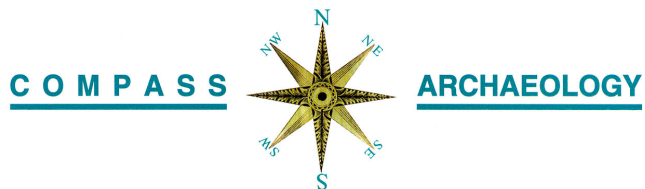


**THE CROSSING POINT OF A THAMES WATER  
PIPELINE ACROSS THE M11 AT GREAT  
HALLINGBURY, ESSEX**

**AN ARCHAEOLOGICAL EVALUATION**



**May 2008**



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AN ARCHAEOLOGICAL EVALUATION

NGR: 550616/219555 – 550540/219580

SITE CODE: GHM08

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May 2008

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### ***Abstract***

*An archaeological evaluation was undertaken at two sites either side of the M11 motorway near Great Hallingbury, Essex between 6<sup>th</sup> – 12<sup>th</sup> May 2008. The sites were evaluated as part of a new Thames Water pipeline scheme, linking the village of Great Hallingbury with the main sewer system. Both sites consisted of two 25m trenches excavated in a cross fashion, located on the east side of the motorway at NGR 550616/219555, and on the west side at NGR 550540/219580.*

*The eastern site, Trench 1, exposed a series of probable plough furrows running on the same axis on a northwest-southeast alignment. A further narrow linear feature was exposed running on the opposite orientation and cut by one of the former group; this was thought to represent an earlier phase of ploughing. None of the probable furrows produced finds or datable material, and thus cannot be affixed to a specific archaeological period. A further six features were exposed in Trench 1 – a group of three probable intercutting pits, a linear feature cut by a later small circular feature, and a larger linear feature running east-west. A small Neolithic/Mesolithic flint blade was recovered from the fill of the pit sequence, and a further piece of probable modified thermally shattered flint was produced from the fill of the narrow linear cut to the north. No further datable material was recovered from any of the features, all of which appeared to be heavily truncated by ploughing. The natural deposit in this area was of a very mixed nature, and considered to represent sediments laid down by glacial activity – or tills.*

*The western site, Trench 2, exposed no archaeological finds or features bar a series of modern ceramic field drains and a large corrugated plastic drain. The ground appeared to be heavily truncated, with a significant drop in ground level from the east – this may be the result of intrusion from the construction of the M11 motorway.*

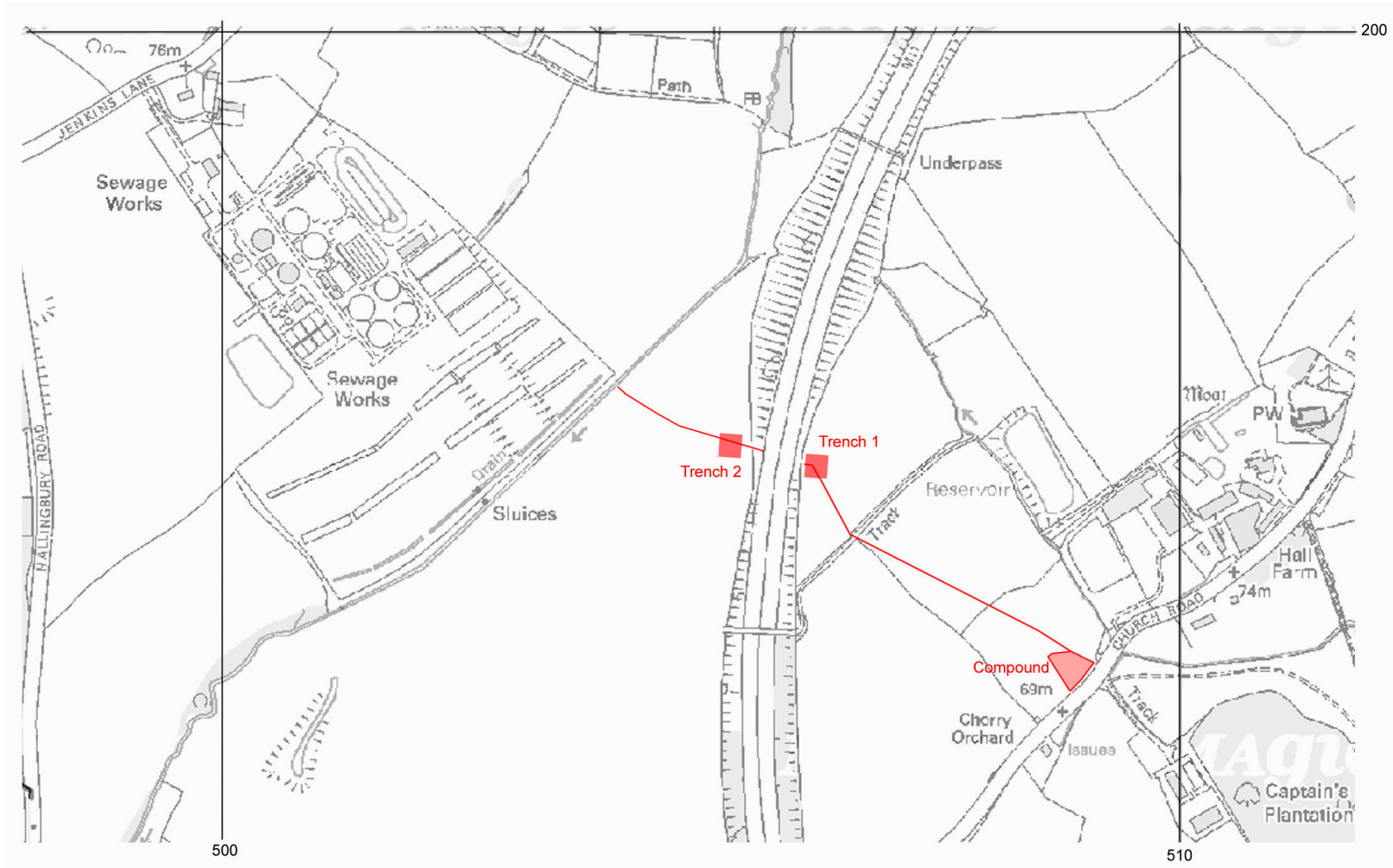
*Overall no particularly significant remains were recorded during the evaluation. It is therefore proposed that no further archaeological work should take place on the site.*

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**Figure 1:** Locations of Trenches 1 and 2 in relation to the adjacent line of the new sewer pipe – based on the Ordnance Survey 1:2500 map.

*Reproduced from the digital map with the permission of the Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office, © Crown Copyright (Compass Archaeology Ltd., licence no. AL 100031317)*

## **1. Introduction**

- 1.1** This report details the results of an archaeological evaluation undertaken at the crossing point of a Thames Water pipeline across the M11 at Great Hallingbury, Essex.
- 1.2** The scheme involves the construction of a new sewer main to connect the village of Great Hallingbury to the existing sewer network. This part of the new sewer main is generally on a northwest-southeast alignment, located between the sewer works at the south-eastern end of Jenkins Lane (NGR 550417/219639) and crossing the M11 to Church Road in Great Hallingbury (NGR 550911/219342) – see Figure 1 above.
- 1.3** The archaeological evaluation was commissioned by Thames Water Utilities Ltd. in response to recommendations made by Richard Havis of the Historic Environment Management Team, Essex County Council.

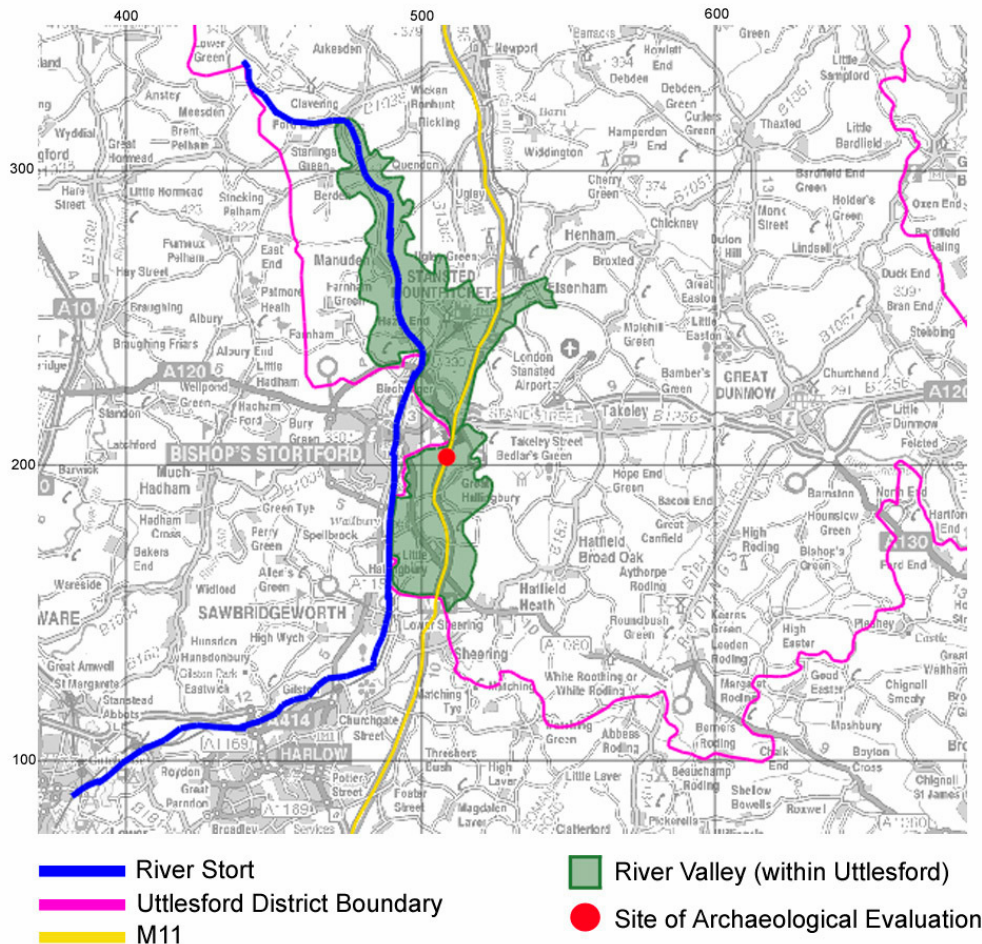
## **2. Acknowledgements**

- 2.1** The archaeological work was commissioned by Adam Eggesfield, Ecology & Conservation, Thames Water Utilities Ltd.
- 2.2** The on-site work was carried out by Rosie Cummings and Jonathan Henckert, with overall management of the project undertaken by Geoff Potter, all of Compass Archaeology.
- 2.3** Compass Archaeology is grateful to the following people for their assistance and expertise during the preliminary, fieldwork and post-excavation stages of the project:
  - Sally Gale, Essex Historic Environment Record – background research.
  - Bill Yendall – On-site metal detecting and identification of metalwork.
  - Jonathan Cotton, Early Department of the Museum of London – identification and analysis of prehistoric flint work.
- 2.4** Compass Archaeology is also grateful to Dave Barrett and the on-site staff of McNicholas Construction Ltd for their assistance during the course of the archaeological evaluation, and for supplying the mechanical excavator and driver.

## **3. Site Location and Geology**

- 3.1** The study area consists of two sites either side of the M11 motorway, approximately 400m west of Great Hallingbury village, and 1.5km east of Bishops Stortford. The sites were centred on the east of the M11 at NGR 550616/219555, and to the west at NGR 550540/219580. The study area is within the Uttlesford District of the County of Essex.
- 3.2** The land either side of the motorway is open fields and farmland, the west currently consisting of wheat crop and to the east the field stands fallow.

- 3.3 Ground level on the eastern side of the M11 is approximately 73.9m OD, dropping substantially on the western side to 69.6m OD, and dropping further east towards the Sewage Treatment Works to a level of some 60.8m OD.
- 3.4 The study sites lie within the wider valley of River Stort, which begins near Clavering some 14km to the north and runs through Bishops Stortford (from which the river took its name in the 16<sup>th</sup> century), before continuing through Hertfordshire for a further 21km where it joins the River Lea near Hoddesdon.
- 3.5 A Landscape Character Assessment undertaken by Chris Blandford Associates on behalf of the district councils of Braintree, Brentwood, Chelmsford, Maldon and Uttlesford (2006) indicates the surface geology of the study area consists of Glacial Tills with sands and gravels to the west. Glacial Tills are unsorted sediment deposited directly by the glacier and can consist of mixed clays, sands, gravels and boulders.



**Figure 2:** Map showing the site in relation to the River Stort and its valley within the Uttlesford District of Essex, and its location along the existing M11 motorway.



#### 4. Archaeological and Historical Background

- 4.1 A summary of archaeological work in the vicinity of the study area was produced with reference to the records held in the Essex Historical Environment Record (EHER) at Essex County Council, County Hall, Chelmsford. This was discussed in greater depth in the Project Specification (Compass Archaeology: 2008) but for the purposes of clarification a brief review of this material is reproduced below:
- 4.2 Extensive work during the expansion of Stansted Airport (to the north of the site) exposed archaeological deposits of multi-period date revealing a complex prehistoric landscape.
- 4.3 Work undertaken closer to the site in the area of the M11 Motorway exposed a number of prehistoric settlement sites, and investigations for the Stansted Water Pipeline route uncovered Iron Age cremations and settlement evidence.
- 4.4 Some 2km to the southwest of the evaluation site are the earthwork remains of the Iron Age hillfort of Wallbury Camp, overlooking the River Stort. The site encompasses some 12.5 hectares enclosed by two banks and ditches.
- 4.5 Roman deposits were encountered to the northeast of the evaluation area in the vicinity of the Church of St Giles, Great Hallingbury. The Church has a great deal of Roman brick and mortar in its walls, particularly the chancel arch which is built entirely of Roman brick, and the obvious re-use of the material suggests a Roman building in the vicinity. Roman settlement sites were recorded along the River Stort, including the vicinity of Wallbury Camp, suggesting continued exploitation of the site after the Iron Age occupation.
- 4.6 The name Hallingbury is believed to mean the *burh*, fortified area or dwelling, of the *Heallas*. The medieval and post-medieval history of the area is well documented, for further information refer to the following:
- **Victoria County History - A History of the County of Essex: Volume 8.** W. R. Powell (editor), Beryl A. Board, Nancy Briggs, J. L. Fisher, Vanessa A. Harding, Joan Hasler, Norma Knight, Margaret Parsons, 1983, p113-124.
  - <http://www.uttlesford.gov.uk/greathallingbury/clubs+and+societies/history+society.htm>
- 4.7 There is a reference to a WWII aircraft crash site located in the general area of the evaluation ([www.anvil.clara.net](http://www.anvil.clara.net)). The record states that on 19<sup>th</sup> September 1940 a Heinkel 111 P-2./KG55 crashed over a large area from Thorley Wash to within sight of St Giles' Church in Great Hallingbury.
- 4.8 Various sites within the vicinity of the M11 exposed no archaeological finds or features, furthermore, it is not known whether an easement corridor was excavated during the construction of the motorway, nor the subsequent level of truncation to the surrounding landscape and potential archaeological horizon.

- 4.9 It is understood that no significant development has taken place on or near the study site, except of the construction of the M11. The sites both sides of the motorway have always lain within open countryside and farmland.

## 5. Objectives of the Archaeological Evaluation

5.1 The basic objective of the archaeological evaluation was to sample the site in order to determine whether archaeological remains were present and if so, to assess their character, extent, date, condition and potential importance. Evaluation aims to determine, as far as is practicable and without compromising the integrity of important archaeological deposits, the full stratigraphic sequence at the site, including information on the natural substrata and soil conditions.

5.2 The fieldwork also presented an opportunity to address several specific research questions:

- Is there any evidence for prehistoric activity, either *in situ* or residually? How does this relate to previous finds in the area?
- Is there any evidence for Roman, Saxon or early medieval activity and can the nature of this be defined (eg. agricultural land use)?
- Is there any evidence for medieval or earlier post-medieval activity and what is the nature of this?
- What is the natural land surface, and has this been affected by construction works in relation to the M11?

## 6. Evaluation Methodology

6.1 The evaluation groundworks involved the machine stripping of two sets of two trenches in a cross pattern, one set on each side of the M11 motorway at the access points for the proposed pipe line (see Figure 1 above). The long axis for each of the two trenches was set at 25m, while each trench measured 2m in width. The first pair of trenches (grouped as Trench 1) was situated on the east side of the motorway, approximately centred as NGR 550616/219555. The second pair of trenches (grouped as Trench 2) was situated on the west side of the motorway and extended west from NGR 550540/219580 – see Figure 3 below.

## 7. The Archaeological Programme

### 7.1 Standards

The field and post-excavation work was carried out in accordance with established guidelines. Works conformed to the standards of the Institute of Field Archaeologists (in particular, the *Standard and Guidance for Archaeological Evaluations*). Overall management of the project was undertaken by a full Member of the Institute.

The work also abided by statutory provisions and by-laws relating to the work in question, especially the Health and Safety at Work Act 1974.

## **7.2 Fieldwork**

- 7.2.1** All machine excavation of trial trenches was carried out under constant archaeological supervision by a suitably experienced archaeologist familiar with the ground conditions anticipated on the investigation site. The machine excavation of the evaluation trenches was undertaken by a mechanical excavator, using a flat-bladed bucket. The archaeologist maintained a constant watch and closely inspected the surfaces exposed during the course of machining. Surfaces were maintained clear of loose spoil.
- 7.2.2** Machine-excavated deposits and the exposed surface were regularly scanned for the presence and collection of artefacts. Bill Yendall, a qualified and experienced metal detectorist carried out scanning of exposed surfaces and excavated spoil.
- 7.2.3** The excavation by machine was taken down to the top of the 'natural' subsoil as no archaeological deposits were found at a higher level. Some further limited excavation was required to clarify the nature, character and date of the archaeological deposits.
- 7.2.4** Potential archaeological remains were investigated by hand and recorded in plan and section as appropriate, following the methodologies set out below.

## **8. Recording**

- 8.1** Archaeological deposits and features were investigated and recorded in stratigraphic sequence, and according to accepted professional standards. The recording system used followed the procedures set out in the Museum of London recording manual. By agreement the *pro forma* recording and drawing sheets were directly compatible with those developed by the Museum.
- 8.2** An overall site plan was maintained. Areas of archaeological investigation were drawn at an appropriate scale of 1:50 and accurately located to the site survey and to the Ordnance Survey grid.
- 8.3** All plans and sections were drawn on polyester based drafting film and clearly labelled, and were levelled with respect to the Ordnance Datum supplied by the on-site engineer of McNicholas Construction Ltd.
- 8.4** Significant archaeological contexts were recorded on individual context record sheets. A further more general record of the work comprising a description of the deposits and features encountered was maintained as appropriate.
- 8.5** Where possible finds were recovered from archaeological contexts. Additional techniques were applied where appropriate, for example metal detecting.
- 8.6** A full photographic record of the work was kept (35mm &/or digital as appropriate). Images recorded the archaeological investigations and findings.

## **9. Finds Recovery, Processing and Treatment**

- 9.1** All artefacts recovered during the excavations on the site are the property of the landowner. They will be suitably bagged, boxed and marked in accordance with the United Kingdom Institute for Conservation, *Conservation Guidelines no.2* and the specific requirements of Saffron Waldron Museum (details to follow). On completion of the archaeological post-excavation programme the landowner will be urged to donate these to a museum or similar repository agreed with the County HEM Team.
- 9.2** Artefacts were excavated carefully by hand, and were collected and bagged by archaeological context.

## **10. Assessment and Report Procedure**

The fieldwork was followed by off-site assessment and compilation of this report, and by checking and ordering and deposition of the site archive.

- 10.1** The level and extent of this report was determined by the results of the archaeological evaluation, and includes sufficient detail to inform future consultation and planning decisions in the vicinity, as well as a more general source for research.
- 10.2** An Oasis Data Collection Form, *Essex Archaeology and History* round-up article and a HER Summary sheet are included as appendices to this report and digital copies will be provided as required
- 10.3** Copies of this evaluation report will be provided to:
- The Client
  - The HEM Team, Essex County Council
  - The Essex Historic Environment Record
  - The Local Planning Authority
  - The OASIS database (.pdf)
  - The project archive (Saffron Waldron Museum).

An electronic copy (.pdf or Word) will be supplied to the HEM and elsewhere as required.

## **11. The site archive**

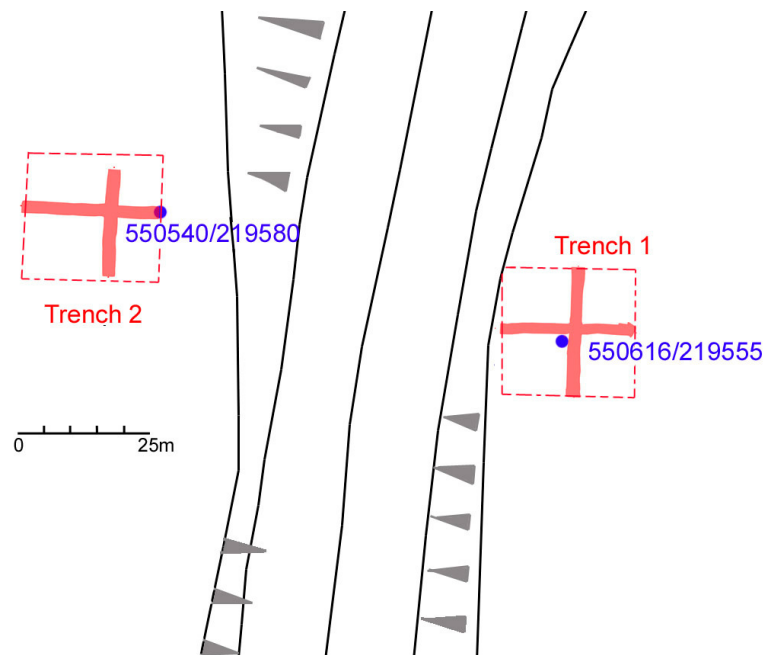
- 11.1** Following completion of the project the site archive will be prepared in accordance with *Guidelines for the preparation of excavation archives for long-term storage (UKIC 1990)*.
- 11.2** Arrangements will be made for the archive to be deposited in a suitable museum or similar repository. This will be undertaken as part of the ongoing programme of archive deposition.

Compass Archaeology has been in contact with Carolyn Wingfield, the Curator of Saffron Waldron Museum, and arrangements are in place to carry out the requirements of the Essex brief in relation to the conservation and storage of archaeological materials and the deposition of the site archive. Owing to logistical and storage considerations Saffron Waldron Museum have requested a review of the content of the archive at the end of the project to ensure that they will be able to receive the archive. The final arrangement with Saffron Waldron Museum will be confirmed in writing to the HEM Team, and a museum accession number will be allocated.

- 11.3 The integrity of the site archive should be maintained, and the landowner(s) will be urged to donate any archaeological finds to the Museum.

## 12. The Archaeological Evaluation

The Archaeological Evaluation consisted of the excavation of two areas (each area involving 2 x 25m trenches at 2m width, excavated in a cross pattern – see Figure 3 below) either side of the M11 motorway at the crossing point with the new Thames Water Pipeline. Due to the nature of the exposed deposits and features the results of the two areas will be discussed separately below. All trenches were excavated using a 360° tracked mechanical excavator fitted with a flat-bladed 2m bucket, operating under constant supervision by a banksman from McNicholas Construction Ltd and a suitably experienced archaeologist.



**Figure 3:** Trench Locations based on Ordnance Survey 1:1250 map extract.

## 12.1 Trench 1

Trench 1 was excavated on the east side of the M11, in an area already partially stripped of topsoil for the pipeline easement corridor. The trench was located by reference to an NGR point provided by the on-site McNicholas Construction Ltd engineer, at 550616/219555. An Ordnance Datum height was also provided, taken at the existing ground level prior to topsoil stripping at the NGR coordinates noted above, and measured at 73.88m OD. This height was used to derive all other levels taken across the excavation.

### 12.1.1 List of Recorded Contexts

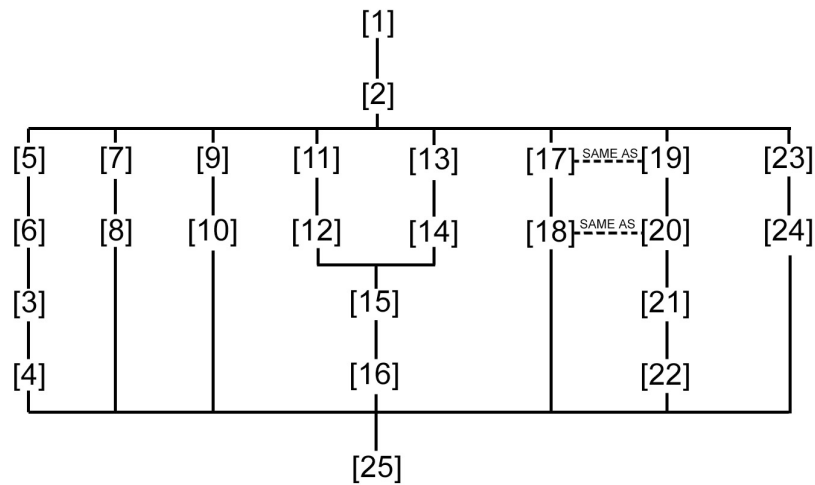
Context	Description	Interpretation
1	Friable mid-brown/orange silty sandy clay with frequent chalk and flint pieces; occasional CBM and pottery, heavy rooting from overlying turf.	Existing topsoil across fallow/grass field.
2	Firm light orange with very frequent chalk flecking and blocks. Occasional flint – very compact.	Existing subsoil
3	Firm mid orange/brown clay with silt. Pea grit, chalk and flint inclusions. Frequent thermal shattered flint and single sherd of probable modified thermal flake.	Fill of linear feature [4].
4	Cut of narrow (0.4m) and shallow (0.075m) linear feature extending into baulk at north end of trench. Heavily truncated (probably through ploughing) and by circular feature [6] at eastern end into baulk.	Shallow linear feature – possible ditch but heavily truncated and undated – filled by [3].
5	Firm mid-orange/brown clay with silt. Moderate chalk pieces, pea grit and thermal shattered flint.	Fill of sub-circular feature [6].
6	Cut of sub-circular feature extending beyond L.O.E – cuts linear [4] but also presumably truncated by ploughing. Small (0.30m x 0.60m) and shallow (150mm).	Cut of small sub-circular feature cutting linear [4] at north end of trench – filled by [5].

7	Friable mid-grey/brown silty clay with moderate chalk and flint pieces.	Fill of probable plough furrow [8].
8	Linear cut exposed for 3.4m extending beyond L.O.E to north and south – orientated northwest – southeast. 0.12m in width and 0.21m in depth, very regular.	Cut of probable plough furrow – filled by [7].
9	Friable mid-light yellow /orange sand with silt, occasional chalk flecking. No other inclusions, very sterile.	Fill of possible linear [10].
10	Possible linear (unclear edges in plan) orientated east-west at north end of trench. Exposed for 2m and extending beyond L.O.E, 0.8m in width and 0.4m in depth.	Possible linear feature filled by sterile deposit [9] – possibly natural irregularity but depth and definition could imply a man-made ditch/gully.
11	Friable mid-grey/brown silty clay with moderate chalk pieces, frequent thermal shattered flint and pea-grit.	Fill of probable pit feature [12].
12	Cut of small sub-circular feature continuing beyond L.O.E to west – measuring 0.5m + (truncated by animal burrow) by 0.25m + (into baulk) by 0.16m in depth – cuts feature [16] and probably truncated by ploughing.	Cut of small circular feature – filled by [11]. Cuts [16].
13	Friable mid-grey/brown silty clay with frequent thermal shattered flint – single worked flint blade recovered from contexts 13/15 (intercutting and not separated – very similar).	Fill of probable pit feature [14].
14	Cut of sub-circular feature measuring 1.2m by 1.05m by 0.17m in depth. Probably truncated by ploughing.	Cut of sub-circular feature – filled by [13]. Cuts [16].
15	Friable mid-grey/brown silty clay with moderate chalk and flint pieces – see note in [13] re. Flint Blade.	Fill of probable pit feature [16].

16	Cut of irregular shaped feature measuring 0.9m+ (truncated by [12] + [14]) by 0.95m by 0.21m in depth – truncated by associated cuts and ploughing.	Heavily truncated feature – filled by [15]. Cut by [12] and [14].
17	Friable mid-grey/brown silty clay with moderate chalk and flint pieces.	Fill of probable plough furrow [18].
18	Linear cut exposed for 2.6m and continuing beyond L.O.E – orientated northwest –southeast. 0.12m in width by 0.21m in depth – very regular.	Cut of probable plough furrow – filled by [17].
19	Friable mid-grey/brown silty clay with moderate chalk and flint pieces.	Fill of probable plough furrow [20].
20	Linear cut exposed for 3.5m and continuing beyond L.O.E – orientated northwest –southeast. 0.12m in width by 0.21m in depth – very regular.	Cut of probable plough furrow – filled by [19], cuts [22].
21	Mid-yellow/orange sand and gravel with clay, occasional flint and chalk inclusions – compact.	Fill of linear feature [22].
22	Linear cut orientated northeast-southwest; exposed for 2.7m and continuing beyond L.O.E, 0.18m in width and 0.12m in depth – very regular.	Linear cut feature, possible earlier phase of plough furrow – filled by [21], cut by [20].
23	Friable mid-grey/brown silty clay with moderate chalk and flint pieces.	Fill of probable plough furrow [24].
24	Linear cut exposed for 6.3m and continuing beyond L.O.E – orientated northwest –southeast. 0.12m in width by 0.22m in depth – very regular.	Cut of probable plough furrow – filled by [23].
25	Compact light-yellow/brown clay with very frequent chalk blocks and weathered chalk flecking. Frequent flint blocks and boulders, occasional sand.	Natural glacial till deposit.



### 12.1.2 Stratigraphic Matrix



### 12.1.3 Summary and Discussion

Trench 1 exposed a series of features cutting into the natural glacial till deposit [25]. All features were overlain by the existing topsoil [1] and subsoil [2] deposits. Prior to the archaeological evaluation a large part of the area was stripped for the pipeline easement corridor (see Figure 5 for extent in relation to the evaluated area). The majority of the existing topsoil was stripped to a depth of some 0.22m below the existing ground surface. This spoil, along with that removed in subsequent machining was scanned using a metal detector by Bill Yendall. The scanning produced three metal objects, which are discussed in detail in Appendix 1: Metalwork. Briefly, this included a small bullet of approximately 17<sup>th</sup> century date, the torso of a hollow-cast lead soldier and a much-abraded plain and flat-faced gilt button of 19<sup>th</sup> – early 20<sup>th</sup> century date. Very little metal material was recovered from the topsoil and subsequent exposed deposit scanning – the quantity of finds relative to most other sites is strikingly low. The topsoil also produced small fragments of ceramic building material and pot, all heavily abraded and subsequently discarded, these were of 19<sup>th</sup> and 20<sup>th</sup> century date.



**Figure 4:** Metal finds from topsoil [1] – lead bullet (left), Gilt button (middle) and lead soldier torso (right).

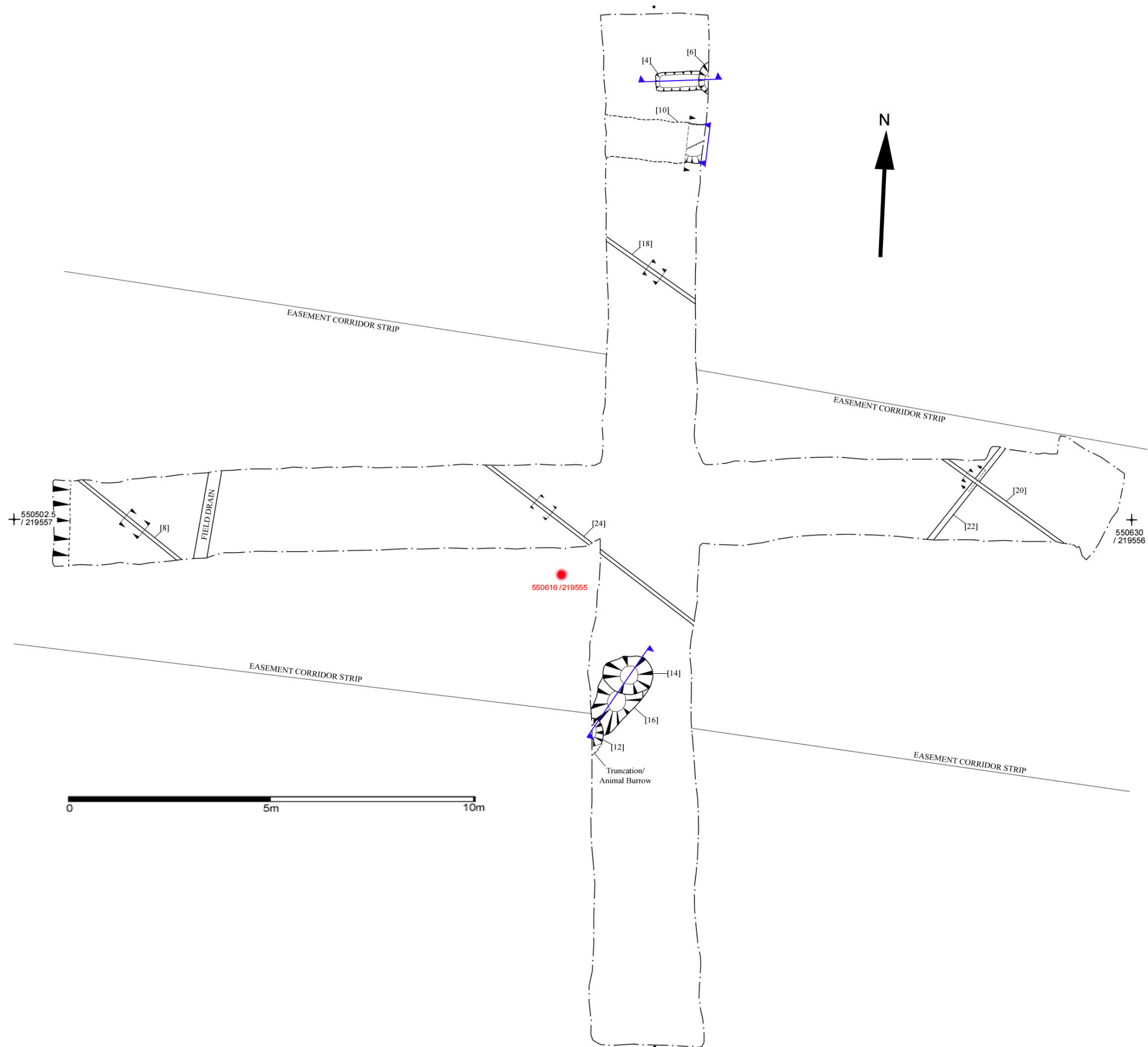


Figure 5 Plan of Trench 1 showing features cutting into the natural deposit and the location of illustrated sections

The natural deposit [25] consisted of very compact clay and silt with very frequent chalk and flint inclusions. This composition is very typical of deposits laid down by glacial activity (tills), unsorted sediments which can consist of mixed clays, sands, gravels and boulders.

Figure 5 (above) shows the exposed features cutting into the natural deposit [25]. The features can be grouped into two units – initially the series of regular linear cuts thought to be plough furrows, and secondly 6 heavily truncated and somewhat ephemeral cut features of probable prehistoric date.

#### 12.1.4 Plough Furrows

A series of linear, regular cut features [8] [18] [20] & [24] were observed running on the same angle and orientation on a northwest – southeast axis. Cuts [18] [20] are considered to be the same feature exposed in the north and east lengths of trench respectively, with the adjoining section continuing beneath the unexcavated baulk. The continuation of cut [8] beneath the baulk and into the southern length of the trench was not exposed. Whether this implies the terminus of the feature beneath the unexcavated area, or simply a greater degree of disturbance and truncation to the south is unclear. The very regular appearance of these features and broadly similar dimensions (with only depth showing real variation) suggests they are machine cut. Furthermore, the three individual linears – [8] to the west, [24] in the centre and [18] [20] to the east – are evenly spaced with an interval of some 6.3m. It is likely these features represent a series of regular plough furrows, but the absence of finds recovered from the fills [7] [17] [19] & [23] leave them undated.



**Figure 6:** View southeast of Trench 1 showing plough furrow [8] (1m scale).



**Figure 7:** View southeast of Trench 1 showing plough furrow [24] (0.5m scale).

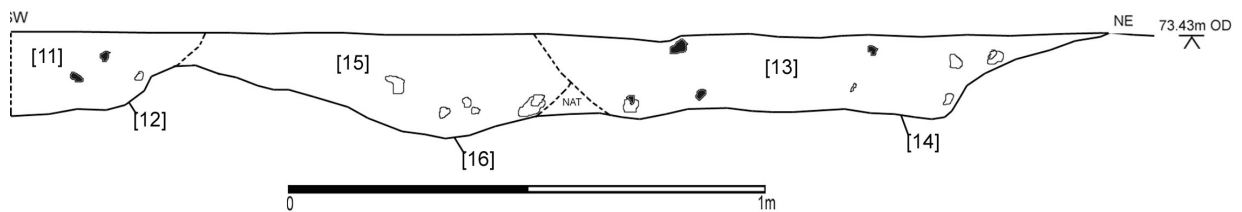
Furrow [20] was shown to cut a further narrow linear [22], which ran virtually perpendicular to [20] on a northeast-southwest orientation. Linear [22] was of a similar depth to the probable plough furrows elsewhere, but slightly wider at 0.18m and filled by a very different deposit [21] of yellow/orange sand and gravel. Again, no finds material was recovered from the excavated section and the feature is thus not datable – although it must pre-date furrow [20] which cuts through it and is itself presumably contemporary with cuts [8] [18] and [24]. It is possible, given the nature of the cut, that linear [22] represents an earlier phase of plough furrow.



**Figure 8:** View west towards the M11 of Trench 1, showing plough furrow [20] and linear feature [22] (1m scale).

### 12.1.5 Intercutting Pits [12] [14] & [16]

In the southern length of Trench 1 a series of three probable intercutting pits was observed. The earliest of these, pit [16] was irregularly shaped measuring 0.95m (NE-SW) by 0.9m (NW-SE) and 0.21m in depth. It was truncated to the northeast and southwest by the later cuts of pits [12] and [14]. Pit [14] was roughly circular in plan, again very shallow at 0.17m. To the southwest, extending into the baulk, pit [12] was the smallest of the group at 0.5m by 0.25m and 0.19m in depth. [12] was truncated to the south by an animal burrow, obscuring the southern extent of the cut – see Figure 9 and 10 below. All three pits were very shallow indicating heavy truncation, probably through ploughing. The fills [11] [13] [15] were very similar, consisting of mid-brown grey silty clay with chalk pieces and fragments of thermally shattered flint. A single piece of worked flint was recovered from fills [13]+[15] (not separated) which was identified as a Mesolithic or Neolithic blade worked in banded flint, measuring 41mm in length – see Figure 11.



**Figure 9:** Section A – through pits [12] [14] [16].



**Figure 10:** Southeast facing section of pits [12] [14] [16] (1m scale).



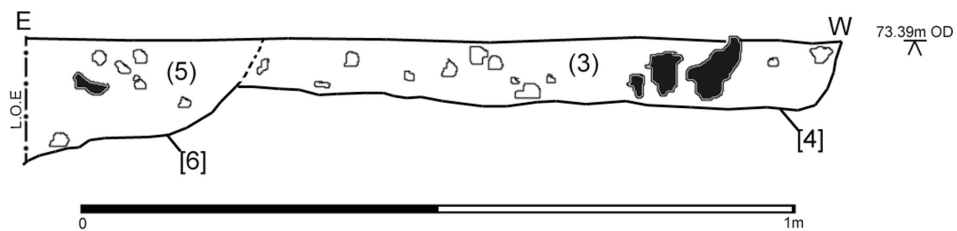
**Figure 11:** Mesolithic/Neolithic flint blade recovered from pit fills [13] [15].

#### 12.1.6 Features [4] and [6]

Cut [4] was a narrow (0.4m) linear feature orientated east-west and exposed for 1.15m to its eastern end where it was truncated by a circular cut [6]. Cut [6] and presumably the continuation of linear [4] extended beyond the limit of excavation to the east. Both features were very shallow, probably heavily truncated through ploughing as with the pit sequence [12] [14] [16] described above. Fills [3] [5] were very similar, consisting of mid-brownish/orange clay with silt and sand, occasional chalk inclusions and frequent thermally shattered flint flakes. One such example was identified as showing signs of probable reuse or modification, likely by human activity but possibly through natural processes (see Figure 12 below). The heavy degree of truncation and lack of further finds evidence makes secure identification and dating of these features problematic. Both features are probably prehistoric, perhaps contemporary with the pit sequence observed to the south – linear [4] may represent a small ditch or gully, later cut by the small circular feature [6], possibly a small pit or post-hole.



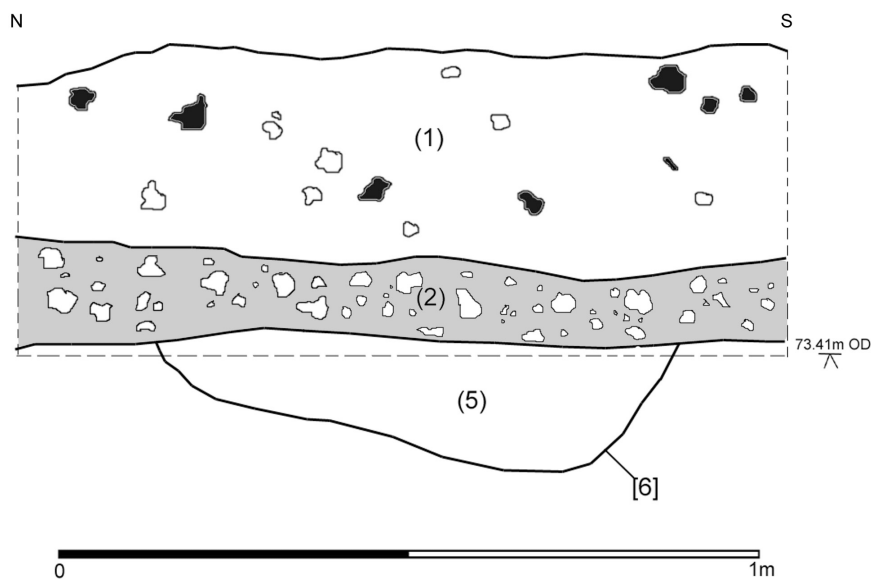
**Figure 12:** Probable modified thermal flint flake.



**Figure 13:** Section B: through linear feature [4] cut by [6].



**Figure 14:** North facing section of features [4] and [6] (0.5m scale).



**Figure 15:** Section C: showing feature [6] with overlying topsoil and subsoil.

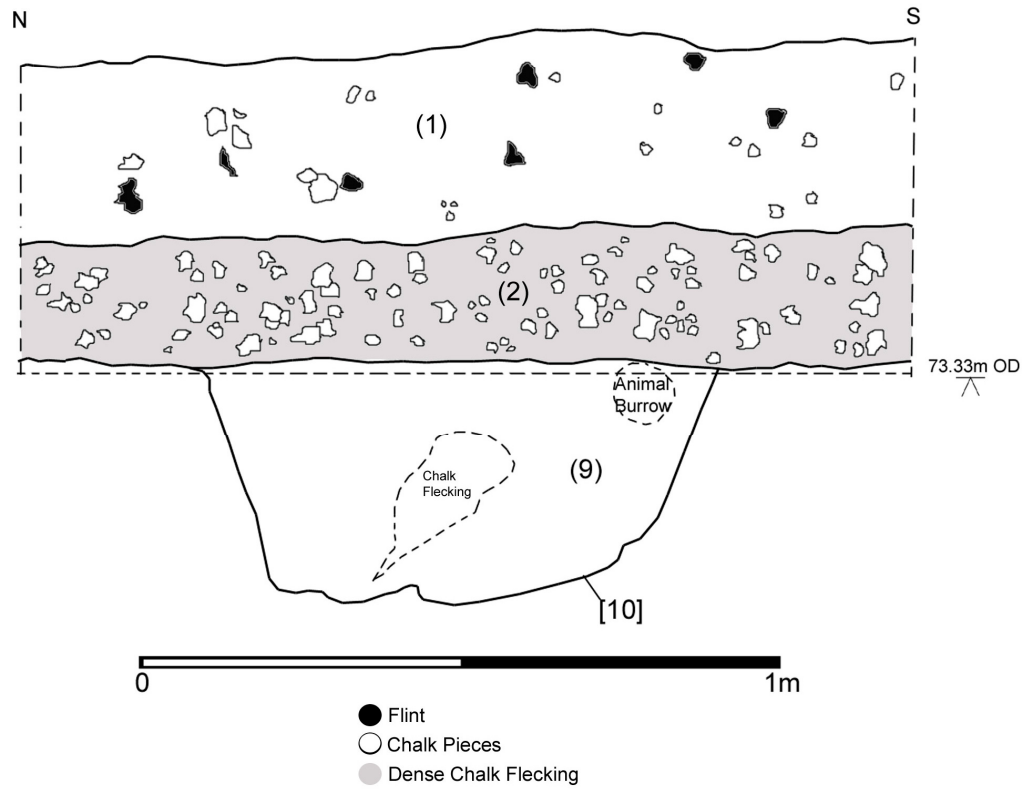
### 12.1.7 Feature [10]

Cut [10] was an irregularly edged linear feature orientated east-west and extending beyond the limits of excavation in both directions. Fill [9] consisted of a very sandy deposit, yellow/orange in colour and barring small areas of chalk flecking, completely sterile of inclusions. The cut was significantly deeper than other features exposed in trench 1, extending some 0.4m into the natural deposit. A small step was exposed in the base of the cut, which may represent the remnants of a re-cut, suggesting the feature is a partially truncated ditch or gully. However, the lack of inclusions, dissimilarity with the other exposed features and composition of fill [9] may indicate that the feature is natural sediment within a very mixed wider natural deposit. As the feature was only exposed in a very small area, and sampled with a small section, further identification is not possible.



**Figure 16:** West facing section of possible linear feature [10] with topsoil [1] and subsoil [2] – 1m scale.





**Figure 17:** Section D – through feature [10] and baulk.



**Figure 18:** Overall view of Trench 1, looking north-west towards the M11.

## 12.2 Trench 2

Trench 2 was excavated on the west side of the M11 motorway, located with reference to NGR 550540/219580 (see Figure 3). An Ordnance Datum height was provided at the existing ground level of this point, recorded as 69.63m OD. This level was used to derive all other heights taken across the excavated area.

### 12.2.1 List of Recorded Contexts

Context	Description	Interpretation
26	Firm mid-brown/grey silty clay with sand. Chalk flecking and pieces, pebbles and frequent flint <150mm, rooting from overlying wheat crop.	Existing topsoil.
27	Firm light-grey/orange clay with silt and sand. Very frequent flint inclusions from 10-300mm. Frequent chalk pieces and flecking, sand and quartz.	Existing sub-soil.
28	Compact clay with silt and sand, frequent flint and chalk inclusions. Large flint nodules up to 450mm in length.	Natural glacial till deposit.

### 12.2.2 Stratigraphic Matrix

[26]  
|  
[27]  
|  
[28]

### 12.2.3 Summary and Discussion

No archaeological finds or features were exposed in Trench 2, deposits consisted of the existing topsoil [26] and subsoil [27] overlying a very mixed natural [28] between 67.28m and 69.07m OD. The latter deposit was very different to that exposed on the east side of the motorway [25], containing considerably less chalk but with higher quantities of flint including very large nodules up to 450mm in length. This type of sediment is likely to represent material laid down by glacial activity, but appears to be heavily truncated. The extent of ground works undertaken during the M11 construction works is unknown, but the difference in ground level between the two sites (some

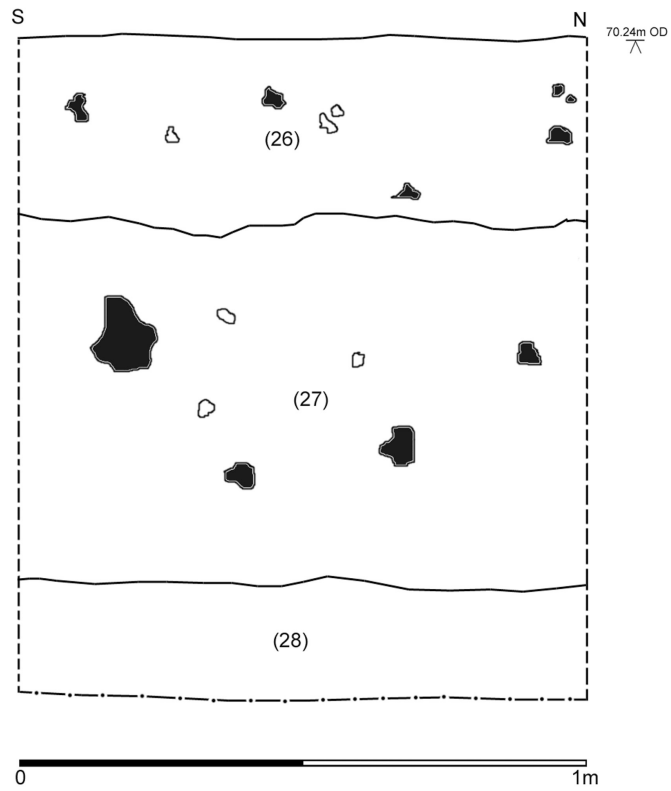
4.25m) considering the distance apart (approximately 75m) may indicate some significant reduction. This is borne out by the depth of subsoil (0.65m) and the mixed nature of this deposit, combined with the presence of frequent ceramic land-drains and a large plastic-corrugated drain at the maximum depth of excavation (see Figure 22 below), which indicates a reduction in natural ground level and subsequent makeup. It is likely then that any archaeological remains were consequently destroyed, hardly surprising considering the proximity to the motorway and the sharp drop in ground level observable between the excavation site and road. At the south end of the trench a large area of darker material was observed, but was not in any observable cut was considered to be a natural variation in the deposit [28].



**Figure 19:** Trench 2, looking east towards the M11 motorway (1m scale)



**Figure 20:** Trench 2, view south (1m scale).



**Figure 21:** Section E: 1m sample section of Trench 2.

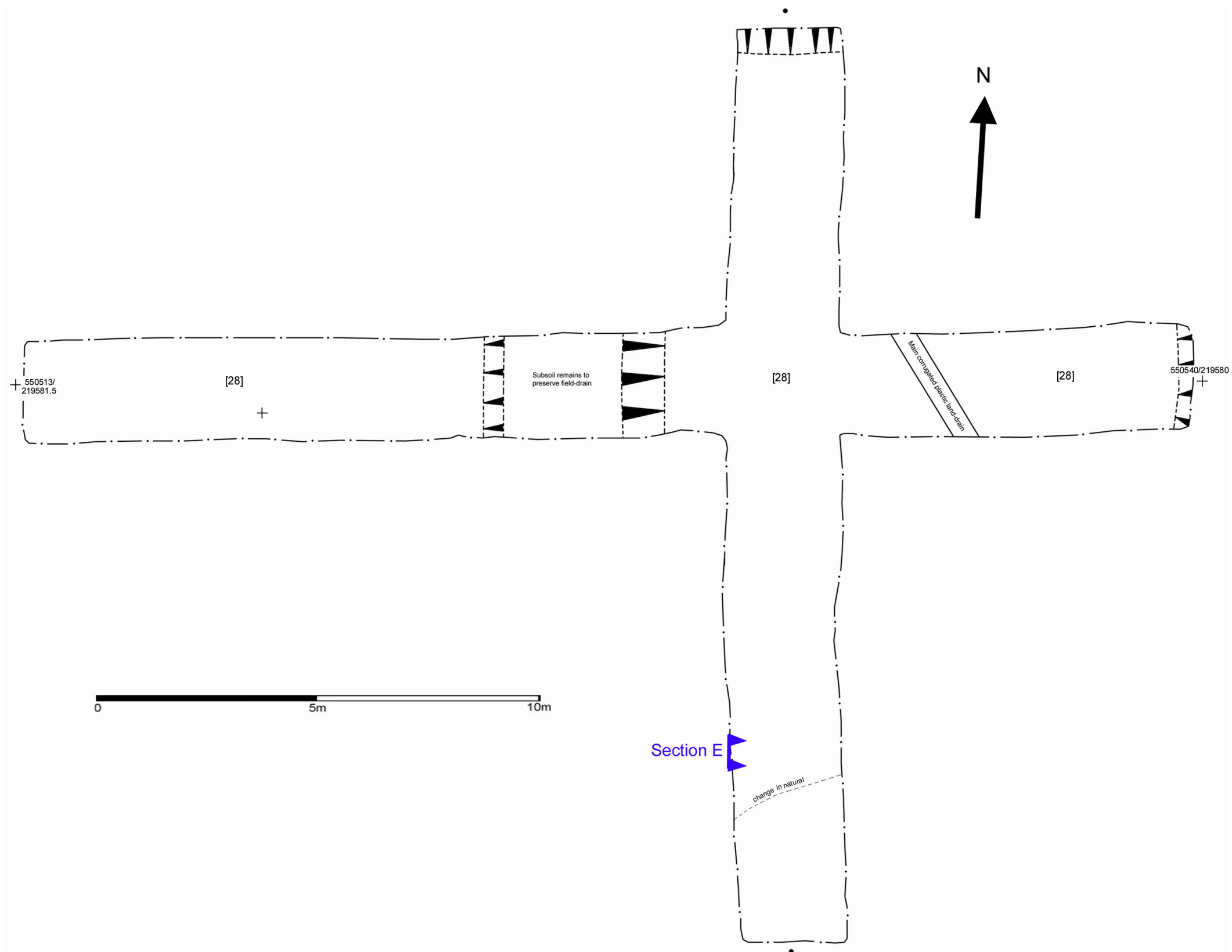


Figure 22 Plan of Trench 2, showing features cutting into the natural deposit and the location of illustrated section

### 13. Conclusions

The features exposed on the east side of the M11 motorway, in the area excavated as Trench 1, produced a very small assemblage of prehistoric material (one definite and one probable worked flint flake). These features were all heavily truncated and the mixed nature of the natural deposit into which they cut left the edges somewhat ephemeral, whilst there was no clear evidence for origin or function. Nevertheless, the presence of these features implies some degree of prehistoric activity in the area, and at least partial survival of the archaeological horizon. Features at the northern and southern ends of the trench extended beyond the limit of excavation, and it thus seems likely that further archaeological finds and features exist in the wider area. Furthermore, the observation of a series of plough furrows, while unfortunately undated, imply evidence of agricultural activity – although this may be quite recent. Despite the close proximity to the M11 motorway it appears that occasional archaeological finds and features survive in this area, and the potential for further such material is apparent.

To the west of the M11, in the area excavated as Trench 2, the surviving deposits consisted of existing topsoil and subsoil overlying an apparently truncated and very mixed natural deposit. No archaeological finds or features were recorded in this area, but it is impossible to determine whether this is the result of truncation (probably from the M11 construction) or whether no activity has ever been apparent in this area. The sharp drop in the existing ground level between the M11 surface (at c 73m OD – approximated from the relatively level ground to the east) and the site of Trench 2 (some 4m lower) indicates some terracing and ground reduction. However, the land does appear to slope gradually to the east, within the valley of the River Stort, reaching a level of 60.91m OD at the corner of the Sewage Work approximately 150m to the northeast and thus dropping a further 8+ metres.

Overall, no highly significant archaeological finds or features were observed during the course of the archaeological evaluation. The very small number of metal finds retrieved during metal detecting could be considered indicative of the lack of archaeological material in the area. Combined with the absence of activity in the western site, and fairly limited activity to the east, it appears that nothing of great significance exists in this area. It is therefore proposed that no further archaeological mitigation should take place on the site.

### Bibliography

**Essex County Council (Historic Environment Branch)** Oct.2006. *Archaeological Evaluation of the Crossing Points of a Thames Water pipeline across the M11 at Great Hallingbury, Essex*

**Compass Archaeology.** 2008. *Specification for an Archaeological Evaluation of the Crossing Points of a Thames Water pipeline across the M11 at Great Hallingbury, Essex*

**Chris Blandford Associates (Environment, Landscape, Planning).** 2006. *Braintree, Brentwood, Chelmsford, Maldon and Uttlesford Landscape Character Assessments.* Jointly commissioned by Braintree, Brentwood, Chelmsford, Maldon and Uttlesford District Councils – online at: [www.maldon.gov.uk/NR/rdonlyres/70E11C1A-D13C-42CB-8F19-](http://www.maldon.gov.uk/NR/rdonlyres/70E11C1A-D13C-42CB-8F19-)

## Appendix I: Finds

### 1. Metalwork

Three metal objects were retrieved from the stripped topsoil during metal detecting:

Find No.	Context	Material	Size (mm)	Weight (g)	Description/ID
1	[1]	Lead	11	10	Single small bullet of approximately 17 <sup>th</sup> date.
2	[1]	Lead	18 (l) by 15 (w)	6	Torso of small hollow-cast toy soldier, earlier 20 <sup>th</sup> century.
3	[1]	Copper Alloy	20mm (diameter)	4	Plain, flat-faced gilt button of 19 <sup>th</sup> /20 <sup>th</sup> century date – some markings on rear.

#### 1.1 Lead Bullet

The lead bullet is of approximately 17<sup>th</sup> date, although armaments are not standardised or consistent in this period, particularly outside military use. The bullet is much smaller than the standard calibre bullet used in muskets and carbines of the period, and judging by its calibre may well have been for a pistol. Other possibilities would include light fowling pieces, birdshot, or used as multiple shot in a weapon such as a blunderbuss or dragon.

#### 1.2 Lead Soldier

The torso of the small hollow-cast toy soldier is in very poor condition making close identification somewhat problematic. The fact that is crafted in lead places it earlier than the 1960's, at which time international concern about lead poisoning resulted in many manufacturers ceasing production in this material. Furthermore, after World War II plastic was the dominant material used in production due to the cheaper cost of manufacture and consequently sale. Although metal was still used in the more collectable materials, tin was often the more desirable option allowing for greater detail and intricacy of design. Hollow-casting (the process by which a mould is used with molten metal and the excess is poured out leaving a hollow interior) was pioneered in Britain from 1893, as again the process was significantly cheaper than the solid figure production. It is likely then that this example comes from the first half the 20<sup>th</sup> century.

#### 1.3 Gilt Button

The rear face of the button retains a small amount of gold lettering in which the word 'gilt' can be discerned. The rest of this face and the external face are very damaged and no other detail is observable. It is probably later 19<sup>th</sup>/earlier 20<sup>th</sup> century in date.

## 2. Flint

<b>Find No.</b>	<b>Context</b>	<b>Material</b>	<b>Size (mm)</b>	<b>Weight (g)</b>	<b>Description/ID</b>
<b>4</b>	[13] [15]	Flint	41 (l) 14 (w)	10	Small Mesolithic /Neolithic blade of banded flint.
<b>5</b>	[3]	Flint	54 (l) 32 (w)	14	Probable modified/reused thermal pot-lid flake.

### 2.1 Mesolithic/Neolithic Flint Blade

A 'blade' is defined as a struck piece of flint or other stone where the length is at least twice the width. This example has been struck from banded flint and is considered to be Mesolithic or Neolithic in date.

### 2.2 Modified Thermal Flake

This example is considered to be a pot-lid flake resulting from thermal shattering which shows signs of possible modification or reuse either by natural processes or human activity.



## Appendix II: OASIS Data Collection Form

**OASIS ID: compassa1-42682**

### Project details

Project name	The Crossing Point of a Thames Water Pipeline Across the M11 at Great Hallingbury Essex: An Archaeological Evaluation
Short description of the project	An archaeological evaluation undertaken at two sites either side of the M11 motorway near Great Hallingbury, Essex. Two trenches measuring 25m were excavated in a cross pattern either side of the motorway. No archaeological finds or features were observed at the western site, while the eastern site exposed a small number of probable prehistoric features and a series of undated probable plough furrows.
Project dates	Start: 06-05-2008 End: 12-05-2008
Previous/future work	No / No
Any associated project reference codes	GHM08 - Sitecode
Type of project	Field evaluation
Site status	None
Current Land use	Cultivated Land 1 - Minimal cultivation
Monument type	PIT Prehistoric
Monument type	LINEAR FEATURE Late Prehistoric
Monument type	PLOUGH MARKS Uncertain
Significant Finds	BLADE Prehistoric
Significant Finds	LITHIC IMPLEMENT Uncertain
Methods & techniques	'Sample Trenches'
Development type	Pipelines/cables (e.g. gas, electric, telephone, TV cable, water, sewage, drainage etc.)
Prompt	Water Act 1989 and subsequent code of practice
Position in the planning process	After full determination (eg. As a condition)

### Project location

Country	England
Site location	ESSEX UTTLESFORD GREAT HALLINGBURY The Crossing Point of a Thames Water Pipeline Across the M11 at Great Hallingbury, Essex
Postcode	CM22
Study area	200.00 Square metres
Site coordinates	TL 50616 19555 51.8537647003 0.187171241984 51 51 13 N 000 11 13 E Point
Site coordinates	TL 50540 19580 51.8540098963 0.186079364099 51 51 14 N 000 11 09 E Point
Height OD	Min: 67.28m Max: 73.89m

### Project creators

Name of Organisation	Compass Archaeology
Project brief originator	Local Planning Authority (with/without advice from County/District Archaeologist)
Project design originator	Compass Archaeology
Project director/manager	Geoff Potter
Project supervisor	Rosie Cummings
Type of sponsor/funding body	Thames Water Utilities

### Project archives

Physical Archive recipient	Saffron Waldron Museum
Physical Contents	'Metal','Worked stone/lithics'
Digital Archive recipient	Saffron Waldron Museum
Digital Contents	'none'
Digital Media available	'Images raster / digital photography','Text'
Paper Archive recipient	Saffron Waldron Museum
Paper Contents	'none'
Paper Media available	'Context sheet','Drawing','Map','Matrices','Photograph','Plan','Report','Section'

### Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	The Crossing Point of a Thames Water Pipeline Across the M11 at Great Hallingbury, Essex
Author(s)/Editor(s)	Cummings, R
Date	2008
Issuer or publisher	Compass Archaeology
Place of issue or publication	5-7 Southwark St, London, SE1 1RQ
Description	A4 bound report detailing the results of the archaeological evaluation - contains text and images.
Entered by	Rosie Cummings (mail@compassarchaeology.co.uk)
Entered on	20 May 2008

Appendix III: HER Summary Sheet, Essex County Council

ESSEX HISTORIC ENVIRONMENT RECORD/ ESSEX ARCHAEOLOGY  
AND HISTORY

SUMMARY SHEET

<b>Site Name/Address:</b> The Crossing Point of a Thames Water Pipeline Across the M11 at Great Hallingbury, Essex.	
<b>Parish:</b> Uttlesford	<b>District:</b> Great Hallingbury
<b>NGR:</b> 550616/219555 – 550540/219580	<b>Site Code:</b> GHM08
<b>Type of Work:</b> Archaeological Evaluation	<b>Site Director/Group:</b> Compass Archaeology
<b>Date of Work:</b> 6 <sup>th</sup> -12 <sup>th</sup> May 2008	<b>Size of Area Investigated:</b> 200m <sup>2</sup>
<b>Location of Finds/Curating Museum:</b> Safron Waldon Museum	<b>Funding Source:</b> Thames Water Utilities Plc
<b>Further Work Anticipated?:</b> No	<b>Related SMR No.s:</b>
<b>Final Report:</b> The Crossing Point of a Thames Water Pipeline Across the M11 at Great Hallingbury, Essex: An Archaeological Evaluation. Compass Archaeology.	
<b>Periods Represented:</b> Prehistoric/Undated; post-medieval (17 <sup>th</sup> C+)	
<b>SUMMARY OF FIELDWORK RESULTS:</b>	
<p>The eastern site exposed a series of heavily truncated features including three intercutting pits, two linear features and a further small circular feature. Two sherds of worked flint were recovered including a Mesolithic/Neolithic blade and a possibly modified thermally shattered flake. A further series of probable plough furrows were recorded but not dated. Metal detecting recovered a lead bullet and two later items from topsoil.</p> <p>The site on the west of the M11 showed evidence of heavy ground disturbance or reduction and no archaeological finds or features were recorded.</p>	
<b>Previous Summaries/Reports:</b> N/A	
<b>Author of Summary:</b> Cummings, R	<b>Date of Summary:</b> 20.05.08

#### **Appendix IV: Essex Archaeology and History Roundup.**

Site Address: The Crossing Point of a Thames Water Pipeline across the M11 at Great Hallingbury, Essex.

Project type: Archaeological Evaluation

Dates of Fieldwork: 6<sup>th</sup> –12<sup>th</sup> May 2008

Site Code: GHM08

Supervisor: Rosie Cummings

NGR: 550616/219555 – 550540/219580

Funding Body: Thames Water Utilities Ltd.

An archaeological evaluation at the crossing point of a Thames Water pipeline across the M11 at Great Hallingbury, Essex exposed some evidence of prehistoric activity on the eastern side of the motorway. A small number of heavily truncated features including intercutting pits and linears produced a Mesolithic/Neolithic blade and one other example of probable worked flint. A further series of probable plough furrows was recorded but no dating evidence was retrieved. The western site showed evidence of significant ground disturbance or reduction, possibly due to construction works relating to the M11 motorway, and no archaeological finds or features were recorded. Natural glacial tills were observed between 67.28m and 73.89m OD.