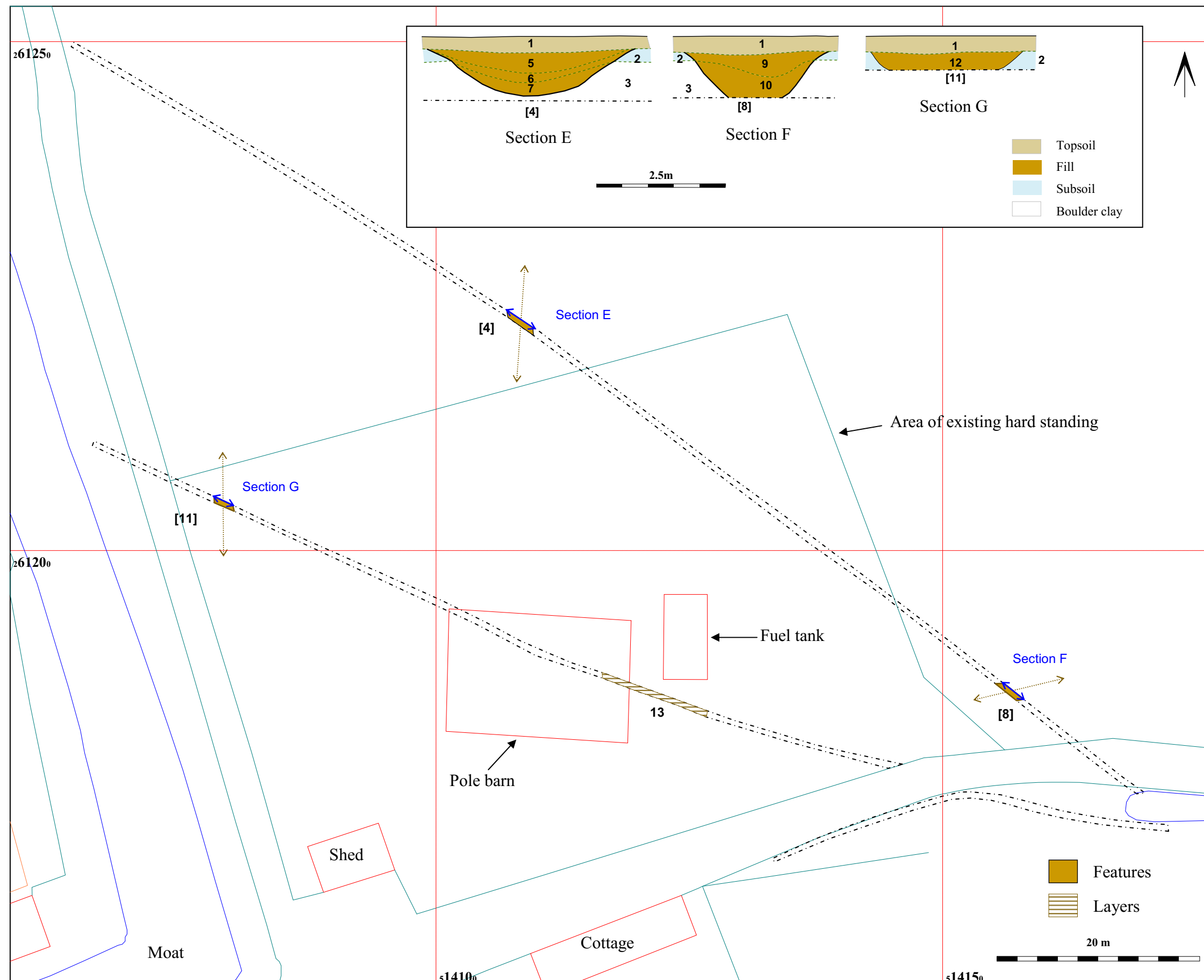


Figure 4: Detail of Zone A

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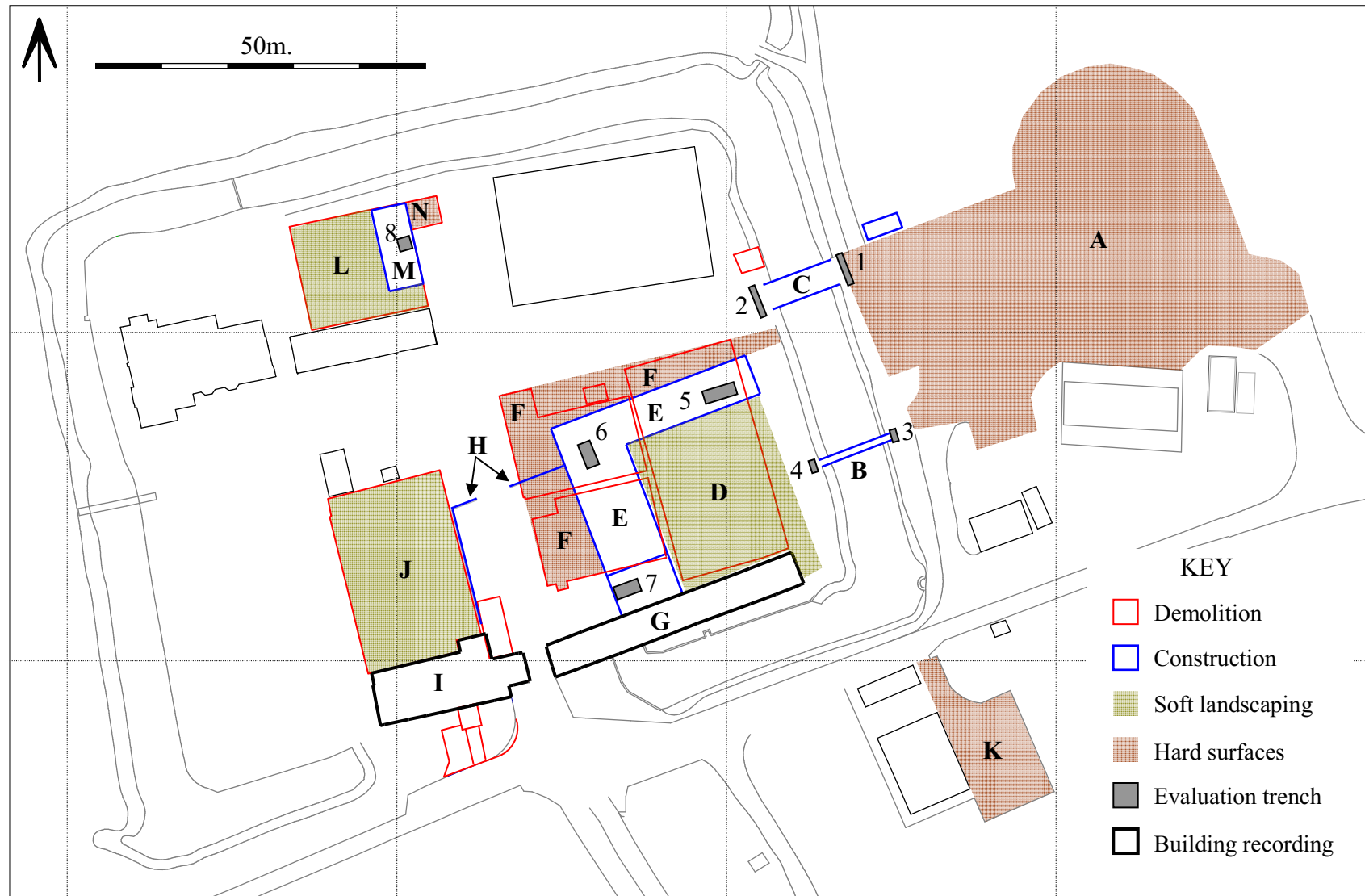


Figure 5: Location of development zones
(Figure shows zones identified in WSI)



A: Trench 7 looking SE

Earlier cobbled yard surface (1805) in the base of the trench below clay levelling layer. The modern ground level corresponds to the floor level of the 19th-century buildings in the background.



B: Trench 6

Cleaning cobbled surface (1705) with clay levelling layers above the cobbled surface visible in section.



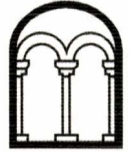
C: Trench 8 looking north

Section through ditch [1912] with rubble and make-up layers above.

Figure 6: Selected images



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