Archaeology South-East

ASE

ARCHAEOLOGICAL INVESTIGATION AT LOWLEY'S FARM, GREAT LEIGHS, ESSEX

NGR: TL 72541594

Planning Ref: 11/01728/FUL

ASE Project No: E2531
Site Code: GLLF13

ASE Report No: 2013242
OASIS ID: 157341

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Abstract

This report presents the results of the archaeological site evaluation and excavation carried out by Archaeology South-East at Lowleys Farm, Great Leighs, Essex, in March 2013. The fieldwork was commissioned by the landowner in advance of the construction of a new grain store immediately north of the existing farm buildings.

Cropmark features have been identified from aerial photographs to be present to the northwest and southwest of the development site. Previous archaeological investigation in advance of the construction of the nearby A130 bypass located remains of the Roman road between Chelmsford and Braintree and a trackway that can be projected to potentially run through the site.

An initial phase of trial trenching identified the presence of Roman period features within the development area. Subsequent area excavation of the proposed footprint of the grain store revealed a moderate density of remains. The recorded ditches, pits, gullies and post-holes are interpreted as defining three phases of Roman agricultural land use spanning the late 1st to mid 3rd centuries AD. The ditches represent two phases of enclosure systems, while the deposition of artefact-rich material within a number of pits may have marked the abandonment of this organised landscape. The range of domestic artefacts and substantial quantities of structural brick and tile retrieved from the excavated remains suggests a low-status occupation site in the near vicinity, perhaps a farmstead located just off the Roman road.

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1.0 INTRODUCTION

1.1 Site Background

1.1.1 Essex County Council Field Archaeology Unit (ECC FAU) were commissioned by Strutt and Parker, agent of the landowner, to carry out archaeological investigation ahead of the construction of a new grain store in order to comply with a condition for such works placed on planning consent.

1.1.2 Subsequent to the fieldwork, ECC FAU has ceased to exist and has become part of Archaeology South-East (ASE), the contracting division of the Centre for Applied Archaeology (CAA), Institute of Archaeology (IoA), University College London (UCL). The majority of the post-excavation work, including the production of this report, has been undertaken by ASE.

1.2 Location, Geology and Topography

1.2.1 The development area is located at Lowley's Farm, Great Leighs, Essex (NGR TL 72541594), to the immediate north of the present farm complex and straddles the present track leading to Goodman's Lane. The A131 Great Leighs Bypass lies c.250m to the west and Goodmans Lane *c.*100m to the north.

1.2.2 The site encompasses land currently under arable cultivation, and the present access track leading to the farm complex; with the principle development area being to the west of the track. Lowley's Farmhouse, located approximately 120m south of the development site, is a 17th century listed building (LB 112632; HER 30463).

1.2.3 The site is situated on a slight downward slope from southwest to northeast. The slope leads towards the River Ter, which lies approximately 200m to the northeast.

1.2.4 According to the British Geological Survey (BGS website), the underlying geology comprises sand and gravel with localised lenses of silt and clay.

1.3 Planning Background

1.3.1 A planning application for the construction of an agricultural grain store and associated concrete hard standing was granted consent by Chelmsford Borough Council (application ref: 11/01728/FUL). On the recommendation of Essex County Council Place Service's Historic Environment team (ECC HE), and in accordance with advice given in Planning Policy Statement 5: Planning for the Historic Environment, Chelmsford City Planning Authority required that a programme of archaeological work be undertaken prior to the commencement of any construction work as a condition of consent.

1.3.2 The condition attached to consent stated:
No development or preliminary groundworks of any kind shall take place until the applicant has secured the implementation of a programme of archaeological work and recording in accordance with a written scheme of investigation which has been submitted by the applicant, and approved by the planning authority.

1.3.3 A brief of works was issued by the ECC HE team in January 2012 which

specified the minimum standards and scope of the required archaeological work. On commissioning, ECC FAU responded with a Written Scheme of Investigation which presented a detailed methodology in February 2013, which was subsequently approved by the ECC HE team prior to commencement.

1.4 Circumstances and Dates of Work

1.4.1 The original requirement as stated by the ECC HE brief was for evaluation of the development area by means of trial trenching. This evaluation work was undertaken during the period 04-08 March 2013.

1.4.2 Due to the discovery of significant archaeological remains in the trial trenches, and the client's need to commence construction imminently, the archaeological works progressed immediately, with the consent of the ECC HE team, to strip, map and excavation of the development footprint. This monitoring and excavation was carried out 11-18 March 2013.

1.5 Aims and Objectives

1.5.1 The aim of the initial trial trenching work was to determine the location, extent, date, character, condition, significance and quality of any surviving remains in order to inform decisions regarding further works by the ECC HEM team. Specific objectives of this work were to:

- Identify whether or not the site was crossed by a previously identified cropmark trackway and, if so, to determine its date.

1.5.2 The revised general aim of the subsequent monitoring and excavation phase was to record and investigate all archaeological remains exposed with a view to collecting information on the nature, date, development, function and economy of the Roman period site found by the evaluation.

1.5.3 Significant discoveries were to be discussed in relation to research objectives identified in *Research and Archaeology: a framework for the Eastern Counties, 2. Research agenda and strategy* (Brown and Glazebrook 2000) and *Research and Archaeology Revisited: a revised framework for the East of England* (Medlycott 2011).

1.6 Scope of Report

1.6.1 This report presents the combined results of the evaluation and monitoring/excavation phases of work undertaken at this site. Trenching results are subsumed into the description and discussion of excavation results wherever possible in order to present a cohesive and integrated narrative.

2.0 ARCHAEOLOGICAL BACKGROUND

2.1 The site lies within an area of archaeological potential indicated chiefly by cropmarks. Aerial photographic cropmark evidence and associated investigations on the A130 Great Leighs bypass (EHER 14579-86) indicate multi-period activity in this landscape.

2.2 The route of the Colchester to Braintree Roman Road, which is visible from the air as cropmarks, runs to the northwest of the site, between the old A130 and its replacement by-pass.

2.3 Cropmarks approximately 300m to the northwest, close to Lowleys Cottages, include a potential track running from the main Roman road towards the location of Lowley's Farm (Fig.1; EHER 6129). The projected course of this track, if straight and continuous, crosses the development site.

2.4 These cropmarks were investigated where they lay within the route of the A130 bypass (Lavender 2004). Trenching in 1994 and modest open area excavation in 2001 (A130 Bypass Site 1 targeted the main Roman road, the trackway running off it, and worked flint surface concentrations identified by fieldwalking. This work identified the roadside ditches and some metalled surfaces. Trackway remains were also recorded but its dating and relationship to the Roman road were not determined. Other cropmark feaures had the same alignment at Goodmans Lane and were judged to probably be medieval or later.

2.5 Additional cropmarks immediately southwest of Lowley's Farm comprise a sequence of enclosures of unknown date.

2.6 Lowley's Farm itself appears to be of post-medieval foundation. The farmhouse is of 17th century date and 19th century historic mapping depicts a complex of buildings alongside it and extending towards/into the current development area.

2.7 No investigation has previously taken place within the site and its immediate vicinity. Historic mapping shows the field system to be largely unchanged and this location would appear to have been agricultural land up until its current development. Buildings of the historic farmstead, evident on mapping up until the mid-20th century, have been removed just south of the development area and their site re-occupied by modern farm structures.

3.0 ARCHAEOLOGICAL METHODOLOGY

3.1 Evaluation

3.1.1 Three evaluation trenches were initially excavated, two being 40m-long and one 30m-long, all measuring 1.5m wide. These were positioned to sample the content of the overall development area (Figure 1), Trenches 1 and 2 were positioned within the footprint of the proposed grain store and lean-to (Figure 3), and Trench 3 in the area of hard standing o he east of the Track. During excavation, trench 3 was moved slightly east of its proposed location in order to avoid a live electricity cable which was found to run alongside the track.

3.1.2 Due to the discovery of significant archaeological remains, the west end of Trench 2 was extended by 3m and, following consultation with the ECC HE team, a fourth trench, measuring 12m long, was excavated to the south of trench 2 in order to assess the nature and extent of the archaeological remains in this direction.

3.1.3 All archaeological features exposed in trenches 1-3 were sample excavated and recorded. The remains in trench 4 were planned but not excavated during the evaluation stage.

3.2 Monitoring and excavation

3.2.1 Following further consultation with ECC HE, the scope of the investigation progressed straight to archaeological monitoring of the initial stages of construction groundworks. This involved supervision of the machine strip of all topsoil and subsoil down to the archaeological horizon over the entire development area west of the farm track – a roughly square area of c.2000sq m.

3.2.2 The excavation area was machine stripped using a tracked mechanical 360° excavator equipped with toothless ditching buckets and under direct archaeological supervision. Excavation was carried out to the surface of natural geology whereupon archaeological features were exposed and cleaned as necessary (Figures 4 and 5).

3.2.3 All exposed remains were planned by TST (total station theodolite) and then selectively excavated and recorded.

3.2.4 Standards

3.3.1 All work was carried out in accordance with regional standards for field archaeology in the east of England (Gurney 2003).

3.3.2 The ECC FAU was a Registered Archaeological Organisation (RAO) with the Institute of Field Archaeologists (IFA), as is ASE. All work was undertaken in accordance with the relevant Code of Practice and bylaws of the IfA and with the IfA's Guidelines for evaluation and excavation (2008).

3.3 Archive

3.1 The site archive is currently held at the offices of ASE and will be deposited at the Chelmsford and Essex Museum in due course. The contents of the archive are quantified below.

Record type	Quantity
Context register sheets	3
Context record sheets	79
A2 Multi-context section sheets 1:10	3
A2 Multi-context plan sheets, 1:20 or 1: 50 drawings	3
Digital photo images	88
Soil sample sheets	2
Soil sample register sheets	1
Photograph register sheets	2
Section register sheets	1
Small finds register sheets	1
Plan register sheets	1
Trench recording sheets	4
Boxes of finds	2

Table 1: Quantification of site archive

4.0 RESULTS

4.1 General

4.1.1 The trial trenches were cut to a depth of 0.35-0.5m. No archaeologically significant layers were identified, other than reworked topsoil and subsoil so excavation continued down to the underlying natural deposit and any archaeological remains cut into it. Table 2 presents descriptions of the topsoil and subsoil deposits removed and of the natural deposit below.

Trench no.	Orientation	Dimensions (m)	Context	Description	Deposit Thickness (m)
1	NNE-SSW	39.5 x 1.5 x 0.48 deep	Topsoil	Mid grey brown, moderately loose sandy silt with frequent small and medium gravel	0.25 - 0.30
			Subsoil	Mid yellow brown, compact sandy silt with frequent small and medium gravel	0.05 - 0.10
			Natural	Light yellow orange sandy gravel with occasional patches of yellow orange clay	-
2	WNW-ESE	33 x 1.5 x 0.48 deep	Topsoil	As above	0.30 - 0.38
			Subsoil	As above	0.10 - 0.12
			Natural	As above	-
3	NNE-SSW	39.5 x 1.5 x 0.46 deep	Topsoil	As above	0.20 - 0.32
			Subsoil	As above	0.10 - 0.14
			Natural	As above	-
4	NW-SE	12 x 1.5 x 0.46 deep	Topsoil	As above	0.30
			Subsoil	As above	0.12
			Natural	As above	-

Table 2: Trial Trench results summary

4.1.2 A modest density of archaeological remains was recorded within the trenches (Figure 2). This comprised apparent linear ditch-like features and pits, the tops of which were identified directly below the subsoil layer that extended across the site (e.g. Figure 3). Only cut features were present, intruding into the natural deposit and displaying occasional intercutting.

4.1.3 A similar range and density of remains was revealed across the subsequent excavation area (Figures 2, 4 and 5). In addition, possible post-holes and natural features such as tree holes were recorded. The recorded features of both the evaluation and excavation phases of work are subsumed into a single site description below. Additional feature description, including dimensions, is presented in Appendix 1.

4.1.3 Almost all of the dated features belong to the Roman period. Site phasing has been applied to the recorded remains on the basis of inter-cut relationships, finds dating (primarily pottery) and to a lesser extent similarity, association and shared alignment. On the basis of the available evidence, four phases of landscape use are defined:

- Phase 1: Early Roman
- Phase 2: Mid Roman, (mid-2nd to mid-3rd century occupation)
- Phase 3: Mid Roman, (mid-3rd century abandonment)
- Phase 4: Post-Roman (post-medieval/modern)

In addition, a significant number of features are either wholly undated or only broadly dated as 'Roman' and so are described and discussed separately. Their possible dating and association with the phased remains is suggested where possible.

4.1.4 The excavated ditches represented the relatively shallow remnants of presumably more substantial features, and only contained single fills. Consequently, it has been assumed that the fill represents the natural silting that would have occurred during the ditches use rather than a deliberate backfilling, and therefore finds from the fills have been used to date the ditches use, rather than their abandonment.

4.1.5 Where multiple segments have been excavated from a feature, and a contemporary date is suggested for the various cuts and deposits, a group number (GP#) has been assigned in order to aid description.

4.2 Phase 1 (Early Roman)

4.2.1 The first phase of activity is denoted by two NE-SW oriented ditches, [35] and [GP1] present along the eastern edge of the main excavation area (Figure 2). Ditch [35] had shallow sides and contained single fill [36]; a dark grey brown, sandy silt. Its width is unknown as its eastern edge laid beyond the excavation area (c.1m width revealed at NE end). Neither was the depth determined, due to flooding, although the slope of its sides became very shallow at 0.5m deep.

Ditch [GP1] was excavated in segments [37] and [75] revealing shallow sides, a concave base and a uniform single fill. [GP1] measured between 1.15m and 1.7m wide and c.0.34m deep. At the southern end, ditch segment [37] was tentatively recorded as cutting segment [35] and its fill. The two ditches appear to be broadly contemporary and mark the same boundary, one presumably being a replacement of the other.

4.2.2 The Early Roman date for this boundary is somewhat tentative as it relies on a single uncertainly-dated artefact, a possible iron axe head (RF<8>) recovered from the fill of segment [35]. An early Roman date for the ditches is suggested as they were cut by several later features dated much more reliably to the mid-2nd to mid-3rd centuries AD.

4.2.3 Denoted only by a pair of intercutting ditches, interpretation of this phase of land use is limited. It is however possible that some of the undated features (section 4.6.1) are in fact contemporary with this phase of land-use. The existence of two land-use entities, such as fields, is all that can reasonably be inferred. The presence of a maintained boundary or drainage ditch signifies management of the landscape and suggests settlement activity in the vicinity – perhaps a farmstead just off, and accessed from, the Roman road.

4.3 Phase 2 (mid Roman occupation)

4.3.1 A second phase of land use is represented by fragments of a likely enclosure

system, of which parts of at least two fields or enclosures are apparent (Figure 2). The first is defined by ditch [GP2] in the south-eastern corner of the excavation area and in the south end of trench 3 (excavated in segments [19], [39], [43] and [45]), which is on a slightly different alignment to the earlier GP1 boundary that it cuts (Figures 6 and 7). Pottery from the fills of this ditch dates to AD120-250.

4.3.2 No contemporary features were identified to occupy the interior of the GP2 ditched enclosure, albeit only the very corner of it was exposed and some of it truncated by post-medieval pit [47].

4.3.3 Parts of the southern and eastern boundaries of a second probable enclosure are defined by ditch GP3, excavated in segments [17], [51] and [71] (Figure 8). Pottery from segment [51] is dated to AD160-250 while that from [17] is only broadly dated as 'Roman'. Undated ditch [13], located at the north end of trench 3, is speculated to mark part of the northern side of this enclosure; being broadly parallel with its southern boundary. The excavated segments of this enclosure ditch all measured 0.8-1.3m wide and c.0.2m deep. They all had shallow sloping sides and a concave base, and contained a single fill of mid grey brown clay silt or silty sand.

4.3.4 A quantity of features occupied the GP3 ditched enclosure. Gully [59] and pit [61] contained pottery dating to AD160-250 while others can only be accorded broad Roman dates. However, it is probable that these were all contemporary with the enclosure.

4.3.5 Narrow NE-SW aligned gully [59] ran diagonally across the enclosure interior and was raced for a distance of c.12m. Only c.0.42m wide, it had very steep sides and a flat base, and contained a dark brownish grey silty clay fill (Figure 9). Although the function of this gully is not apparent, its fill contained substantial amounts of pottery, animal bone, ceramic building material and daub, suggesting deposition deriving from domestic activity in the near vicinity.
Probable gully [67] appears to be roughly perpendicular to gully [59] and may have been associated. Only is southern end lay within the excavation area. Shallow, but broader, its dark brown grey sandy clay fill contained lesser quantities of pottery and CBM.

4.3.6 Similarly proportioned pits [61] and [69] were located either side of gully [59]. Pit [61] was oval in plan and measured 1.5 x 0.7 x 0.22m deep (Figure 10). Both had moderately steep sides, concave bases and contained single fills; a dark brown grey sandy silt with frequent small stones and charcoal flecks. Both contained pottery and CBM, while fill [62] of pit [61] also included iron nails and fragments of slag. This material presumably represents rubbish disposal, again suggesting domestic settlement nearby.

4.3.7 Post-holes or small pits [53], [55], [57] and [63] form a loose group to the east of gully [59]. Generally circular, and c.0.7m in diameter and 0.08m deep, they contained dark brown grey sandy silt fills (Figure 11). A sestertius of Antoninus Pius or Marcus Aurelius, RF, 1>, was retrieved from the fill of post-hole [53] and both [53] and [55] contained small quantities of Roman pottery. Post-holes [57] and [63] are undated. No meaningful patterning of these

features is apparent.

4.3.8 Undated pits [09] and [77] located to the southwest of the gullies, pits and post-holes described above, are conjectured to also belong to this phase of land-use.

4.3.9 By inference, a least one further land-use entity can be inferred to occupy the remainder of the site outside of the GP2 and GP3 ditched enclosures, and to be exposed within the southwestern part of the excavation area. No dated remains can be identified to have occupied this open space, though a number of undated features could have (section 4.6.2). Additionally, the narrow area defined by the southern boundary of the GP2 enclosure and the northern boundary of the GP3 enclosure could be regarded as a land entity in its own right – perhaps an access way to another open space further east.

4.4 Phase 3 (mid Roman disuse/abandonment)

4.4.1 This phase is characterised by the possible decline/abandonment or at least change of use of Roman activity at this location. The topsoil excavated from trench 2 was the only context to produce a diagnostic Roman pottery sherd dated positively later than AD250. The quantity/density of remains post-dating the early Roman period is low and the general sparsity of later Roman ceramics suggests that the site had begun to go out of use by the mid-3rd century.

4.4.2 A group of large inter-cutting pits [21], [24] and [73] cut through the GP3 ditch, clearly demonstrating that this enclosure had passed out of use by this time. The relationships between the three pits could not be determined due to truncation and similarity of fills, but all appear to be oval in plan covering an overall area of at least 8 by 7m, with a maximum depth of 0.5m (Figures 12 and 13). All three cuts contained basal fills tentatively assigned as unique to each pit, but in all cases this was a mid grey silt which contained substantial quantities of pottery, CBM and slag. Fill [74] of pit [73] also contained an iron nail and fill [22] of pit [21] a 1st-2nd century Dupondius or As RF<2>. Recovered pottery has a general date range of AD160-250.

4.4.3 The tops of the in-filled pits were sealed by a single layer [23], seemingly deposited within a hollow which formed over them. Some 0.3m thick, this dark grey-brown silt contained subsantial quantities of Roman pottery and CBM; the later comprising large fragments of tegula and imbrex. Iron nails and a metal sheet fragment were also recovered. The pottery is dated to AD220-250. Processing of soil sample <2> has produced evidence for cereal processing/consumption and woodland management, as well as for metalworking in the form of hammerscale fragments (6.3.2 and 6.4). Clearly, final infilling/levelling of this pit complex incorporated both domestic and building material, presumably deriving from settlement in the near vicinity.

4.4.4 The only other feature identified as belonging to this mid Roman phase is irregular, possibly natural, feature [49]. Some 3.6 x 1.9 x 0.3m deep, it had an undulating base and was filled by a single dark black grey sandy silt (Figure 14). It is suggested that [49] was a tree hole or throw utilised as a rubbish pit. The fill included large quantities of Roman brick, tegulae, imbrex and box flue tile, seemingly a single dump of material down the northeast side of the open

feature. Pottery dated to AD220-250/70, along with daub, slag and iron nails was also present. Both finds and environmental assemblages, the latter recovered from soil sample <1>, are similar to those recovered from layer [23], suggesting their contemporaneity.

4.5 Phase 4 (post-medieval / modern)

4.5.1 A total of seven irregular linear gully-like features clustered the northwest corner of the excavation area. Although slightly irregular and of varying length, all ran broadly parallel with one another and had a generally similar appearance in plan with uniform fills of mid grey brown clay silt. Where investigated in four segments ([11], [65] and two uncontexted), these were ip to 1.3m wide and 0.16m deep. While it is possible that they represent Roman activity such as cultivation trenches, it is more likely that they represent modern tyre ruts in this clayey and poorly-draining area of the site. Only fill [12] of feature [11] contained small fragments of Roman tile, which are likely to be residual.

4.5.2 Large and slightly irregular pit [47], partially exposed in the SE corner of the excavation area, was in excess of 8m wide. Investigated by a mixture of machine- and hand-dug segments, the cut was found to be only 0.3m deep. Its single fill [48] contained post-medieval brick and tile. Further excavation during monitored groundworks produced inscribed fragments from a marmalade jar datable to between 1862 and 1873 (section 5.3). Pit [47] was probably the remains of a 19th century quarry pit, no doubt associated with the Victorian farmstead.

4.5.3 Tree hole [15] was located towards the north end of trench 3. No finds were recovered, though its fill of compact gravel was present quite high in the trench section. This, together with an irregular profile, suggested feature [15] was likely to be a relatively recently backfilled, tree hole.

4.6 Unphased/Undated

4.6.1 A total of 10 features are undated. Likely post-holes [57] and [63] and pits [09] and [7] have been discussed previously as tentatively occupying the GP3 ditched enclosure. Similarly, undated ditch segment [13] has been associated with the GP3 ditch itself.

4.6.2 The remaining five undated features were located in the southwest of the excavation area. Small pits or post-holes [27], [29], [31] could be construed to form a line parallel with the alignment of the phase 2 enclosure system. Pit/post-hole [33] is slightly offset to their east, while [41] is in isolation to their north. All had diameters ranging from 0.4-0.94m and depths of 0.09-0.3m, and contained single fills of mid-dark grey silt. However, there was a lack of consistency in dimension, profile and depth which suggested that they were not part of a single structure.

4.7 Natural features

4.7.1 During the trial-trenching evaluation, a NW-SE aligned feature was recorded within trenches 1 and 2 (contexts 1-8). No finds were recovered from the two segments excavated across it and subsequent open area excavation revealed this linear feature to be wholly geological, despite its coincidence with the south boundary ditch of the GP3 enclosure.

5.0 FINDS

5.1 Summary

5.1.1 Excavations at Lowley's Farm produced a medium-sized assemblage. Finds have all been washed and dried or just air dried. All material has been quantified by count and weight and subsequently bagged by material and context. All finds have been recorded in full on pro forma archive sheets. The full quantification of the bulk finds assemblage can be found in Appendix 2. A number of finds were assigned unique registered finds numbers and have been recorded on individual sheets for archive. Metalwork objects have been x-radiographed where appropriate. The coins required conservation and this, as well as the x-radiography, was undertaken by the Fishbourne Conservation Laboratory.

5.1.2 The fieldwork produced finds assemblages of small to medium size, dating mainly to the Roman period. The overall assemblage is fairly typical for a Roman rural site and, apart from the pottery, it lacks intrinsically interesting material. Overall the site appears to be of lower status, with evidence for some small-scale smithing activity as well as arable activities probably at a domestic level.

The majority of pottery, most of which derives from pit fills [22] and [74], dates to the mid-2nd to mid-3rd centuries, although a small amount of 1st to earlier 2nd century material was recovered as well. Pottery overall suggests lower status activity. As this period is still poorly understood, the assemblage is of inherent interest, providing useful comparative data.

Ceramic building material too is all of Roman date, and again the majority derives from only two pit fills [23] and [50]. It consists of a typical Roman range of material including tegulae, imbrices, bricks and box flue tiles. It does not however include intrinsically interesting material and the small size, uncertainty about level of residuality as well as small chronological range further limits its interest.

Metalwork is also of Roman date and includes a small general purpose nail assemblage as well as some registered finds. The latter group is fairly non-descript including a few tools as well as shoe fittings and is again typical for a low status rural settlement. The Sestertius of Antoninus Pius or Marcus Aurelius and the 1st-2nd century Dupondius or As are both in poor condition and further refinement of date is not possible.

The slag assemblage represents smithing activity in the general area during the 2nd to 3rd centuries. Smithing waste is to be found on most Roman rural sites in small quantities and its presence here is not particularly unexpected.

Environmental material, sampled from pit fill [50] and fill/layer [23], confirms the presence and probable consumption of cereal crops during the Roman period. However, the assemblage is too small to assess the scale of arable activities and material probably represents a background scatter of domestic waste. Charred wood remains too probably represent domestic waste, as well as evidence for industrial activities (oak). Damp woodland or wetland edge environments were utilised for fuel acquisition, and there is also an indication that woodland was managed through coppicing for the production of both firewood and construction material.

Environmental evidence in the form of animal bone is limited and bones were either undiagnostic or deriving from hare.

5.2 Roman Pottery by Anna Doherty

5.2.1 A moderate-sized assemblage of Roman pottery was recovered during the excavation, quantified by fabric type in Table 3. Although this includes a small amount of 1st-earlier 2nd century material, the bulk of the assemblage appears to date to around the mid-2nd to mid-3rd centuries. The pottery derives from a relatively small number of stratified features, about two-thirds of the total coming from just two contexts.

5.2.2 The pottery was examined using a x20 binocular microscope and quantified on pro-forma record sheets by sherd count, weight, Estimated Vessel Number (ENV) and Estimated Vessel Equivalent (EVE). In order to ensure compatibility with other pottery data collected in the region, codes from the Essex regional Late Iron Age/Roman fabric and form type-series have been used (Biddulph *et al* in prep, incorporating form codes from Hawkes & Hull 1947 and Going 1987).

Code	Expansion	Sherds	Wt (g)	EVE	ENV
ABAET	Baetican Dressel 20 amphora	1	90		1
AGAUL	Gaulish Pélichet 47 amphora	1	6		1
BB	Unsourced black-burnished ware	2	46	0.18	2
BB2	Black-bumished ware 2	7	102	0.08	7
BSW1	Black surfaced ware (non-grog-tempered)	35	390	0.67	30
BUF	Unsourced buff wares	1	2		1
BUFM	Unspecified buff ware mortaria	3	172	0.3	1
CGRHN	Central Gaulish (Rhenish) fine dark colour-coated ware	1	6		1
CGSW	Central Gaulish samian	6	100	0.28	5
COLB	Colchester buff ware	23	296	0.1	13
ESH	Early shell-tempered wares	1	18		1
GRF	Fine grey wares	17	134	0.13	15
GRS	Sandy grey wares	289	3830	3.25	280
HAB	Hadham black surfaced ware	31	494	0.18	30
HAR	Hadham grey wares	33	322	0.51	24
HAWO	Hadham white-slipped oxidised wares	4	12		4
HAX	Hadham oxidised wares	3	20	0.16	3
MIC	Romano-British mica-dusted wares	2	20		1
?LSH	?Late shell-tempered ware	1	8		1
MWSRF	Miscellaneous fine white or cream-slipped red-buff wares	1	16	0.2	1
MWSRS	Miscellaneous white- or cream-slipped sandy red wares	2	16	0	2
NKG	North Kent grey wares	4	22		4
NVC	Nene Valley colour-coated ware	14	132		10
RED	Miscellaneous oxidised wares	13	114	0.06	13
?RET	?Rettendon-type wares	7	54	0.14	7
STOR	Storage jar fabrics	34	1884		28
Total		*536*	*8306*	*6.24*	*486*

Table 3: Quantification of Roman pottery fabrics

5.2.3 Most of the earliest material was recovered from two contexts, pit fills [22] and [74]. Between them, these groups include two examples of butt-beakers, one in a relatively coarse greyware and another in a white-slipped fine red fabric; a Colchester white ware mortarium with a hooked flange and low bead (D1 1.1); bodysherds of early shell-tempered ware and North Kent fine grey fabric; a hemispherical flanged bowl (C1 2.1) in a fine greyware and a black surfaced bowl in a form uncommon in Essex but comparable to the "Surrey Bowl" frequently recorded in London and Atrebatic territories (Marsh & Tyers 1978, form 4K).

All of these forms are typical of 1st to early 2nd century ceramic assemblages but it seems unlikely that the stratified deposits are as early. Context [22] also clearly contains material of mid-2nd to mid-3rd century date and, whilst all of the diagnostic sherds from [74] appear to be early, this group also contains body sherds in fabrics very similar to those from the mid and later Roman Hadham industry. In addition, the pits appear to cut a ditch, [51], which contained a small amount of mid Roman pottery.

The majority of the assemblage is made up by unsourced sandy wares (including grey, oxidised and black surfaced wares) and most other individual fabric types contribute relatively small proportions of the total assemblage. Hadham greywares can be difficult to distinguish from other local unoxidised sandy wares but a reasonable proportion of the sherds have a firing colour and suite of inclusions which are certainly comparable to Hadham products. Hadham black-burnished wares are also quite well represented but it is of note that very few examples of oxidised Hadham wares were recorded. These have generally been found in contexts post-dating AD250 in Chelmsford (Going 1987, 3). The only other regional industries identified as represented by small quantities of sherds of Colchester buff ware and Nene Valley colour-coated ware. Imported wares are quite poorly represented, including a few examples of central Gaulish samian and black-slipped wares and some Baetican and Gaulish amphora sherds.

Form Class	EVE	EVE%	ENV	ENV%
Dishes	0.57	9.3%	9	13.2%
Bowls	0.33	5.4%	4	5.9%
Mortaria	0.4	6.5%	3	4.4%
Wide mouth jars	0.45	7.3%	4	5.9%
Cups	0.28	4.5%	1	1.5%
Jars	3.5	56.8%	34	50.0%
Beakers	0.57	9.3%	9	13.2%
Lids	0.06	1.0%	4	5.9%
Total	6.16	100.0%	68	100.0%

Table 4: Quantification Roman pottery forms

Data on vessel form (Table 4) may be distorted by the relatively small number of diagnostic rimsherds; for example a single rimsherd from a samian cup accounts for c.5% of the EVE total. Nevertheless some patterns can be discerned. Overall, jars make up about 57% of the EVE total, with a further

7% made up by very wide-mouth jars (Going's form class E). The majority of the jars are plain necked forms of G23/24 type. Black burnished style everted rim jars (G9) are also well represented as are lid-seated (G5 5) and narrow neck (G35; G36) forms. Black burnished style dishes are also common (particularly the rounded rim B4). Although the EVE figures appear to suggest that bowls and beakers are well represented, the majority of these are form types which are significantly earlier than the rest of the assemblage (see above). When these vessels are removed from the calculations, beakers and bowls are actually fairly uncommon (3% and 2% of EVEs respectively).

5.2.4 Dating:
Aside from the earlier material mentioned above, the range of fabrics and forms appear characteristic of mid-2nd to mid-3rd century activity. A few individual sherds could, however, be slightly later. For example, a single B6 bead and flange bowl and a white painted beaker sherd in Nene Valley colour-coated ware were probably produced after AD250. Several bodysherds in coarse greywares containing some flint were tentatively recorded as Rettendon type wares which appear in the later 3rd century at Chelmsford (Going 1987, 10). However, this is a loose grouping which might come from a range of different sources and which cannot be closely dated. In general, there is a conspicuous absence of later Roman material, suggesting that the site had already begun to go out of use by the mid-3rd century.

5.2.5 Status:
The relatively low quantities of imported and fine wares suggest lower status activity although the assemblage is perhaps slightly less jar dominated than typical for a settlement outside of an urban/nucleated setting. This might suggest a slightly greater uptake of table wares, perhaps as a result of the site's proximity to the road connecting the small towns of Chelmsford and Braintree. However, several early bowl and beaker forms probably distort figures slightly and some forms such as lids, which are typical of urban consumption, are lacking from the assemblage.

5.2.6 Conclusion:
Although the assemblage is of relatively modest size, it represents a period (c.AD150-250) which is poorly understood in the ceramic record. Sites with mid/later Roman pottery assemblages from Chelmsford are currently under review (Patrick Allen pers comm) and the Lowley's Farm assemblage may provide useful comparative data from beyond the nucleated settlement itself. Particularly, the single large stratified group of over 250 sherds from pit fill/layer [23] is of interest as this can be quite closely dated to c.AD220-250. This group therefore provides a useful overview of supply and consumption within this date range.

5.3 **Post-Roman Pottery** by Elke Raemen

5.3.1 Two fragments from a single ceramic marmalade jar by the Keiller marmalade company of Dundee were recovered from pit fill [48]. Its black transfer-printed label includes "Only Prize Medal for Marmalade, London, International Exhibition, 1862", dating the jar to between 1862 and 1873.

5.4 Ceramic Building Material by Luke Barber

5.4.1 The excavations recovered 366 pieces of ceramic building material, weighing 32,561g, from 16 individually numbered contexts. Most deposits produced under 10 pieces of brick and tile, with the majority of the assemblage coming from just two contexts. These consist of [23], which produced 91 pieces (8094g) and [50], which produced 201 pieces (19,193g). The assemblage has been fully listed on pro forma for the archive during the assessment with key pieces and fabric samples being retained for long-term curation. This data has also been entered into an excel spreadsheet.

Fragmentation is very variable within the assemblage, although there are a number of small pieces present (< 25g each), the majority are much larger. However, no complete length or width dimensions are present. Most pieces do not show extensive signs of abrasion and taken together the assemblage appears to have been subjected to no, or relatively minor, reworking.

5.4.2 The entire assemblage is of Roman date with pottery dating suggesting most belongs to the 2nd to 3rd centuries. Even where pieces are too small to be certain of form they are in Roman fabrics, though a few pieces are too small to be absolutely certain of this (e.g. the five amorphous fragments from context [48], at 10g apiece are a case in point). The seven identified fabrics are summarised in Table 5.

Fabric	Description	Comments
1	Sparse to common fine/medium sand with sparse white calcareous inclusions to 3mm (most under 0.5mm)	Finer version of Fabric 5
2	Common fine/medium sand with sparse larger quartz grains to 1.5mm. Occasionally with iron oxide inclusions to 1mm	
3	Common to moderate fine/medium sand with sparse black iron oxides to 1mm	
4	A silty matrix with occasional fine sand, some voids to 4mm and sparse grog pellets to 2mm	An unusual fabric that may be for fired clay objects rather than ceramic building material
5	Sparse to common fine/medium sand with common to moderate white calcareous inclusions to 3mm (most over 1mm)	A coarse version of Fabric 1
6	Moderate to abundant medium/coarse sand throughout fabric	
7	A clean silty fabric with rare to sparse fine/medium sand	

Table 5: Ceramic Building Material fabrics

A range of typical Roman ceramic building material forms are present within the assemblage and the quantities of these are quantified, by fabric, in Table 6.

The brick fragments fit within two thickness ranges. The majority fall between 30 and 38mm thick, but there are five pieces (context [50]), all in Fabric 1, that range between 50 and 55mm thick. None of the brick fragments have batch or keying marks.

Fabric/ Form	Brick	Tegula	Imbrex	Box Flue	Non-diagnostic	Totals
F1	17/7499g	33/6612g	14/984g	1/338g	6/666g	71/16,099g
F2	20/2412g	2/102g	1/44g	-	1/84g	24/2642g
F3	3/426g	45/3752g	-	1/116g	91/816g	140/5110g
F4	-	-	-	-	9/328g	9/328g
F5	-	6/618g	6/444g	-	6/112g	18/1174g
F6	1/172g	39/2118g	16/1072g	-	29/672g	85/4034g
F7	6/576g	8/2452g	2/104g	-	3/42g	19/3174g
Totals	47/11,085g	133/15,654g	39/2648g	2/454g	145/2720g	366/32,561g

Table 6: Breakdown of CBM forms by fabric

Tegula tile fragments are common in this assemblage and at least 13 examples of flanges are present. These are mainly of a tapering or squared profile, with heights ranging between 35 and 52mm (from the base of the tiles). One or two tiles show signs of cut-aways, either on the flange itself, or the underside of the tile. Thicknesses from definite tegulae range widely between 15 and 30mm and there are sometimes notable ranges on individual tiles (e.g. an example from [50] ranging from 20 to 25mm thick). A few tiles have 'batch' or 'signature' marks. There are three examples of the typical single shallow semicircular finger lines (e.g. context [23]), but only one fragment from [50] has quadruple concentric semicircular finger lines. There is also a fragment from context [50] with a dog paw print.

The fragments of imbrex tile range greatly in thickness (12 to 22mm) with notable variation on the same tile often being apparent (the apex always being notably thinner). The two box flue tile fragments also show a great variation in thickness on individual examples: that from [50] ranging between 18 and 23mm depending on where the measurement is taken. This example has the remains of a criss-cross keying made with a 6-toothed comb.

Although the fragments undiagnostic of form make up 39.6% of the overall assemblage by fragment count, they only constitute 8.4% by weight. The numbers are particularly increased by the remains of several shattered tiles, most notably in Fabric 3 from context [50]. It is probable many of these are from tegulae.

The two largest context groups are summarised in Table 7 by tile type. Context [23] includes a notable majority of tegulae fragments and, with the exception of Fabric 4, all fabrics are represented in this group.

Context/ Form	Brick	Tegula	Imbrex	Box Flue	Non-diagnostic
[23]	5/1312g	41/4622g	27/1830g	-	18/330g
[50]	36/8605g	72/8044g	9/586g	1/328g	83/1620g

Table 7: Tile types in contexts [23] and [50]

The assemblage from [50] is also dominated by tegulae but also has significant quantities of brick. With the exception of Fabrics 4 and 5, all fabrics are represented in this group.

5.4.3 Conclusion:
The ceramic building material from the site is not large and is composed of a fairly typical range of fabrics and forms for the period. There is not enough of a chronological range to the deposits to allow any refinement of fabric dating and indeed the degree of residuality or re-use is impossible to gauge.

5.5 Bulk Metalwork by Elke Raemen

5.5.1 A small assemblage consisting of 17 pieces of ironwork (weight 166g) was recovered from four pit fills [23], [50], [62] and [74]. Ironwork, largely consisting of nails, is in fairly poor condition. Despite this, their general type can usually be established.

5.5.1 Nails:
Apart from one hobnail, all nails are of general purpose type (Table 8). Included are three Manning type 1a (1985, 134) nails with sub-rectangular head, ranging from 15 by 16mm to 15 by 17mm. No complete lengths survive. Two nails of Manning type 1b (1985, 134) were also recovered, one of which is complete with a head diameter of 13.6mm and a length of 61.55mm.
The hobnail (head di 10.8mm, L14.8mm+; Manning type 10) was recovered from [50].

Type	1	1a	1b	10	Unkn	Total
Count	5	3	2	1	5	16

Table 8: Overview of the nails by type (following Manning 1985, 134-5)

5.5.2 Other:
An iron sheet fragment was recovered from pit fill [23]. The fragment measures 49.6 by 53.6mm+ and is 2.1mm thick.

5.6 Fired Clay by Elke Raemen

5.6.1 The assemblage comprises 16 fragments (wt 304g) from five individually numbered contexts. Six different fabrics could be established (Table 9).

Fabric	Description
F1a	Moderate medium sand-temper. Occasional quartz to 2mm, occasional voids/organic temper
F1b	Silty matrix with sparse fine sand temper. Occasional quartz to 1mm and occasional voids/organic temper
F2a	Silty matrix with sparse fine sand-temper and rare to occasional organic temper
F2b	Silty matrix with sparse fine sand-temper with moderate organic temper
F3	Silty matrix with moderate to abundant organic temper
F4	Sparse fine sand-temper with abundant chalk inclusions/temper to 3mm

Table 9: Overview of the fired clay fabrics

Most fragments are amorphous, with a further four pieces retaining one flat surface ([50] and [60]) and three fragments showing two parallel flat surfaces (all from [50] and including a sooted example). The latter fragments measure between 12.8 and 22.3mm thick.

Most pieces represent structural daub. However, a few fragments from [50] may derive from hearth lining.

5.7 Registered Finds by Elke Raemen

5.7.1 A total of ten finds were assigned unique registered finds numbers (RF <00>; Table 10). Finds were all air dried and packed according to IfA guidelines. Objects were recorded individually on pro forma sheets for archive. The registered finds are all of Roman date (ditch fill [36] dated by stratigraphy only) and were recovered mostly from refuse pits. Indeed half of the registered finds were recovered from the same large pit cluster containing contexts [22] and [23].

CXT	RF No	OBJECT	MATERIAL	PERIOD	Wt (g)
54	1	COIN	COPPER	ROM	18
22	2	COIN	COPPER	ROM	8
22	3	TOOL/SPUD	IRON	ROM	36
22	4	?STFT	IRON	ROM	48
23	5	CLEAT	IRON	ROM	<2
23	6	TOOL/KNIF	IRON	ROM	4
25	7	UNK	IRON	ROM	28
36	8	TOOL	IRON	?	386
50	9	UNK	IRON	ROM	16
62	10	CLEAT	IRON	ROM	4

Table 10: Overview of the Registered Finds

5.7.2 Shoes:
Shoe accessories include a hobnail (bulk metalwork) as well as two cleats (RF <5> and <10>), recovered from pit fills [23] and [62]. Both have an oval body and miss one tang. RF <5> measures 19.5mm long, whereas RF <10> measures 21mm long.

5.7.3 Tools:
A fragment from a socketed tool (RF <3>) was recovered from pit fill [22]. The fragment may represent a spud. Although the blade is largely missing, this example appears to be of broad-shouldered form, probably representing a plough spud (to clean the share and mould board of the plough), rather than a weeding spud (Manning 1985, F14-15, 49).
A possible tool with rectangular-sectioned handle/shank and splaying ?blade (RF <6>) perhaps represents a modelling tool, a farrier nail or a stylus fragment.
RF <7> (pit fill [25]) consists of a tanged blade from either a knife or a tool.

5.7.4 Coins, by Trista Clifford
Two coins were recovered during the excavation. RF<1>, recovered from pit/post-hole [53], fill [54], is a Sestertius of Antoninus Pius or Marcus Aurelius. The coin is in poor condition, with the original surface almost entirely absent on the obverse. The reverse is very worn. Both legends are illegible.
RF<2>, recovered from pit fill [22] is a 1st/2nd century Dupondius or As, in

very poor condition. Approximately 40% of the surfaces of both faces are missing, exposing the metal core. The remaining surfaces are covered with adherent soil, rendering them illegible.

5.7.5 Miscellaneous:
A number of objects are as yet unidentified. X-radiography may aid to establish their identification. A possible structural fitting, e.g. a wall hook (RF <4>), was recovered from [22] (comparable to Manning 1985, R26). Strip fragment RF <9> (pit fill [50]) may represent a tool as well.

RF <8>, recovered from undated ditch fill [36], shows the same outlines as a typical Roman axe. However, in section the object is too thin and more reminiscent of an axe-hammer blade. The object retains its cutting edge and is broken at the other end. Unlike regular blades it does not taper at all (5.23mm thick). X-radiography did not show any further identifying features.

5.8 Metallurgical Remains by Luke Barber

5.8.1 The excavations produced 302 pieces of slag, weighing 13,485g, from nine individually numbered contexts. Of this total, 122 pieces (432g) were recovered from two environmental residues (pit fills [23] and [50]). The whole assemblage has been fully listed for the archive on pro forma during this assessment with the data being input into an excel database. Key samples have been retained for long-term curation.

5.8.2 The assemblage is all of Roman date, principally coming from contexts dated by ceramics to the 2nd to 3rd centuries. The only possibly earlier material, albeit chronologically overlapping, was recovered from pit fill [74], dated to the later 1st to later 2nd centuries. This context is in fact quite typical of the assemblage as a whole and produced a significant quantity of waste (53 pieces weighing 4733g). This includes pieces of sandy red clay hearth lining with thin iron slag covering one face (7/248g), grey/rusty aerated smithing slag (44/4475g) and two pieces (10g) of slightly vitrified and bubbled iron slag undiagnostic of process. The smithing slag includes a single circular plano-convex forge bottom (382g) with diameter of 82mm.

5.8.3 The overall assemblage is tabulated in Table 11 and it can be seen from this that there is nothing to indicate anything other than low levels of iron smithing at the site.

Type	Number	Weight	Comments
Hearth Lining	34	774g	All with a red sandy clay (Contexts [22], [23], [62], [68], [74])
Smithing	254	12,536g	Includes x3 forge bottoms (Contexts [22], [23], [25], [50], [62], [68], [74])
Smithing (Hammerscale)	4	<1g	Flakes noted adhering to ironwork and slag. (Context [22])
Iron (undiagnostic of process)	11	174g	Probably smithing (Contexts [50], [62], [74], [76])

Table 11: Breakdown of slag assemblage

5.8.4 The largest context group from the site was recovered from fill/layer [23] which produced 104 pieces (4384g). These consist of hearth lining (13/312g) and smithing slag (91/4072g), the latter including a few possible forge bottom fragments.

5.8.5 It is concluded that the slag assemblage represents smithing activity in the general area during the 2nd to 3rd centuries. Smithing waste is to be found on most Roman rural sites in small quantities and its presence here is not particularly unexpected.

5.9 Animal Bone by Gemma Ayton

5.9.1 A small assemblage containing 30 fragments of bones and teeth was retrieved from three contexts [23], [50] and [60]. The majority of the assemblage comprises of small, poorly preserved, unidentifiable specimens. The remaining assemblage has been identified as hare (Callou 1997) and includes a femur and a fragmented scapula and maxilla.

5.9.2 The assemblage is too small to provide useful information regarding local animal husbandry techniques.

5.10 Environmental Material by Karine Le Hégarat and Dawn Elise Mooney

5.10.1 Two pit fill contexts ((50) and (23)) were sampled to establish evidence for environmental indicators such as charcoal, charred macroplant remains, bones and shells. Both deposits produced ceramics dated to the Roman period. This report characterises the composition of the samples and discusses evidence for agriculture and fuel use.

5.10.2 Samples were processed by the former ECC Field Archaeology Unit in a flotation tank and the residues and flots were retained on 500 and 300µm meshes and air dried. The residues were sorted by Archaeology South-East. They were passed through graded sieves (8, 4 and 2mm) and each fraction sorted for environmental and artefact remains (Table 12). The dry flots together with the material extracted from the residues were assessed by Archaeology South-East. Flots were scanned under a stereozoom microscope at x7-45 magnifications and an overview of their contents recorded (Table 13). Identifications have been provided for macrobotancial remains present through reference to modern comparative material and reference manuals (Cappers *et al.* 2006, Jacomet 2006, NIAB 2004). Nomenclature used follows Stace (1997).

One hundred charcoal fragments recovered from the heavy residue of each sample were fractured along three planes (transverse, radial and tangential) according to standardised procedures (Gale & Cutler 2000). Specimens were viewed under a stereozoom microscope for initial grouping, and an incident light microscope at magnifications up to x400 to facilitate identification of the woody taxa present. Taxonomic identifications were assigned by comparing suites of anatomical characteristics visible with those documented in reference atlases (Hather 2000, Schoch *et al.* 2004), and by comparison with modern reference material held at the Institute of Archaeology, University College London. Identifications have been given to species where possible,

however genera, family or group names have been given where anatomical differences between taxa are not significant enough to permit satisfactory identification. Nomenclature used follows Stace (1997). Taxonomic identifications of charred wood remains are recorded in Table 12.

5.10.3 Sample <01>, pit fill (50):
Sample <01> produced a small flot (10ml) which contained a small amount of uncharred vegetation including fine rootlets and uncharred weed seeds. Charred macroplant remains were uncommon including a single grain of barley (*Hordeum* sp.), a single poorly preserved grain which could not be identified (Cerealia) and a single charred weed seed of goosefoot (*Chenopodium* sp.). A moderate assemblage of charcoal was recovered from the flot and residue of sample <01>. Fragments were generally well-preserved, and the assemblage comprised mostly of oak (*Quercus* sp.), with cherry/blackthorn (*Prunus* sp.), Maloideae (hawthorn (*Crataegus* sp.), rowan, whitebeam (*Sorbus* sp.), apple (*Malus* sp.), pear (*Pyrus* sp.), etc.), hazel (*Corylus avellana*), alder (*Alnus* sp.), maple (*Acer* sp.) and ash (*Fraxinus excelsior*) also present. With the exception of a small amount of land snail shells and unburnt mammal bones no other biological remains were present in this sample. The residue produced a small amount of sherds of pottery, CBM, slag and metal object.

5.10.4 Sample <02>, pit fill/layer (23):
Sample <02> produced also a small flot (25ml). It was dominated by uncharred vegetation including fine rootlets, moss, uncharred wood fragments and uncharred weed seeds such as knotgrass / dock (*Polygonum* / *Rumex* sp.), goosefoot (*Chenopodium* sp.) and bedstraw (*Galium* sp.). Charred macroplant remains were limited to a single moderately well preserved charred grain of glume wheat (either emmer or spelt). Charred wood fragments were present in moderate quantities in both the flot and the residue. The assemblage which comprised well-preserved fragments was again dominated by oak, with Maloideae, hazel/alder and willow/poplar (*Salix/Populus*) fragments also present. The flot contained a small quantity of small uncharred bones. Sample <02> produced a small amount of pottery, CBM, industrial debris including spherical hammerscales, metal and FCF.

5.10.5 Sampling confirmed the presence of charcoal, charred macroplant remains, unburnt bones and land snail shells whilst also assisting recovery of artefacts. Although very scarce, the small assemblage of charred macroplants has confirmed the presence and probable consumption of cereal crops during the Roman period. Evidence is mainly based on the infrequent remains of charred grains of barley and glume wheat (either spelt or emmer). During the Roman period, spelt (*Triticum spelta*) is the principal cereal grown in England followed by hulled barley (Greig 1991). Recent excavations have revealed that although spelt was the dominant crop grown, emmer was also in use during the Roman period. No chaff and a single weed seed were evident; and, although the small assemblage of charred macroplants recovered from the samples from Lowley's Farm suggests some use of cereal crop, the assemblage is too small to satisfactory assess the scale of arable activities at the site. The material is likely to represent background scatter of domestic waste.

Sample Number	Context	Context / deposit type	Sample Volume litres	Sub-Sample Volume litres	Charcoal >4mm	Weight (g)	Charcoal <4mm	Weight (g)	Charcoal Identifications	Bone and Teeth	Weight (g)	Other (eg ind, pot, cbm)
1	50	Pit	30	30	***	22	***	2	*Prunus* sp. (7), *Quercus* sp. (61), Maloideae (17), *Corylus avellana* (3), *Alnus* sp. (3), *Acer* sp. (5), *Fraxinus excelsior* (1), Indet. distorted (3)	*	2	Pot **/114g - CBM **/116g - Slag **/242g - Fe objects */14g
2	23	Pit	30	30	***	44	***	2	Maloideae (5r), *Corylus/Alnus* (7r), *Corylus avellana* (10r), *Quercus* sp. (73), *Salix/Populus* (1), Indet. distorted (4)	**	4	Slag **/194g - Pot **/84g - CBM **/120g - Fe objects */6g - FCF */4g

Table 12: Environmental sample residue quantification
(* = 1-10, ** = 11-50, *** = 51-250, **** = >250), weights in grams, and charcoal identifications

Sample Number	Context	Weight g	Flot volume ml	Volume scanned	Uncharred %	Sediment %	Seeds uncharred	Charcoal >4mm	Charcoal <4mm	Charcoal <2mm	Crop seeds charred	Identifications	Preservation	Weed seeds charred	Identifications	Preservation	Fish, amphibian, small mammal bone	Land Snail Shells	Industrial debris hammerscale
1	50	4	10	10	10	5	*	*	**	***	*	Cerealia (1), *Hordeum* sp. (1)	+ to ++	*	*Chenopodium* sp.	++		**	
2	23	6	25	25	5	75	** *Chenopodium* sp., *Polygonum* / *Rumex* sp., *Galium* sp.		*	***	*	*Triticum dicoccum* / *spelta* (1)	+++				*		*

Table 13: Environmental sample flots quantification
(* = 0-10, ** = 11-50, *** = 51 – 250, **** = >250) and preservation (+ = poor, ++ = moderate, +++ = good)

The charred wood remains from Lowley's Farm derive from secondary deposition of burnt material, and are likely to represent amalgams of fuel remains from a variety of domestic and industrial burning events. The charcoal assemblage indicates that firewood was procured primarily from oak-dominated deciduous woodland. In addition to large trees such as oak, ash and maple, underwood, woodland margin and hedgerow taxa such as cherry/blackthorn, hazel and Maloideae are also represented in the assemblage. The presence of alder and willow/poplar charcoal fragments indicates that damp woodland or wetland edge environments were also exploited for fuel acquisition. The presence of hazel and Maloideae roundwood in sample <2> may be indicative of the management of woodland through coppicing for the production of both firewood and construction material (e.g. poles for fencing and wattle and daub construction). The dominance of oak in both samples suggests that this taxon may have been specifically selected for firewood, as it is known to be an excellent fuel and is also commonly used for charcoal production for industrial activities (Taylor 1981).

6.0 DISCUSSION AND CONCLUSIONS

6.1 Discussion

6.1.1 The trial trench evaluation successfully established the presence, nature and broad date of archaeological remains within the development area. The subsequent open area investigation revealed the full extent of these remains across that part of the site to be impacted by the construction of the new agricultural building. Having been farmland until the point of development, the truncation and disturbance of the below-ground remains was low, though some impact in the form of machine wheel-ruts from either farming or construction vehicles was recorded.

6.1.2 No remains have been identified that pre-date the Roman period. From the available evidence, it would appear that no tangible land-use or settlement activity took place at this location prior to the Roman conquest.

6.1.3 Three phases of Roman period land-use are discerned from the recorded remains as exposed within the excavation area:

- the first comprises only of parts of two land units separated by a boundary that is maintained/renewed through the early Roman period.
- the second phase is represented by a more developed replacement system of land division, as defined by the exposure of at least three, and arguably five, enclosures or other land-use entities. Some, if not most, of the recorded gullies, pits and post-holes are likely to have been contemporary with this mid Roman phase of land-use, but contribute little to determining its nature and function other than serving to infer some degree of occupation activity in the vicinity on the basis of the finds assemblages they contain.
- the third and final phase is defined by the disposal of relatively large quantities of domestic and building material in pits which cut the remains of the in-filled and presumably defunct preceding enclosure system. Whether or not this should be interpreted as decline, disuse or abandonment, or simply a changing pattern of rubbish deposition from an adjacent settlement, is difficult to determine from his limited evidence. However, the relative

abundance and diversity of the material disposed of in this mid-3rd century phase may well suggest the latter. Although the pottery is judged to show low status, there is some diversity of activity that includes metalworking and cereal farming/processing. The brick and tile for the most part displays low fragmentation and little abrasion, but also lacks sign of use and reuse as a building material (e.g. absence of adhereing mortar). Rather than denoting the presence of a nearby building of status, this material probably derives from fire-proof structures such as hearths and drying floors. Whatever the nature of settlement associated with these remains, it appears to have ceased around or shortly after the mid-3rd century AD.

6.1.4 While the cropmark trackway previously investigated to the west in advance of the construction of the A130 Bypass was not demonstrated to extend into and across the current area of excavation, the fact that this thoroughfare extended off the Braintree-Chelmsford Roman road and headed toward the enclosure systems and inferred occupation at Lowleys Farm is surely significant. It is conjectured that these remains relate to a farmstead alongside, though setback from, the Roman road.

6.1.5 The ending of Roman settlement and, seemingly, active land management appears to have taken place sometime around the mid-3rd century AD. No remains of late Roman, Saxon or medieval date were recorded that indicate further occupation and use. Despite the post-medieval farmstead occupying the site from at least the 17th century, post-medieval features were few and limited to only the base of a ?quarry pit and a tree hole. Similarly, post-medieval and modern disturbance, other than general agricultural truncation, was minimal and confined to probable modern wheel ruts in one corner of the site.

6.2 Conclusion

6.2.1 This investigation has identified, investigated and recorded significant Roman period remains hitherto unknown at this location. These evidence the early and mid Roman agricultural exploitation and management of this location in the landscape and infer the close proximity of an occupation site.

6.2.2 While many Roman rural sites are found to have Iron Age origins, this particular site appears to be founded post-conquest. It is speculated that these remains relate to a farmstead and its associated field system, perhaps deliberately established just off the nearby road between the Roman towns of Braintree and Chelmsford. This farmstead is likely to have been of low to modest status, acquiring some goods that passed along the road, but lacking exotic and high-quality commodities of a villa site. The substantial quantities of brick and tile deposited during the final phase of Roman land-use are judged to derive from hearths and drying floors rather than from high status villa-like buildings.

6.2.3 This postulated farmstead site is likely to be closely associated with the known cropmark features to its west and with the various remains previously recorded during archaeological investigations ahead of the A130 Bypass construction. A widespread and well-developed enclosed agricultural landscape can be inferred to have extended across this part of Essex during the mid-1st to mid-3rd centuries AD. Apparent mid to later Roman decline is

often identified on Essex Roman sites in the form of a sparsity or absence of features and artefacts of this date and the Lowleys Farm site would seem to conform to this pattern. Whether this is a product of real social, political or economic change is difficult to determine, but could be due to widespread reorganisation of agricultural production that saw replacement and enlargement of enclosure systems and intensification of production which perhaps also impacted upon the rural settlement pattern.

6.2.4 No further archaeological work is required in relation to his development. However, it is clear that Roman period remains extend beyond its limits and occupy the surrounding fields.

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Appendix 1: Feature Context data

Context	*Type*	*Filled by*	*Description*	*Period*
Topsoil	Layer	-	Mid grey-brown sandy silt plough soil, c.0.3m thick.	-
Subsoil	Layer	-	Mid yellow-brown sandy silt subsoil, 0.05-0.14m thick.	-
Natural	Layer	-	Natural geology: light yellow-orange sandy gravel with occasional areas of silty clay.	-
01 (Tr1)	Natural?	2	NW-SE linear cut, 1m+ wide x 0.31m deep.	undated
03 (Tr1)	Natural?	4	NW-SE linear cut, 1.18m wide x 0.18m deep.	undated
05 (Tr2)	Natural?	6	NW-SE linear cut, 0.66m+ wide x 0.3m deep.	undated
07 (Tr2)	Natural?	8	NW-SE linear cut, 0.8m+ wide x 0.21m deep.	undated
09 (Tr1)	Pit	10	Sub-circular cut, 1.6m x 1.5m x 0.24m deep.	undated
11 (Tr1)	Rut?	12	E-W linear cut, 1.29m wide x 0.16m deep.	Modern
13 (Tr3)	Ditch seg.	14	NW-SE linear cut, 1.3m wide x 0.19m deep.	Roman?
15 (Tr3)	Tree hole?	16	Sub-circular cut, 1.7m x 2.8m x 0.12m deep.	Modern
17 (Tr3)	Ditch seg.	18	NE-SW linear cut, 0.76m wide x 0.18m deep.	Mid Roman
19 (Tr3)	Ditch seg.	20	NW-SE linear cut, 1.56m wide x 0.29m deep. Part of ditch group GP2.	Mid Roman
21 (Tr2)	Pit	22, 23	Oval cut c.2.8m x c.2m x 0.44m deep.	Mid Roman
23 (Tr2)	Layer / fill?	-	Dark grey brown silt, 0.3m thick. Over pits 21, 24 & 73	Mid Roman
24 (Tr2)	Pit	25, 23	Oval c.3.1m+ x 1.5m+ x 0.5m deep.	Mid Roman
27	Pit	28	Oval cut, 0.94m x 0.5m x 0.26m deep.	undated
29	Post-hole	30	Oval cut, 0.4m x 0.4m x 0.14m deep.	undated
31	Post-hole	32	Oval cut, 0.6m x 0.46m x 0.09m deep.	undated
33	Pit	34	Oval cut, 0.74m x 0.58m x 0.3m deep.	undated
35	Ditch seg.	36	NE-SW linear cut, 0.8m wide x 0.5m deep.	Early Roman
37	Ditch seg.	38	NE-SW linear cut, 1.15m wide x 0.32m deep. Part of ditch group GP1.	Early Roman
39	Ditch seg.	40	NE-SW linear cut, 0.8m wide x 0.3m deep. Part of ditch group GP2.	Mid Roman
41	Post-hole	42	circular cut, 0.4m x 0.4m x 0.3m deep.	undated
43	Ditch seg.	44	Curvilinear cut, SE-NW then NE-SW, 1m wide x 0.3m deep. Part of ditch group GP2	Early Roman
45	Ditch seg.	46	NE-SW linear cut, 0.8m wide x 0.34m deep. Part of ditch group GP2	Early Roman
47	Pit	48	Sub-rectangular cut, 9m x 6.5m+ x 0.47m deep	Modern
49	Tree hole	50	Irregular cut, 3.6m x 2m x 0.3m deep	Mid Roman
51	Ditch seg.	52	NW-SE linear cut, 0.75m wide x 0.18m deep. Part of ditch group GP3.	Mid Roman
53	Post-hole	54	Oval cut, 0.67m x 0.64m x 0.07m deep.	Mid Roman
55	Post-hole/Pit	56	Oval cut, 0.88m x 0.63m x 0.08m deep.	Mid Roman
57	Post-hole	58	Roughly circular cut, 0.48m x 0.48m x 0.07m deep.	undated
59	Gully	60	NE-SW linear cut, 0.42m x 0.18m deep.	Mid Roman
61	Pit	62	Irregular oval cut, 1.5m x 0.7m x 0.22m deep.	Mid Roman
63	Post-hole	64	Oval cut, 0.49m x 0.41m x 0.06m deep.	undated
65	Rut?	66	E-W linear, 1.3m wide x 0.19m.	Modern
67	Gully	68	NW-SE curvilinear cut, 2.4+ x 0.63 x 0.1m deep.	Mid Roman

Context	*Type*	*Filled by*	*Description*	*Period*
69	Pit	70	Elongated oval cut, 1.4m x 0.7m x 0.21m deep.	Mid Roman
71	Ditch	72	Heavily truncated NW-SE oriented linear cut, 0.68m wide x 0.1m deep. Part of ditch group GP3.	Mid Roman
73	Pit	74, 23	Oval cut, c3.8m x 1m+ x 0.35m deep.	Mid Roman
75	Ditch seg.	76	NE-SW linear cut, 1.7m wide x 0.34m deep. Part of ditch group GP1.	Early Roman
77	Pit/Treehole	78	Irregular oval cut, 1.80m x 0.96m x 0.12m deep.	undated

Appendix 2: Finds Quantification

Context	Pottery	Wt (g)	CBM	Wt (g)	A.Bone	Wt (g)	Stone	Wt (g)	Fe	Wt (g)	Fired Clay	Wt (g)	Slag	Wt (g)	Other finds
12			3	278											
18	1	22													
22	49	710	5	256					2				35	2814	Cu coin - 1st/2nd C
23	245	3834	91	8094	1	2	1	998	9	108	1	90	104	4488	
25	11	136	4	282					1				9	704	
34											1	38			
36									1						
38			2	84											
42											1	6			
44	4	36	10	1192							1	52			
46	1	22													
48	3	168	5	50											
50	97	1028	202	19193					9	33	6	98	67	330	
52	2	6													
54	3	20													Cu coin - 2nd C
56	3	10													
60	11	26	10	1004	1	20					6	14			
62	20	372	15	438					2	20			24	438	
68	9	34	7	164									4	54	
70	4	20	5	20											
74	29	444							1	6			53	4733	
76			3	58									1	34	
T2 u/s	34	632	3	1404							2	50	1	28	
Total	***526***	***7520***	***365***	***32517***	***2***	***22***	***1***	***998***	***25***	***167***	***18***	***348***	***298***	***13623***	

Appendix 3: EHER Summary Sheet

Site name/Address: Lowleys Farm, Great Leighs, Essex	
Parish: Great & Little Leighs	***District:*** Chelmsford
NGR: TL 72541594	***Site Code:*** GLLF13
Type of Work: Evaluation & excavation	***Site Director/Group:*** Adam Dyson, Archaeology South-East
Date of Work:	***Size of Area Investigated:*** c. 2000 sq m
Location of Finds/Curating Museum: Chelmsford Museum	***Funding source:*** Landowner/developer
Further Seasons Anticipated?: No	***Related HER Nos*** 6129, 14579-86
Final Report: *EAH summary*	***OASIS ref: 15341***
Periods Represented: Roman, Victorian/modern	

SUMMARY OF FIELDWORK RESULTS:

Site evaluation and excavation carried out in advance of the construction of a new grain store immediately north of the existing farm buildings. Cropmark features have been identified from aerial photographs to be present to the northwest and southwest of the development site. Previous archaeological investigation in advance of the construction of the nearby A130 bypass located remains of the Roman road between Chelmsford and Braintree and a trackway that can be projected to potentially run through the site.

An initial phase of evaluation, comprising four trial trenches, identified the presence of Roman period features within the development area.

Subsequent area excavation of the proposed footprint of the grain store revealed a moderate density of remains. The recorded ditches, pits, gullies and post-holes are interpreted as defining three phases of Roman agricultural land use spanning the late 1st to mid 3rd centuries AD. The ditches represent two phases of enclosure systems, while the deposition of artefact-rich material within a number of pits which cut/disrupt the ditches may have marked the abandonment of this organised landscape. The range of domestic artefacts and substantial quantities of structural brick and tile retrieved from the excavated remains suggests a low-status occupation site in the near vicinity, perhaps a farmstead located just off the Roman road and accessed via the cropmark trackway.

Post-Roman activity was limited to a large shallow pit of probable 19th century date, a probable tree hole/throw, and (tractor wheel?) rutting in the northwest corner.

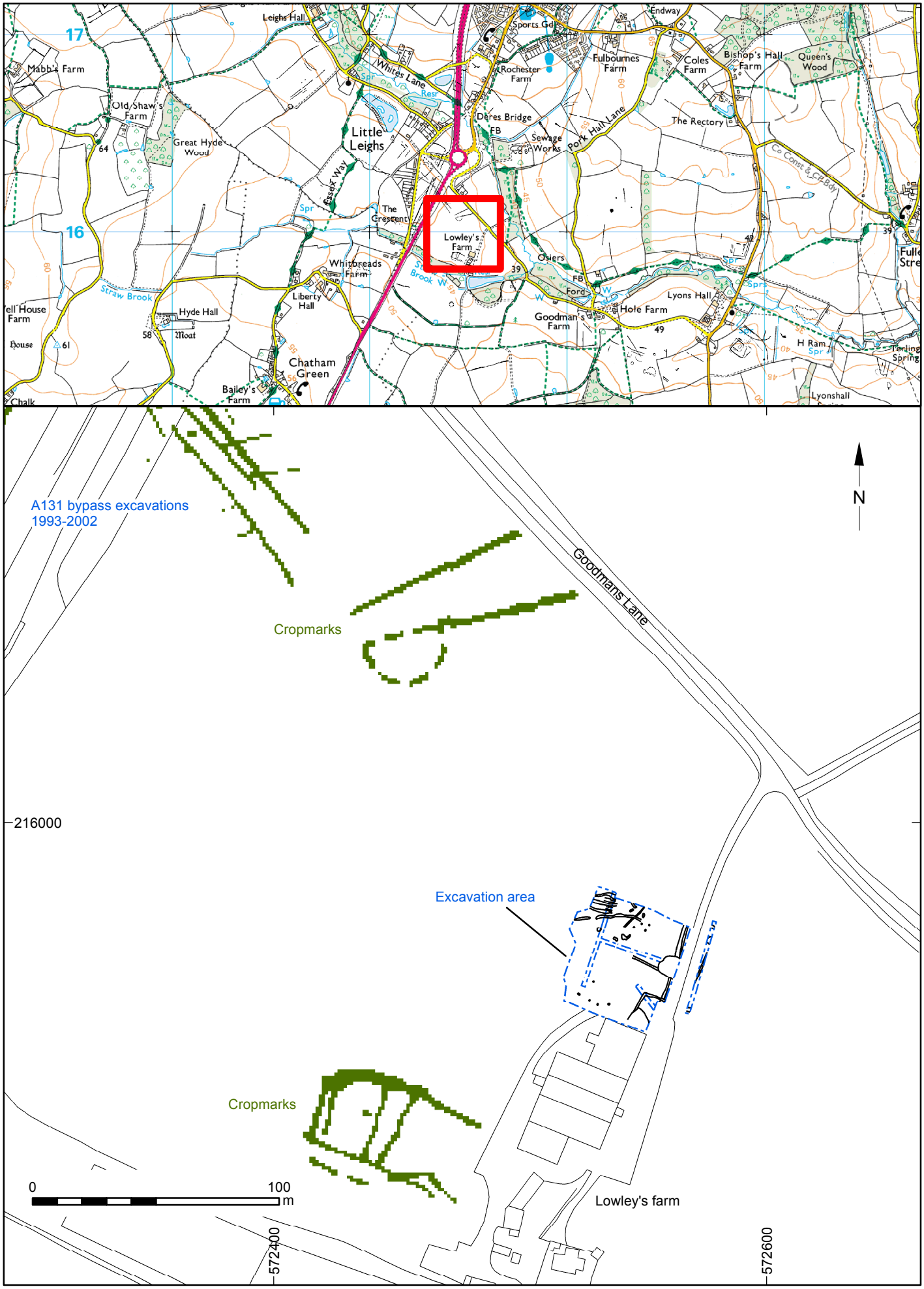
Previous Summaries/Reports:
None

Author of Summary: M. Atkinson	***Date of Summary:*** 30/09/13

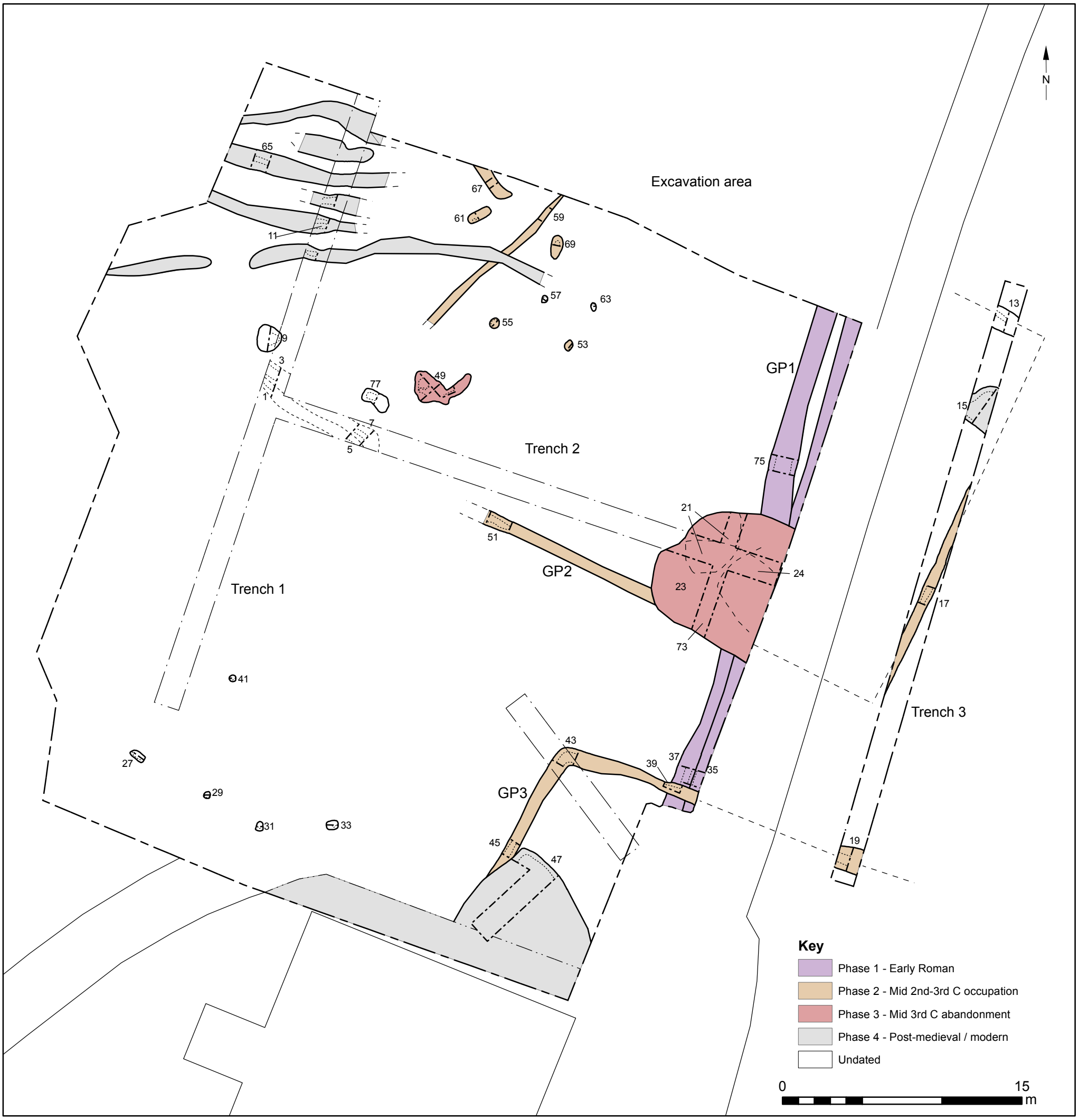
Appendix 4: OASIS Summary

OASIS ID: archaeol6-157341	
Project details	
Project name	Land at Lowley's Farm, Great Leighs
Short description of the project	Evaluation and area excavation were undertaken within the footprint of a grain store prior to its construction. A moderate density of remains were found which demonstrate three phases of land-use spanning the early and mid Roman period. Recovered artefacts suggest the presence of a low-status settlement, probably a farmstead, in the near vicinity.
Project dates	Start: 04-03-2013 End: 18-03-2013
Previous/future work	Yes / No
Any associated project reference codes	E2531 - Contracting Unit No.
Any associated project reference codes	11/01728/FUL - Planning Application No.
Any associated project reference codes	GLLF13 - Sitecode
Type of project	Recording project
Site status	None
Current Land use	Cultivated Land 2 - Operations to a depth less than 0.25m
Monument type	DITCH Roman PIT Roman GULLY Roman
Significant Finds	POTTERY Roman TILE Roman COIN Roman IRONWORK Roman SLAG Roman
Investigation type	"Open-area excavation"
Prompt	Direction from Local Planning Authority - PPG16
Project location	
Country	England
Site location	ESSEX CHELMSFORD GREAT AND LITTLE LEIGHS Land at Lowley's Farm, Great Leighs
Postcode	CM3 1PJ
Study area	2000.00 Square metres
Site coordinates	TL 7254 1594 51 0 51 48 53 N 000 30 12 E Point
Project creators	

Name of Organisation	Archaeology South-East
Project brief originator	Essex County Council Place Services
Project design originator	Essex County Council Field Archaeology Unit
Project director/manager	Adrian Scruby
Project supervisor	Adam Dyson
Type of sponsor/funding body	Landowner
Project archives	
Physical Archive recipient	Chelmsford Museum
Physical Contents	"Ceramics","Environmental","Industrial","Metal"
Digital Archive recipient	Chelmsford Museum
Digital Contents	"Ceramics","Environmental","Industrial","Metal","Stratigraphic","Survey"
Digital Media available	"Images raster / digital photography","Spreadsheets","Text"
Digital Archive notes	Digital data on CD-Rom accompanying paper archive.
Paper Archive recipient	Chelmsford Museum
Paper Contents	"Environmental","Industrial","Metal","Stratigraphic","other"
Paper Media available	"Context sheet","Drawing","Matrices","Miscellaneous Material","Photograph","Plan","Report","Section"
Project bibliography 1	
Publication type	Grey literature (unpublished document/manuscript)
Entered by	mark Atkinson (mark.atkinson@ucl.ac.uk)
Entered on	30 September 2013



© Archaeology South-East		Lowley's Farm	Fig. 1
Project Ref: E2531	Sept 2013	Site location	
Report Ref: 2013242	Drawn by: APL		



© **Archaeology South-East**		Lowley's Farm	Fig. 2
Project Ref: E2531	June 2013	Phased plan of excavated features	
Report Ref: 2013242	Drawn by: APL		

Figure 3: Trench 1, looking south (1m & 2m scales)

Figure 4: General view of excavation area, during clearance. Looking east

Figure 5: General view of excavation area, looking north

Figure 6: GP2 ditch, looking ENE

Figure 7: GP2 ditch [segment 43], looking SW (0.5m scale)

Figure 8: GP3 ditch [segment 17], Trench 3, looking SW (0.5m scale)

Figure 9: Gully [59], looking SW (0.5m scale)

Figure 10: Pit 61, looking ENE (0.5m scale)

Figure 11: Post hole [55], looking SE (0.5m scale)

Figure 12: Pit [21/24/73] cluster and overlying layer [23], looking SSW (2m scale)

Figure 13: Pit [21/24/73] cluster and overlying layer [23], looking SSE

Fig. 14: Feature [49], post-ex, looking SE (1m scale)

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