

Late Iron Age and Medieval Remains at Phase 2 Infrastructure at Beaulieu, Chelmsford



Archaeological Evaluation Report



October 2014

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**Late Iron Age and Medieval Remains at Phase 2 Infrastructure at Beaulieu,
Chelmsford**

Archaeological Evaluation

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Summary

An archaeological evaluation was carried out on an area designated as Phase 2 Infrastructure as part of the development of land at Beaulieu, Chelmsford. The fieldwork took place between 26/8/14 and 29/8/14. A total of 12 trenches were excavated within a single field.

The remains that were uncovered were focused at the west end of the evaluation area, and comprised of a series of ditches dating to the Iron Age and Late Iron Age, and may represent part of the field systems used at the time. A later Medieval field system, associated with the New Hall School manorial complex to the north, was present within the western side of the evaluation area.

1 INTRODUCTION

1.1 Location and scope of work

- 1.1.1 In August 2014 Oxford Archaeology East carried out an archaeological evaluation at Phase 2 Infrastructure, Beaulieu, Chelmsford (TL 7230 1014) in advance of a construction of a new neighbourhood planned for North-East Chelmsford, known as Beaulieu (the Site). Chelmsford City Council has granted outline planning permission (ref: 09/01314/EIA) for a new neighbourhood at Beaulieu of up to 3,600 new homes and up to 62,300m² of mixed use development including new schools, leisure and community facilities, employment areas, new highways and associated ancillary development, including full details in respect of roundabout access from Essex Regiment Way and a priority junction from White Hart Lane.
- 1.1.2 An archaeological evaluation was conducted on land to the east of Essex Regiment Way and north of White Hart Lane, at Beaulieu, Chelmsford (see Fig. 1 for location). The evaluation was undertaken in advance of drainage swales and ponds required for the Phase 2 Infrastructure, comprising 12 trenches.
- 1.1.3 This archaeological evaluation was undertaken in accordance with the Archaeological Investigation and Mitigation Strategy (URS 2013) prepared for the Beaulieu scheme in consultation with Richard Havis of the Historic Environment Branch, ECC (Planning Application 09/01314/EIA), and supplemented by a Method Statement prepared by OA East.
- 1.1.4 The work was designed to assist in defining the character and extent of any archaeological remains within the proposed development area, in accordance with the guidelines set out in *National Planning Policy Framework* (Department for Communities and Local Government March 2012). The results will enable decisions to be made by ECC HEM, on behalf of the Local Planning Authority, with regard to the treatment of any archaeological remains found.
- 1.1.5 The site archive is currently held by OA East and will be deposited with the appropriate county stores in due course.

1.2 Geology and topography

- 1.2.1 The Site is located approximately 4km to the north-east of Chelmsford, Essex, and encompasses an area of high ground surrounded on three sides by river valleys – to the west and south is the River Chelmer, and to the east is Boreham Brook. North of the Site the ground rises towards the village of Terling, whilst from the southern part of the Site there are views south towards the Chelmer Valley and Danbury Hill. This phase of evaluation was located in the southern part of the development area.
- 1.2.2 The superficial geology of the area consists of boulder clay of the Lowestoft Till formation underlain by London Clays. To the south of the area is a mixture of head deposits, and sand and gravels (British Geological Survey).

1.3 Archaeological and historical background

- 1.3.1 The following section is based upon Stocks-Morgan (2014b).

Neolithic

- 1.3.2 The early settlement of Essex was concentrated to the north-east of the modern county area, along the River Crouch at Lawford and Lemarsh (Hedges 1984). Possible domestic settlement in the area of Beaulieu has been recorded c.1km to the north-west, at Court Road with Neolithic pottery contained within the fills of several pits (SMR 6142).

Bronze Age

- 1.3.3 Settlement continued to be concentrated along the river valleys of the Chelmer and Crouch into the Bronze Age. There were, though, changes to the landscape with field systems, such as those at Great Wakering, beginning to enclose swathes of land (Kemble 2001). The continuation of the use of these field systems into the Early Iron Age has formed the basis for the modern landscape in the Chelmer Valley (Drury and Rodwell 1980).
- 1.3.4 Aerial photography has shown evidence of Bronze Age activity in the area with cropmarks to the south of Belstead Hall being interpreted as part of a Bronze Age settlement (SMR 16888); whilst excavations at Springfield Lyons (2.5km to the south-west) have revealed domestic dwellings. The recovery of artefacts from areas near the Site – such as New Hall School to the south-east, and Pratt's Farm to the north – suggest occupation in the vicinity of the development area.
- 1.3.5 A Middle Bronze Age boundary ditch has been recorded during archaeological investigations within Zone A of the Site; see 1.4.11 below.

Iron Age

- 1.3.6 Iron Age settlement patterns became more nucleated within the farming landscape, and can be seen with the large enclosure and associated pits and smaller ditches that were uncovered to the south of Belstead Hall (Drury 1978, SMR 17438). As the Iron Age progressed, the occupation and increasing complexity of estuarine sites was supplemented by an expansion onto the heavier clay soils. Archaeologically, this can be seen in the higher population density and sustained occupation visible at sites such as Little Waltham (Drury 1980), which lies to the north-west of the Site. By the end of the Iron Age, the structuring and high status nature of portions of the population, visible at sites such as Gosbecks *oppidum*, would have relied upon the surrounding farming communities to supply agricultural commodities (Crummy 1997).
- 1.3.7 Previous archaeological investigations within the Site have revealed extensive evidence for dispersed Iron Age rural settlement; see section 1.4 below for details.

Roman

- 1.3.8 During the Roman period, the focus of occupation in the area around Beaulieu was located 5km to the south-west, with a small market town that grew up around the *mansio* at Moulsham Street, to the south of the River Can (Essex CC 2003). The surrounding agricultural hinterland would have provided produce for this town, resulting in a landscape of a mixture of large farms and villa complexes – such as those at Great Holts Farm and Bulls Farm Lodge – and smaller domestic sites. Evidence for these have been recorded during evaluation work at Beaulieu, alongside the recovery of evidence for domestic areas and pottery making.

Anglo-Saxon

- 1.3.9 Changes in the landscape took place in the immediate post-Roman period, with the abandonment of the Roman town at Chelmsford, and large parts of the surrounding landscape being left to revert to rough pasture and woodland (Hunter 2003). This desertion of the area is suggested by the absence of Anglo-Saxon remains in the development area, but is more likely to reflect the poor archaeological visibility of Anglo-Saxon settlement sites. This latter case is supported through the records held in the EHER listing Belstead Hall (Belestedam) as recorded in the Domesday survey of AD1086 (Reaney 1935).

Medieval

- 1.3.10 The medieval town of Chelmsford was founded at the end of the 12th century by the Bishop of London. It was sited to the north of the abandoned Roman settlement at Moulsham (Essex CC 2003), and was within a rural hinterland landscape that consisted of scattered farmsteads and manors.
- 1.3.11 On the north-east edge of Chelmsford lay the manor of *Nova Aula* (New Hall), on the site of the current New Hall School. It was first mentioned by name in documents of AD1301 when the land was under the ownership of the canons of Waltham Abbey and it was used as the summer residence of the Abbott.
- 1.3.12 During the medieval period, the first deer park surrounding New Hall was created with the manor at its centre (Tuckwell 2006). Under Henry VII New Hall was granted to Thomas Boteler, Earl of Ormond, who, in all likelihood, rebuilt or remodelled the original medieval hall in the latest architectural style. The hall was visited by Henry VIII in 1510 and 1515, shortly before Thomas Boteler's death. Subsequently, the property passed into the Boleyn family through Boteler's daughter's marriage to Sir Thomas Boleyn – from whom Henry VIII acquired the hall in 1516, and changed its name to the 'Palace of Beaulieu'. Shortly after 1518 he rebuilt Boteler's hall on a quadrangular plan with a gatehouse in the south range, great hall in the east range, and chapel in the west range. Mary Tudor took residency at New Hall intermittently between 1532 and her ascendancy to the crown in 1553.
- 1.3.13 Evidence for a further moated manor, occupied throughout the medieval period, is recorded at Belstead. By 1325 it was called Belestede; in 1354 it was recorded as Belestede Hall; and by 1504 it was known as Belested Hall. The name is thought to derive from 'the site of the bell house' (Reaney 1935).
- 1.3.14 Analysis of aerial photographs and geophysical survey has identified a number of features which, when investigated by trial trench evaluation, were found to comprise a possible enclosure ditch that enclosed a cobbled surface, a pit and several further ditches. Pottery recovered from the features suggests that the site was occupied during the 12th and 13th centuries (ECC FAU 2009). These remains have been interpreted as part of a medieval farmstead, possibly the precursor to the later manorial site at Belstead Hall that lies c. 160m to the north-east of Site 7.

Post-Medieval

- 1.3.15 Until the enclosure of land for agriculture in the early 18th century contracted the size of the deer park, New Hall and its park dominated the landscape of the development area. As the deer park was reduced in size, the former medieval manors and lodges developed into farms to create an essentially agricultural landscape.
- 1.3.16 New Hall had been set within the largest deer park in Essex since the medieval period, once totalling 1,500 acres. The enclosed area comprised of four separate parks

surrounding the hall and its gardens – the Great or Old Park to the north of the hall; Red Deer Park to the east; Dukes Park (further east beyond the study area; EHER 47226); and the New or Little Park to the south and west. The application site is located within this latter area.

1.4 Previous Studies and Investigations

1.4.1 This section has been based upon Stocks-Morgan 2014b.

1.4.2 Non-intrusive and invasive archaeological surveys have previously been undertaken in the area surrounding the Site for environmental statements and to evaluate the land prior to the extraction of minerals. The results of these surveys are summarised below.

Geophysical Surveys

1.4.3 Geophysical magnetic susceptibility and magnetometer surveys by Scott Wilson were used to identify the potential for archaeological remains to remain buried on the Site. Magnetic susceptibility identified six areas of high potential, ten areas of medium potential and seven areas of low potential. Fifty percent of the Beaulieu scheme was surveyed through a magnetometer survey, and gave further detail to the magnetic susceptibility, with individual features of: pits and ditches, field boundaries, buildings and structures, kilns or hearths and buried iron objects. This gave six areas of medium potential and 19 of low potential.

Trial Trench Evaluation, 2008

1.4.4 June and August 2008 saw a targeted trial trench evaluation in order to confirm the presence and significance of the archaeological remains that an assessment of the desk-based and intrusive surveys had identified in eight areas.

1.4.5 The trial trenching confirmed the presence of archaeological remains dating from the late prehistoric to post-medieval periods. Chronologically, this included an Iron Age ditch (Site 5); Late Iron Age and Early Romano-British settlement (Site 8); medieval rural settlement, possibly indicative of a precursor to Belstead Hall (Site 7); a possible medieval/early post-medieval warrener's lodge associated with the former deer park (Site 10); early post-medieval moated enclosure (Site 11); Tudor fishpond and associated earthwork dam (Site 2); a brick making site comprising two scove, or clamp, kilns – that is lined kilns – of possible Tudor date (Site 3) and evidence for associated quarrying activity (Site 4).

Beaulieu Minerals Site Trial Trench Evaluation

1.4.6 A trial trench evaluation was carried out during September and October 2011 to inform and support the planning application for the Beaulieu Minerals Extraction Scheme. This evaluation identified that the area to the north-west of New Hall School contained a concentration of archaeological remains representing a rural settlement, and possible metalworking activity dating from the Late Bronze Age to the end of the Roman period. Metal detecting of the plough soil revealed several early Roman coins and fragments of early Roman brooches within the main area of activity.

Beaulieu Phase 1 Mitigation Evaluation and Excavations, 2013

1.4.7 An archaeological trench evaluation, in 2013, of the proposed Essex Regiment Way roundabout, White Hart Lane junction and connecting access road identified four locations of significant archaeological remains (Stocks-Morgan 2013a).

1.4.8 The footprint of the proposed roundabout (Site 5) saw part of a Middle Iron Age settlement, comprising a large oval enclosure that surrounded the remains of a

roundhouse eaves-drip gully, and pits and postholes that were probably associated with domestic activity.

- 1.4.9 Area A1, meanwhile, demonstrated the wider agricultural landscape of the Late Iron Age with an east to west aligned field boundary ditch, and later, medieval, use of the area through a north-west to south-east aligned ditch (Stocks-Morgan 2013b).
- 1.4.10 In housing Zone D, Site 11 and Area D1 identified two High Medieval house platforms and their surrounding enclosures that are thought to be a medieval settlement associated with Belstead Manor estate (Stocks-Morgan 2013c).

Beaulieu Zone A Housing Evaluation and Excavations, 2014

- 1.4.11 Four phases of significant archaeological remains were identified on land to the south of Belstead Manor (Zone A Housing) (Stocks-Morgan 2014a). Chronologically, this was a Middle Bronze Age boundary ditch, aligned north-east to south-west, that was identified in Site 7; an Early Iron Age open settlement comprising of ten pits containing a large assemblage of pottery and fired clay; sparse Late Iron Age domestic activity suggested through five pits revealed in areas A3 and A4 along the side of a brook to the south of Zone A; a Late Iron Age/Early Roman enclosure ditch and later medieval ditch within Area A2; and medieval animal husbandry remains, again in Site 7;

Beaulieu Zone B and Zone E Trench Evaluation, 2014

- 1.4.12 An archaeological evaluation in 2014 revealed six discrete charcoal-rich Early Iron Age pits to the north and north-west of the development area. Late Iron Age settlement was evident to the south-east of the development area with the remains of an enclosure, two parallel ditches, small gullies, and a possible roundhouse. The large assemblage of Late Iron Age pottery, alongside residual Early Iron Age sherds, recovered from the enclosure ditch indicated continuing occupation. Late medieval activity – consisting of a brick platform/surface and two pits containing compacted brick rubble – concentrated in the south-east of the site.

Phase 1 Haulage Road Trench Evaluation, 2014

- 1.4.13 A further trench evaluation, for the route of the Phase 1 Haulage Road, revealed the use of land on the fringes of the Late Iron Age settlement with a ditch and hollow towards the north-west of the development area; and post-medieval agricultural land use to the north of Belstead Hall Farm (Webb 2014a).

Zone C Housing Trench Evaluation, 2014

- 1.4.14 Excavation of trenches for Zone C to the south of Belstead Hall Farm revealed little archaeology, with remains limited to a modern ditch and pit towards the area's western edge, and the trace of a ploughed out ditch that aligned with the field boundary to the north (Webb 2014b).

1.5 Acknowledgements

- 1.5.1 The author would like to thank Iain Williamson of URS and Countryside Zest (Beaulieu Park) LLP who respectively commissioned and funded the archaeological work. The project was managed by Richard Mortimer. Thanks are also extended to Adele Lord, Alex Cameron, Daria Tsybaeva, Helen Stocks-Morgan, Malgorzata Kwiatkowska, Mary Andrews, Patrick Moan, and Toby Knight who carried out the fieldwork. The project was monitored by Richard Havis of Essex County Council. The machining was undertaken by Harry of Danbury Plant Hire.

2 AIMS AND METHODOLOGY

2.1 Aims

- 2.1.1 The objective of this evaluation was to determine, as far as reasonably possible, the presence/absence, location, nature, extent, date, quality, condition and significance of any surviving archaeological deposits within the development area in order to inform decisions on the extent of further work.

2.2 Methodology

- 2.2.1 The Brief required that 12 trenches were excavated in an area of c.12,000m², proposed for drainage swales and ponds required as part of the Phase 2 Infrastructure, and any archaeological remains examined.
- 2.2.2 Machine excavation was carried out under constant archaeological supervision with a tracked 15 ton machine using a toothless ditching bucket.
- 2.2.3 The site survey was carried out with a Leica GPS fitted with Smartnet.
- 2.2.4 Spoil, exposed surfaces and features were scanned with a metal detector. All metal-detected and hand-collected finds were retained for inspection, other than those which were obviously modern.
- 2.2.5 All archaeological features and deposits were recorded using OA East's *pro-forma* sheets. Trench locations, plans and sections were recorded at appropriate scales and colour and monochrome photographs were taken of all relevant features and deposits.
- 2.2.6 In total, two bulk samples were taken from this phase of evaluation. These were taken, considering the feature type and period, from deposits considered most appropriate for environmental sampling.
- 2.2.7 Site conditions were dry, with machine movement limited as much as possible to minimise disturbance to the ploughed ground. This did not affect trench excavation.

3 RESULTS

3.1 Introduction

3.1.1 The trenches are presented below in numerical order (see figure 2 for trench locations), with an outline of the archaeological features within each trench. The general descriptions and full details of the trenches are given in Appendix A. All of the excavated trenches were 30m in length and 2m wide. The natural geology of the area consisted of mid orange glacial till. A friable dark greyish brown silty clay topsoil deposit (2088) of between 0.11m and 0.51m thickness overlay a soft mid yellowish brown sandy clay subsoil layer (2089) that measured between 0.04m and 0.45m thickness.

3.2 Phase 2 Infrastructure

Trench 190

3.2.1 The trench contained a series of Iron Age ditches (**2043**, **2048**, **2051** – see Fig.3). To the north-west end was a north-east to south-west aligned ditch (**2043**), which had steep sides, a concave base, filled by a silting deposit (2044); a plastic mid orangey grey silty clay with occasional pottery and bone. This ditch was re-cut by ditch (**2045**), which had steep sides and a concave base; and was filled by a plastic dark orangey grey clay (2046) with pottery fragments, overlain by a tertiary dark greyish brown silty clay (2047), which contained Late Iron Age / Early Roman pottery and hearth lining.

3.2.2 On the north-eastern side of the trench, 9m from the north-west end, was a curvilinear ditch (**2048**) – aligned north to south, and curving to align east to west; with gentle sides and a flat base, filled by a firm dark brownish grey sandy clay (2049) containing pottery, animal bone and burnt flint.

3.2.3 Sealing the north-eastern end of the trench was a late medieval occupation layer (2050) which contained fragments of undated pottery and iron slag.

3.2.4 Towards the south-eastern end of the trench was a north-east to south-west aligned possible enclosure or boundary ditch (**2051**) with steep sides and a concave base. This ditch was filled by a firm mid greyish orange clay containing pottery and animal bone (2054), overlain by a firm light greyish orange clay containing pottery (2053), which in turn was overlain by a firm mid greyish blue clay containing pottery (2052).

Trench 191

3.2.5 No archaeological features were recorded in this trench.

Trench 192

3.2.6 Five metres from the western end of this trench was a linear ditch (**2041**), aligned north-west to south-east with gentle sides and a concave base, and filled by a friable mid brownish grey silty clay (2042). Fill (2042) contained fragments of Iron Age pottery, animal bone and flint.

Trench 193

3.2.7 This trench contained an undated linear ditch (**2033**), c.7.5m from the east end, running north to south, with moderately steep sides and a concave base, and filled by a moderately plastic mid greyish brown silty clay (2034).

Trench 194

- 3.2.8 Trench 194 contained a series of linear ditches (**2035**, **2037** and **2039**) and a modern ditch for a fence alignment. Ditches **2035** and **2037** ran parallel to each other, 0.8m apart, east to west across the trench. The undated ditch (**2035**) had fairly steep sides, a flat base and contained a firm dark brownish grey silty clay (2036); whilst the latter ditch (**2037**) fairly steep sides, a slightly concave rounded base, and was filled by a firm mid greyish brown silty clay (2038) which contained Iron Age pottery.
- 3.2.9 Aligned east-north-east to west-south-west, 22m from the south-west end of the trench, was a linear ditch (**2039**) of Iron Age date. It had gentle sloping sides but was not excavated to its base. It contained a firm mid greyish brown silty clay (2040) from which sherds of Iron Age pottery were recovered.

Trenches 195 – 201

- 3.2.10 No archaeological features were recorded in these trenches.

3.3 Finds Summary

- 3.3.1 An assemblage consisting of 1.664kg of pottery was recovered from feature fills and occupation layers. All of which date to the Late Iron Age / Early Roman period.
- 3.3.2 Other finds recovered during the evaluation include 121g of Iron working slag, 38g of flint (including burnt flint), 120g undiagnostic baked clay and 43g of animal bone.

4 DISCUSSION AND CONCLUSIONS

4.1 Late Iron Age

- 4.1.1 The evaluation revealed Late Iron Age activity, comprising a possible enclosure ditch (**2043**) that ran north-east to south-west, with a return running north-west to south-east (**2039**). A second ditch (**2048**), this time curvilinear (going from a north to south alignment to east to west), ran between the two ditches. Again, it was Late Iron Age, but its use was undetermined. The retrieval of Iron working slag and hearth linings within the ditch fills suggest the possibility that Iron working was occurring on a within the vicinity of the trenches.
- 4.1.2 To the north of the enclosure ditch ran two ditches (**2035**, **2037**) that the finds suggested were contemporary to each other and were likely to be Late Iron Age. These both ran west-north-west to east-south-east, nearly parallel to the enclosure ditch. Further north again ran a north to south aligned ditch (**2033**) possibly dating to the Iron Age.

4.2 Late Medieval

- 4.2.1 To the west of the evaluation area a north to south boundary ditch (**2051**) was recorded. This ditch is in line with the current boundary wall for New Hall school to the north, suggesting that it is contemporary.
- 4.2.2 To the south lay an east to west ditch (**2041**); pottery recovered from the fills was Iron Age in date but may be residual. The location of the ditch parallel with the modern day field boundary and perpendicular to the north to south boundary ditch (2051), suggest that this may also be part of the late medieval field system.
- 4.2.3 Located to the south of the enclosure ditch (**2039**) was a modern fence alignment that ran parallel to the current hedge line.

4.3 Significance

- 4.3.1 The archaeology recorded during this evaluation is concentrated to the western area of the field. The Late Iron Age remains may represent the eastern extent of the rural settlement, associated within the enclosed farmstead recorded at Site 8 to the north-west. Within the western part of the evaluated area a possible late medieval field system was seen to extend southwards. This field system is likely to relate to the manorial complex at New Hall, given its close proximity.
- 4.3.2 No archaeology was recorded to the eastern side of the area. The topography of this part of the field undulated and contained a large hollow which may represent a former pond feature within the deer park. Trial trenches excavated to investigate this feature revealed no evidence that the hollow was man-made or that it was a designed parkland feature.

4.4 Recommendations

- 4.4.1 Recommendations for any future work based upon this report will be agreed in consultation with the ECC HEM.

APPENDIX A. TRENCH DESCRIPTIONS AND CONTEXT INVENTORY

Trench 190						
General description					Orientation	NW-SE
Trench contained two north-east to south-west aligned ditches, one curvi-linear ditch, and a buried soil. Consists of soil and subsoil overlying a natural of clay.					Avg. depth (m)	0.28
					Width (m)	2
					Length (m)	30
Contexts						
Context no	Type	Width (m)	Depth (m)	Comment	Finds	Date
2043	Cut	1.65	0.6	Cut of ditch	-	Iron Age
2044	Fill	1.65	0.6	Fill of ditch 2043	pottery, bone	Iron Age
2045	Cut	1.24	0.46	Re-cut of ditch 2043	-	Iron Age
2046	Fill	1.24	0.3	Fill of ditch 2045	pottery	Iron Age
2047	Fill	0.7	0.16	Fill of ditch 2045	Fe slag, flint, pottery	Iron Age
2048	Cut	0.91	0.3	Cut of ditch	-	Iron Age
2049	Fill	0.91	0.3	Fill of ditch 2048	flint, pottery, bone	Iron Age
2050	Layer	1.3	0.18	Buried soil/occupation layer	Fe slag, pottery	-
2051	Cut	0.65	0.56	Cut of ditch	-	Iron Age
2052	Fill	0.65	0.24	Fill of ditch 2051	pottery, bone	Iron Age
2053	Fill	-	0.23	Fill of ditch 2051	-	-
2054	Fill	-	0.18	Fill of ditch 2051	-	-
2088	Layer	-	0.18	Topsoil	-	-
2089	Layer	-	0.10	Subsoil	-	-
Trench 191						
General description					Orientation	NW-SE
Trench devoid of archaeology, but had a natural hollow, and was disturbed by field drains. Consists of soil and subsoil overlying a natural of clay.					Avg. depth (m)	0.43
					Width (m)	2
					Length (m)	30
Contexts						
Context no	Type	Width (m)	Depth (m)	Comment	Finds	Date
2088	Layer	-	0.32	Topsoil	-	-
2089	Layer	-	0.11	Subsoil	-	-
Trench 192						

General description					Orientation	E-W
Trench contained one linear ditch running north-west to south east (towards the west end). Consists of soil and subsoil overlying a natural of orange clay.					Avg. depth (m)	0.59
					Width (m)	2
					Length (m)	30
Contexts						
Context no	Type	Width (m)	Depth (m)	Comment	Finds	Date
2041	Cut	>1.1	0.5	Cut of ditch	-	Iron Age
2042	Fill	>1.1	0.5	Fill of ditch 2041	flint, pottery, bone	Iron Age
2088	Layer	-	0.2	Topsoil	-	-
2089	Layer	-	0.1	Subsoil	-	-
Trench 193						
General description					Orientation	E-W
Trench contained a linear ditch running north to south (near the middle). Consists of soil and subsoil overlying a natural of orange clay.					Avg. depth (m)	0.41
					Width (m)	2
					Length (m)	30
Contexts						
Context no	Type	Width (m)	Depth (m)	Comment	Finds	Date
2033	Cut	0.80	0.20	Cut of ditch	-	-
2034	Fill	0.80	0.20	Fill of ditch 2033	-	-
2088	Layer	-	0.30	Topsoil	-	-
2089	Layer	-	0.11	Subsoil	-	-
Trench 194						
General description					Orientation	NE-SW
Trench contained two east to west aligned ditches (at the north-eastern end), a larger east-north-east to west-south-west ditch (near the middle), and a modern ditch (at the south-western end) aligned east-north-east to west-south-west. Consists of soil and subsoil overlying a natural of orange clay.					Avg. depth (m)	0.28
					Width (m)	2
					Length (m)	30
Contexts						
Context no	Type	Width (m)	Depth (m)	Comment	Finds	Date
2035	Cut	0.80	0.30	Cut of ditch	-	-
2036	Fill	0.80	0.30	Fill of ditch 2035	-	-
2037	Cut	0.55	0.15	Cut of ditch	-	Iron Age
2038	Fill	0.55	0.15	Fill of ditch 2037	pottery	Iron Age
2039	Cut	>1.10	>0.40	Cut of ditch	-	Iron Age
2040	Fill	>1.10	>0.40	Fill of ditch 2039	pottery	Iron Age
2088	Layer	-	0.18	Topsoil	-	-

2089	Layer	-	0.10	Subsoil	-	-
Trench 195						
General description					Orientation	E-W
Trench devoid of archaeology. Consists of soil overlying a natural of orange glacial till.					Avg. depth (m)	0.32
					Width (m)	2
					Length (m)	30
Contexts						
Context no	Type	Width (m)	Depth (m)	Comment	Finds	Date
2088	Layer	-	0.32	Topsoil	-	-
Trench 196						
General description					Orientation	N-S
Trench devoid of archaeology. Consists of soil overlying a natural of clay.					Avg. depth (m)	0.44
					Width (m)	2
					Length (m)	30
Contexts						
context no	type	Width (m)	Depth (m)	comment	finds	date
2088	Layer	-	0.44	Topsoil	-	-
Trench 197						
General description					Orientation	E-W
Trench devoid of archaeology. Consists of soil overlying a natural of clay.					Avg. depth (m)	0.40
					Width (m)	2
					Length (m)	30
Contexts						
Context no	Type	Width (m)	Depth (m)	Comment	Finds	Date
2088	Layer	-	0.40	Topsoil	-	-
Trench 198						
General description					Orientation	NE-SW
Trench devoid of archaeology, but did contain a natural hollow towards the north-east end. Consists of soil and subsoil overlying a natural of clay. There was an absence of subsoil at the south-western end.					Avg. depth (m)	0.47
					Width (m)	2
					Length (m)	30
Contexts						
Context no	Type	Width (m)	Depth (m)	Comment	Finds	Date
2088	Layer	-	0.3	Topsoil	-	-
2089	Layer	-	0.25	Subsoil	-	-
Trench 199						
General description					Orientation	E-W

Trench devoid of archaeology. Consists of soil and subsoil overlying a natural of clay. There was subsoil only at the western end.		Avg. depth (m)	0.39			
		Width (m)	2			
		Length (m)	30			
Contexts						
Context no	Type	Width (m)	Depth (m)	Comment	Finds	Date
2088	Layer	-	0.36	Topsoil	-	-
2089	Layer	-	0.03	Subsoil	-	-
Trench 200						
General description					Orientation	N-S
Trench devoid of archaeology. Consists of soil and subsoil overlying a natural of clay. There was an absence of subsoil at the southern end.					Avg. depth (m)	0.36
					Width (m)	2
					Length (m)	30
Contexts						
Context no	Type	Width (m)	Depth (m)	Comment	Finds	Date
2088	Layer	-	0.29	Topsoil	-	-
2089	Layer	-	0.07	Subsoil	-	-
Trench 201						
General description					Orientation	NW-SE
Trench devoid of archaeology. There was colluvium/hillwash on the north-western side from a natural dip in the topography. Consists of soil and subsoil overlying a natural of clay.					Avg. depth (m)	0.45
					Width (m)	2
					Length (m)	30
Contexts						
Context no	Type	Width (m)	Depth (m)	Comment	Finds	Date
2088	Layer	-	0.33	Topsoil	-	-
2089	Layer	-	0.12	Subsoil	-	-

APPENDIX B. FINDS REPORTS

B.1 Metalworking Waste

Trench	Context	Cut	Feature	Weight (g)	Comments
190	2047	2045	ditch	88	Fe
190	2050	-	layer	33	Fe

B.2 Flint

Trench	Context	Cut	Feature	Weight (g)	Comments
192	2042	2041	ditch	3	
190	2047	2045	ditch	31	Burnt
190	2049	2048	ditch	4	Burnt

B.3 Pottery

Trench	Context	Cut	Feature	Spot date	Weight (g)
194	2038	2037	ditch	Iron Age	8
194	2040	2039	ditch	Iron Age	3
192	2042	2041	ditch	Iron Age	201
190	2044	2043	ditch	Iron Age	55
190	2046	2045	ditch	Iron Age	111
190	2047	2045	ditch	Iron Age	35
190	2049	2048	ditch	Iron Age	1233
190	2050	-	layer	Iron Age	18
190	2052	2051	ditch	Iron Age	231

B.4 Burnt Clay

Trench	Context	Cut	Feature	Weight (g)
192	2042	2041	ditch	27
190	2047	2045	ditch	44
190	2049	2048	ditch	4
190	2050	-	layer	1
190	2052	2051	ditch	44

B.5 Animal Bone

Trench	Context	Cut	Feature	comments	Weight (g)
192	2042	2041	ditch	Sheep / Goat	1
190	2044	2043	ditch	Sheep / Goat	6
190	2049	2048	ditch	Sheep / Goat	25
190	2052	2051	ditch	Sheep / Goat	11

APPENDIX C. ENVIRONMENTAL REPORTS

C.1 Faunal Remains

Trench	Context	Cut	Feature	comments	Weight (g)
192	2042	2041	ditch	Sheep / Goat	1
190	2044	2043	ditch	Sheep / Goat	6
190	2049	2048	ditch	Sheep / Goat	25
190	2052	2051	ditch	Sheep / Goat	11

C.2 Environmental Samples

By Rachel Fosberry

Introduction

Two bulk samples were taken from features within the evaluated areas of the Phase 2 infrastructure, Beaulieu, Essex in order to assess the quality of preservation of plant remains and their potential to provide useful data as part of further archaeological investigations. The samples were taken from Late Iron Age deposits 2044 and 2047 from ditches **2045** and **2048** respectively.

Methodology

- C.2.1 The total volume (up to 18 litres) of each bulk sample was processed by water flotation (using a modified Siraff three-tank system) for the recovery of charred plant remains, dating evidence and any other artefactual evidence that might be present. The floating component (flot) of the samples was collected in a 0.3mm nylon mesh and the residue was washed through 10mm, 5mm, 2mm and a 0.5mm sieve. Both flot and residues were allowed to air dry. A magnet was dragged through each residue fraction prior to sorting for artefacts. Any artefacts present were noted and reintegrated with the hand-excavated finds. The dried flots were subsequently sorted using a binocular microscope at magnifications up to x 60 and a complete list of the recorded remains are presented in Table 1. Identification of plant remains is with reference to the Digital Seed Atlas of the Netherlands and the authors' own reference collection. Nomenclature is according to Zohary and Hopf (2000) for cereals and Stace (1997) for other plants. Carbonized seeds and grains, by the process of burning and burial, become blackened and often distort and fragment leading to difficulty in identification. Plant remains have been identified to species where possible. The identification of cereals has been based on the characteristic morphology of the grains and chaff as described by Jacomet (2006).

Quantification

- C.2.2 For the purpose of this initial assessment, items such as cereal grains have been scanned and recorded qualitatively according to the following categories:

= 1-10, ## = 11-50 specimens

Items that cannot be easily quantified such as charcoal have been scored for abundance

+ = rare, ++ = moderate, +++ = abundant

Results

C.2.3 Both samples contain plant remains in the form of charcoal and cereal grains that have been preserved by carbonisation (charring). The cereals have been identified as barley (*Hordeum vulgare*) and wheat (*Triticum* sp.). The wheat grains have a morphology most resembling spelt (*T. spelta*) which is a variety of hulled wheat that was commonly cultivated in the Iron Age through to the Roman period. No other diagnostic elements such as chaff or weed seeds specimens are present.

Sample No.	Context No.	Cut No.	Feature Type	Sample Size (L)	Flot Volume (ml)	Preservation	Cereals	Charcoal <2mm	Charcoal > 2mm	Flot comments
302	2047	2045	ditch	18	70	Charred	##	+++	++	Charcoal-rich. Barley and cf. spelt grains
303	2049	2048	ditch	16	30	Charred	#	++	+	single barley grain

Table 1: *Environmental samples from Trench 190*

Discussion

C.2.4 The plant remains recovered from this site indicates that there is preservation of charred food remains that are consistent with occupation of the site during the Late Iron Age. There is good potential for the recovery of further remains if future excavations take place.

APPENDIX D. BIBLIOGRAPHY

- R.T.J. 2006 Digital Seed Atlas of the Netherlands
Cappers, R.M. Groningen Archaeological Studies 4, Barkhuis Publishing, Eelde, The Netherlands.
Bekker and J.E.A. Jans, www.seedatlas.nl
- Crummy, P., 1997 *City of Victory: the story of Colchester - Britain's first Roman town* (Colchester: Colchester Archaeological Trust)
- Drury, P.J., 1978 *Excavations at Little Waltham, 1970-71*, CBA Research Report 26
- Drury, P.J., 1980 'The early and middle phases of the Iron Age in Essex', in Buckley, B.G., (ed.), *The Archaeology of Essex to AD 1500*, CBA Research Report 34
- Drury, P.J. and 1980 'Settlement in the Later Iron Age and Roman periods', in Buckley, B.G., Rodwell, W., (ed.), *The Archaeology of Essex to AD 1500*, CBA Research Report 34
- Hedges, J., 1984 'The Neolithic in Essex', in Buckley, B.G., (ed.), *The Archaeology of Essex to AD 1500*, CBA Research Report 34
- Hunter, J., 2003 *Field systems in Essex* (Essex Society for Archaeology and History, Colchester)
- Jacomet, S. 2006 Identification of cereal remains from archaeological sites. (2nd edition, 2006) IPNA, Universität Basel / Published by the IPAS, Basel University.
- Kemble, J., 2001 *Prehistoric and Roman Essex* (Stroud: Tempus)
- Reaney, P.H., 1935 *Place names of Essex* (Cambridge)
- Stace, C. 1997 *New Flora of the British Isles*. Second edition. Cambridge University Press
- Stocks- 2013a *Iron Age and Medieval Remains on land at Phase 1, Beaulieu, Morgan, H., Chelmsford. Beaulieu Development Phase 1A*, Oxford Archaeology East Rep. No. 1473 (unpublished)
- Stocks- 2013b *Iron Age Remains at Site 5 and Area A1, Phase 1, Beaulieu, Morgan, H., Chelmsford*, Oxford Archaeology East Rep. No. 1541 (unpublished)
- Stocks- 2013c *Medieval Remains at Beaulieu (Zone D) Chelmsford*, Oxford Morgan, H., Archaeology East Rep. No. 1544 (unpublished)
- Stocks- 2014a *Early Iron Age and Medieval Remains at Zone A Housing, Beaulieu, Morgan, H., Chelmsford*, Oxford Archaeology East Rep. No. 1591 (unpublished)
- Stocks- 2014b *Late Iron Age and Medieval Remains on Land at CPPLC PH3 and PD Morgan, H., Land Sale, Beaulieu, Chelmsford*, Oxford Archaeology East Rep. No. 1629 (unpublished)
- Tuckwell, T., 2006 *New Hall and its School* (Kings Lynn)

- URS, 2013 *Beaulieu Park, Chelmsford, Essex: Archaeological Investigation and Mitigation Strategy* (Unpublished Archaeological Design)
- Webb, R., 2014a *Late Iron Age and Medieval remains in the Haulage Road 2b at Beaulieu, Chelmsford*, Oxford Archaeology East Rep. No. 1661 (unpublished)
- Webb, R., 2014b *An Archaeological Evaluation at Zone C Housing at Beaulieu Park, Chelmsford*. Oxford Archaeology East Rep. No. 1669 (unpublished)
- Zohary, D., Hopf, M. 2000 *Identification of cereal grains from archaeological sites*. (2nd Edition, 2006) IPNA, Universität Basel/Published by the IPAS, Basel University

Map consulted

- British Geological Survey, 1993 Sheet 241, England and Wales 1:50,000

Electronic source

- Essex CC, 2003 *Unlocking Essex's Past from Heritage Conservation at Essex County Council*. Available:
http://unlockingessex.essexcc.gov.uk/uep/content_page.asp?content_page_id=111&content_parents=48,94. Accessed 2 September 2014

APPENDIX A. OASIS REPORT FORM

All fields are required unless they are not applicable.

Project Details

OASIS Number	oxfordarc3-190888			
Project Name	Evaluation at Beaulieu, Chelmsford, Phase 2 Infrastructure			
Project Dates (fieldwork)	Start	26-08-2014	Finish	29-08-2014
Previous Work (by OA East)	Yes		Future Work	Yes

Project Reference Codes

Site Code	SPBP14	Planning App. No.	09/01314/EIA
HER No.	SPBP14	Related HER/OASIS No.	SPBP14

Type of Project/Techniques Used

Prompt	Direction from Local Planning Authority - PPG15
Development Type	Extensive Green Field Commercial Development

Please select all techniques used:

<input type="checkbox"/> Aerial Photography - interpretation	<input type="checkbox"/> Grab-Sampling	<input type="checkbox"/> Remote Operated Vehicle Survey
<input type="checkbox"/> Aerial Photography - new	<input type="checkbox"/> Gravity-Core	<input checked="" type="checkbox"/> Sample Trenches
<input type="checkbox"/> Annotated Sketch	<input type="checkbox"/> Laser Scanning	<input type="checkbox"/> Survey/Recording Of Fabric/Structure
<input type="checkbox"/> Augering	<input type="checkbox"/> Measured Survey	<input type="checkbox"/> Targeted Trenches
<input type="checkbox"/> Dendrochronological Survey	<input type="checkbox"/> Metal Detectors	<input type="checkbox"/> Test Pits
<input type="checkbox"/> Documentary Search	<input type="checkbox"/> Phosphate Survey	<input type="checkbox"/> Topographic Survey
<input type="checkbox"/> Environmental Sampling	<input type="checkbox"/> Photogrammetric Survey	<input type="checkbox"/> Vibro-core
<input type="checkbox"/> Fieldwalking	<input type="checkbox"/> Photographic Survey	<input type="checkbox"/> Visual Inspection (Initial Site Visit)
<input type="checkbox"/> Geophysical Survey	<input type="checkbox"/> Rectified Photography	

Monument Types/Significant Finds & Their Periods

List feature types using the [NMR Monument Type Thesaurus](#) and significant finds using the [MDA Object type Thesaurus](#) together with their respective periods. If no features/finds were found, please state "none".

Monument	Period	Object	Period
Ditch	Iron Age -800 to 43	Pottery	Iron Age -800 to 43
Layer	Iron Age -800 to 43	Pottery	Iron Age -800 to 43
	Select period...		Select period...

Project Location

County	Essex	Site Address (including postcode if possible)
District	Chelmsford	Land off White Hart Lane, Chelmsford CM2 6TD
Parish	Springfield	
HER	Essex HER	
Study Area	720m ²	National Grid Reference TL 7230 1014

Project Originators

Organisation	OA EAST
Project Brief Originator	Richard Havis (ECC HER)
Project Design Originator	Iain Williamson (URS)
Project Manager	Richard Mortimer (OA EAST)
Supervisor	Toby Knight (OA EAST)

Project Archives

Physical Archive	Digital Archive	Paper Archive
Chelmsford Museum	Oxford Archaeology East	Chelmsford Museum
SPBP14	SPBP14	SPBP14

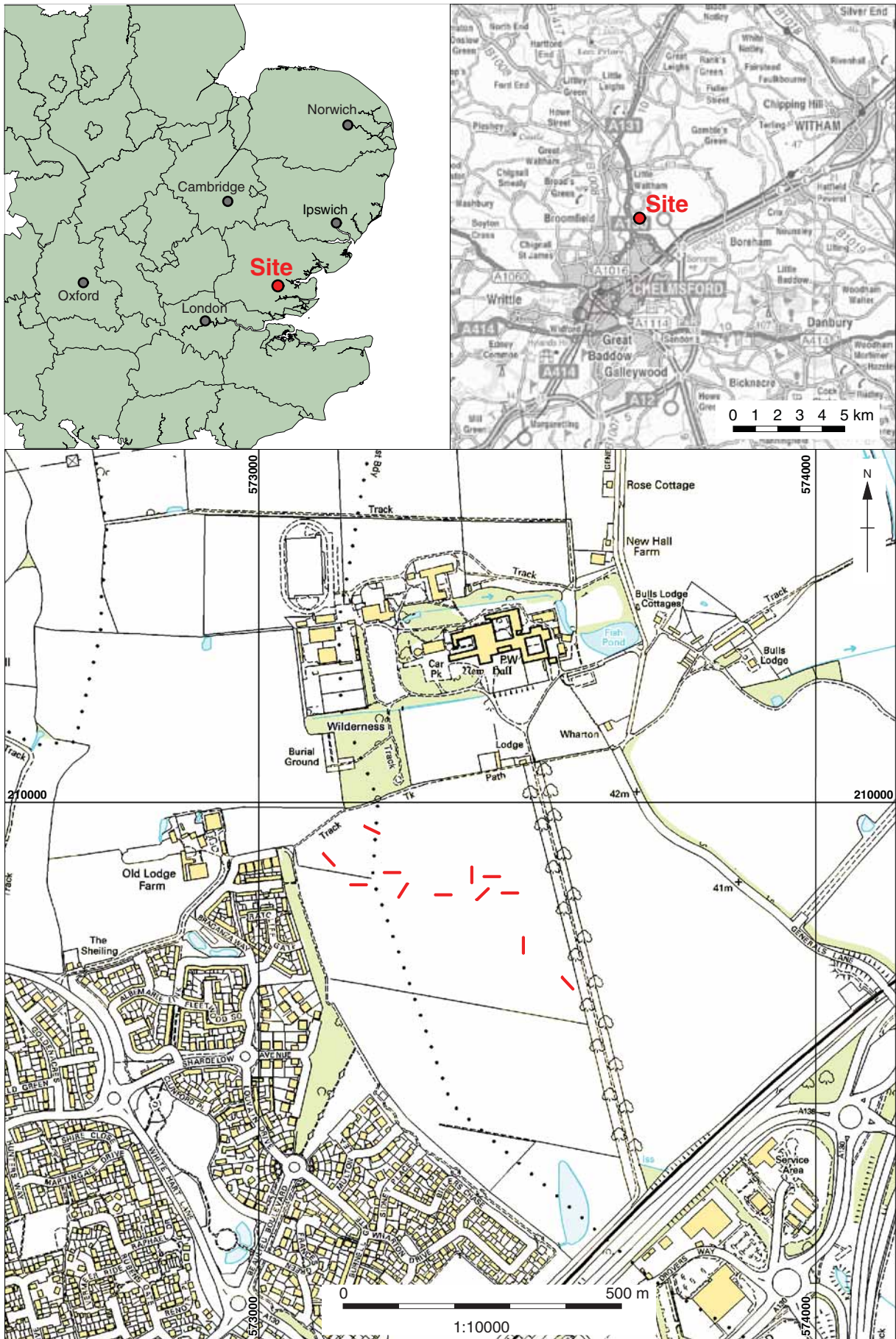
Archive Contents/Media

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Ceramics	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environmental	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Glass	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Human Bones	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Industrial	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Worked Stone/Lithic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Digital Media	Paper Media
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	<input checked="" type="checkbox"/> Report
	<input checked="" type="checkbox"/> Sections
	<input checked="" type="checkbox"/> Survey

Notes:

Accession number has yet to be assigned



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Figure 1: Site location showing archaeological trenches (red) .

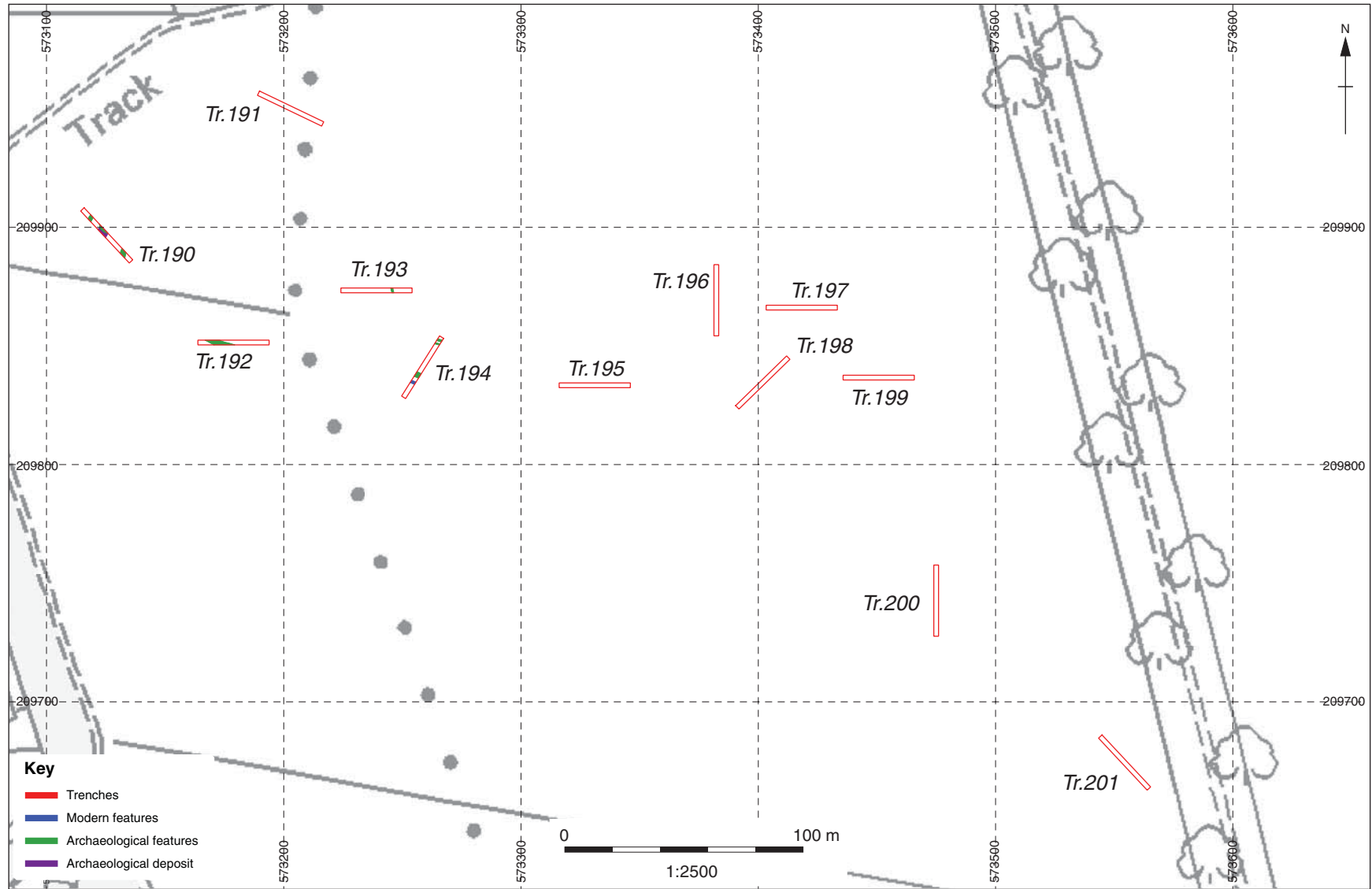


Figure 2: Trench location plan with archaeological features

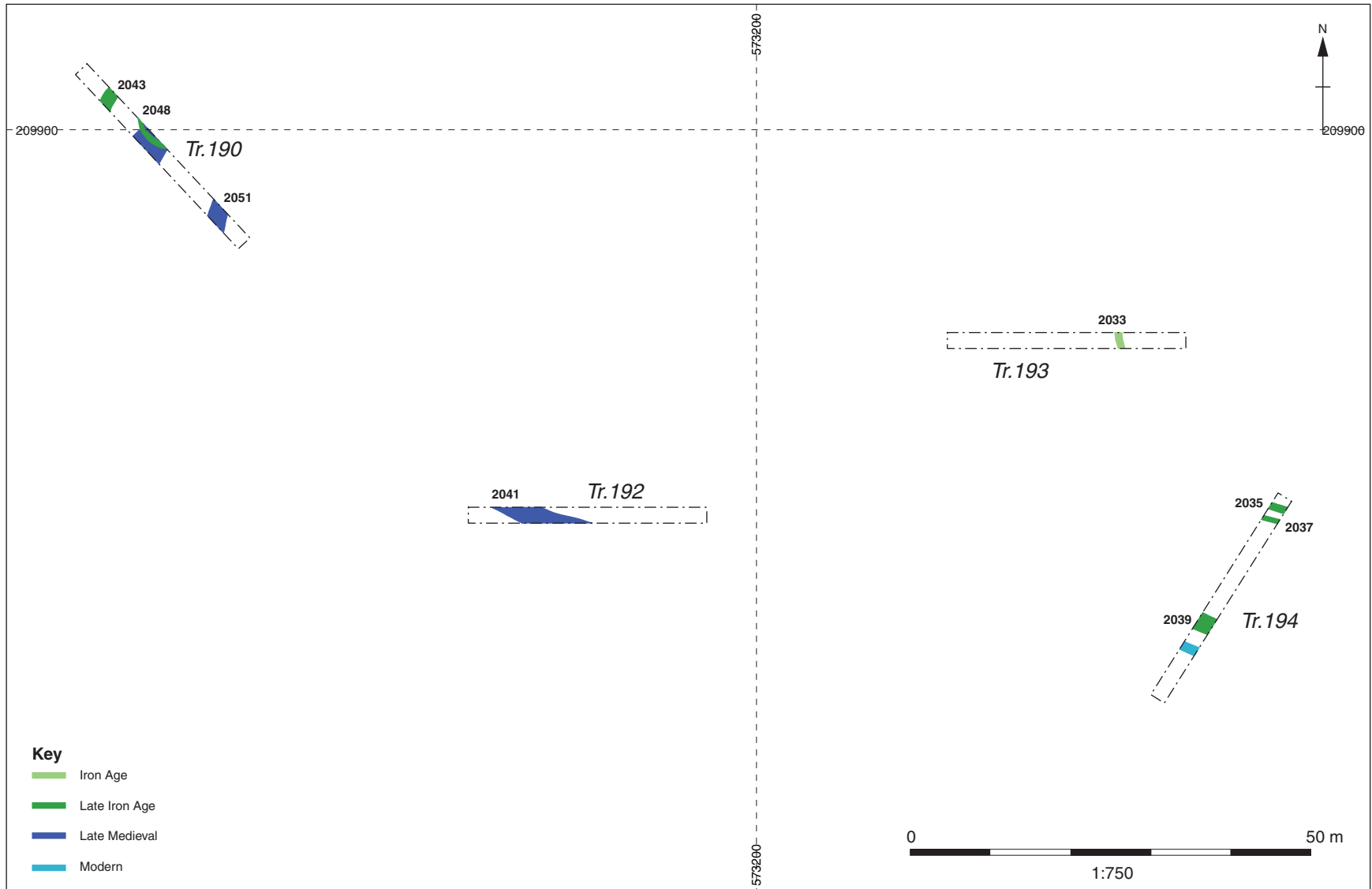


Figure 3: Detail of archaeological features



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