# LAND TO THE EAST OF BEDDINGTON FARM ROAD &

# SOUTH OF STIRLING WAY, CROYDON

# LONDON BOROUGH OF SUTTON

## ARCHAEOLOGICAL POST-EXCAVATION ASSESSMENT

September 2004

COMPASS ARCHAEOLOGY

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# SOUTH OF STIRLING WAY, CROYDON

# LONDON BOROUGH OF SUTTON

# ARCHAEOLOGICAL POST-EXCAVATION ASSESSMENT

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LONDON BOROUGH OF SUTTON PLANNING REF: 03/50702/F

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Project 231

***Abstract***

*Archaeological investigation of a redevelopment site on the eastern side of Beddington Farm Road, Croydon, London Borough of Sutton, took place between January and March 2004. Previous evaluation in August 2003 had established that there were archaeological remains within the southeastern part of the site, including Mesolithic to Bronze Age struck flint and two possible prehistoric ditches.*

*A number of other prehistoric finds are recorded in the vicinity, and Roman remains are also present (notably the Beddington Roman Villa), although in later periods the area probably formed open land on the border of Mitcham Common.*

*Following the evaluation a programme of recording ahead of construction was proposed by English Heritage. A two-phase project was agreed, comprising trench excavation in specific areas followed by a watching brief during development groundworks.*

*Starting from the point of previous discovery the investigation exposed two substantial ditches of late Iron Age to Roman date. These ran approximately east-west and northeast-southwest and were traced for over 40m. The smaller northern feature was up to 1.1m wide by 0.3m deep and the larger southern ditch some 2.7m wide by 0.75m deep: both were truncated at the level of natural by erosion, agricultural activity or modern development.*

*The ditches evidently formed boundary and/or drainage features within an agricultural landscape, although the absence of other features and the dearth of artefacts indicate that there was no nearby occupation. Botanical remains included a small assemblage of charred cereal grain and chaff, plus possible spelt wheat.*

*The radiocarbon dating of the large southern ditch – 100 BC to AD 70 – also supports the idea of continuous agricultural activity from the later prehistoric to Roman periods, as previously suggested from excavations on the site of the Villa. The smaller northern ditch appears to be of slightly later date, although perhaps contemporary in use.*

*There was also some evidence for earlier prehistoric activity, in the form of a small assemblage of struck flint. Although residual and only broadly datable to the Mesolithic or Bronze Age this group is comparable with others that are recorded in the area.*

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*Fig 3 reproduced from a proposal drawing by Buller Greenbury Associates, Drg. No. 648/DP/001(J)*

*Figs 4-6 based on a pre-development site survey by CSL Surveys, Drg No. 13803T/1(April 2003)*

## 1. Introduction

**1.1** This report describes the results of archaeological investigation on a redevelopment site immediately east of Beddington Farm Road and south of Stirling Way, Croydon, London Borough of Sutton (Fig 1). The principal fieldwork was undertaken by Compass Archaeology between the 19th and 28th January 2004, followed by a watching brief during development groundworks in February and March.

**1.2** The fieldwork followed a previous archaeological evaluation and report, undertaken in August/September 2003 (Compass Archaeology 2003). This work formed part of the planning process, prior to redevelopment of the site (LB Sutton Planning Application Ref: 03/50702/F).

The evaluation demonstrated that there were archaeological remains within the southeastern part of the site, including two possible prehistoric ditches and some prehistoric (probably Mesolithic to Bronze Age) flint finds.

**1.3** Following the evaluation recommendations were made by English Heritage for further archaeological mitigation. A programme of recording ahead of construction was proposed within a defined area of archaeological interest, in the southeast part of the site. Subsequently a *Specification for a Programme of Archaeological Investigation* was produced (Compass Archaeology 2004). This set out two phases of fieldwork, comprising an initial trenching exercise in specific areas followed by a watching brief and recording during redevelopment groundworks. It is this programme and its findings that are described in the following report.

## 2. Acknowledgements

The archaeological investigation was commissioned by Mr Paul Symons of Needlemans, on behalf of Croydon Land Limited. Further assistance during the fieldwork was given by Willie Serpliss and Chris Webb of Alexander & Law Limited.

Mark Stevenson (English Heritage Greater London Archaeology Advisory Service) monitored the project on behalf of the London Borough of Sutton.

The finds and environmental reports were principally compiled by the Museum of London Specialist Services, with external radiocarbon dating by Beta Analytic.

## 3. Site background

### 3.1 Location and topography

The site is located on fairly level ground at about 35m to 36m OD, some 1.25m to the north of the River Wandle. There is a slight rise to the southeast due to the underlying geology, to a maximum of just above 37m OD (see below). The plot itself occupies a more or less square piece of land with sides of about 100m (and therefore covering approximately 1ha), fronting onto Beddington Farm Road to the west (Fig 1).

The field evaluation demonstrated that the site generally overlies a natural ground surface of clean silty sand with some pebbles and gravel, sealing more clayey deposits. The British Geological Survey (BGS 1998) identifies this as part of an extensive and fairly recent River Terrace Deposit (Hackney Gravel). These deposits became slightly more

clayey or silty to the southeast, but the only major change was in the southeast corner where the rising land surface directly overlay solid clay. This latter forms part an outcrop of much older London Clay, which is recorded by the Geological Survey close to the eastern site boundary.

### 3.2 Archaeology and history

At the outset of the project it was considered that the site had particular potential for finds of prehistoric date. Roman remains are also recorded in the locality, although in later periods the site area appears to have lain within open land.

The prehistoric background has been summarised in the evaluation report (CA 2003, 2). This includes a number of archaeological sites in the area that have produced evidence of Mesolithic to early Iron Age activity (*c* 7000 BC to 500 BC), including traces of field systems (*eg,* Bazely 1990; Tucker 1991 & 1994). Of particular note are investigations in 1989 at Valley Park, just to the east of the present site. These revealed a series of ditches on various (mainly north-south) alignments that were dated to the late Bronze to early Iron Age, as well as other earlier (late Neolithic to early Bronze Age) artefacts.

The site lies about 1km to the northeast of the Beddington Roman Villa Scheduled Ancient Monument. Investigations here have produced significant Romano-British finds, and also evidence for Late Bronze and Iron Age activity. It has been suggested that the site enjoyed continuous occupation from this time – or at least from the later Iron Age – through to the Roman period, based on agricultural exploitation of the surrounding area (Adkins & Adkins 1983).

There is little evidence around the site for Saxon or later activity. The land is shown by early maps to lie on the southeastern side of Mitcham Common, and may have been of marginal agricultural value (*cf.* Rocque 1763; Ordnance Survey 1804-6). Subsequent 25-inch OS maps from the 1860s show drainage channels crossing the southern and southeastern parts of the site (Fig 2), which also suggests that the land was marshy and had been reclaimed. There was no significant building development until the latter half of the 20th century.

At the time of the evaluation the site was occupied and in use for a number of purposes, notably an HGV Test Centre in the southern area. All the premises were vacated by the start of 2004, prior to the second phase of archaeological investigation.

## 4. Background to the archaeological project

### 4.1 Archaeology and planning

The proposed development comprised the erection of three buildings, comprising fourteen business and storage units together with access and parking facilities (Fig 3; London Borough of Sutton Planning Ref: 03/50702/F). The proposal included some changes of level, in particular a ground level reduction of up to about 1.5m in the southeastern part of the site. Other areas remained relatively unchanged or were to be slightly raised (see Proposed Site Levels: *Buller Greenbury Associates, Drg. No. 648/DP/013 (B)*)

### 4.2 Summary of the archaeological evaluation

An initial archaeological evaluation of the site was recommended by English Heritage as part of the planning process, to take place before the commencement of development.

**4.2.1** The field evaluation took place in August 2003 and consisted of seven trial trenches, each measuring *c* 12m by 2m in plan. The trenches were concentrated within the eastern and northern parts of the site, in areas of proposed development and ground reduction (Fig 4).

The sequence of deposits exposed by the evaluation was broadly similar across the site, with recent made ground overlying a later post-medieval reworked soil and a more or less sterile subsoil. Natural River Terrace Deposits (clean silty sand with some gravel) were encountered at depths of about 0.6m to 0.9m, whilst the London Clay outcropped to within 0.3m of the surface on the higher ground in the southeast corner of the site.

**4.2.2** Only three trenches in the southeastern area (nos. 2, 3 & 4; Fig 4) produced any finds or notable features. Nos. 5 and 6 were sterile, and nos. 1 and 7 wholly truncated by recent activity.

The evidence indicated some prehistoric activity, broadly comparable in date with that from other sites in the area. The adjacent trenches 2 & 3 revealed two possibly linear cut features that contained some struck flint of probable Mesolithic to Bronze Age date. Both features were truncated at the level of natural, and in the case of Trench 3 sealed by a reworked subsoil. A few prehistoric flints were also recovered from soil and subsoil horizons, and although lacking diagnostic types appeared to be of similar date.

These positive results led to the recommendations for further archaeological mitigation within the southeast part of the site, as described above (1.3).

### 4.3 Revised research questions

The further fieldwork was preceded by a *Specification* (CA 2004) which included the following revised research questions:

- What evidence is there for prehistoric land use or other activity?
- What is the date range for prehistoric evidence, and does this potentially relate to land clearance and the development of agriculture in the area?
- How does the evidence on this site relate to other finds made in the area, in particular on the adjacent Valley Park site?

## 5. Methodology

The further archaeological work was carried out in accordance with the agreed *Specification,* and also followed English Heritage and Institute of Field Archaeologist guidelines (in particular, *Standards and Practices in Archaeological Fieldwork,* 1998). The project was based on a two-stage programme of fieldwork within the defined area of archaeological interest (Fig 5), taking place immediately prior to and during the contractor's general ground reduction.

**5.1** Initially trenches were dug in two areas, proceeding from the points where possible linear features had previously been identified in evaluation trenches 2 and 3. This was purely archaeological exercise, with the object of clarifying the potential as well as form and extent of these features.

From the vicinity of Trench 3 two further trenches (No. 8 & 9) were dug on an east-west line for some 30m, separated by an area of modern concrete and disturbance. Trench 8 was about 16m by 4m in plan, with Trench 9 forming a continuation *c* 4m by 2.5m in plan some 10m to the west. In the southern area (Trench 2) a single trench (No. 10) was excavated, aligned roughly northeast to southwest and *c* 35m by 4.5m in plan.

The trenches were opened by a 360° tracked excavator working under archaeological supervision. Recent deposits and undifferentiated overburden were removed by machine, and thereafter the exposed deposits and features were recorded and selectively excavated by the on-site archaeologists. Finds dating evidence was recovered, and environmental sampling applied where appropriate. Features were scanned with a metal detector, although without result.

At the conclusion of the fieldwork the trenches were backfilled by the on-site contractors.

**5.2** The second stage of programme consisted of archaeological observation and recording during the contractor's ground reduction and subsequent trenching works, within the overall area of archaeological interest. This basically involved one archaeologist on site as required to monitor works and to investigate potential features, although with provision for increased staffing in the event of significant remains.

In the course of the monitoring works three specific areas of archaeological interest were identified, in each case relating to one or other of the previously recorded features (Fig 6, WB 1-3).

**5.3** Archaeological deposits and features were recorded on *pro forma* context sheets (nos. [27] to [70], following on from the previous evaluation) and by drawn plans and/or sections, supplemented by 35mm photography. Some recent features were not separately numbered but are designated [+]. Numbering of trenches was similarly continued from the evaluation (hence trenches 8, 9 & 10), with three further areas specifically designated during the watching brief (WB 1-3; Fig 6).

Levels taken during the investigation were derived from an OSBM located on the eastern side of the entrance to the Mitcham Road Cemetery, value 34.48m OD. Trench positions and other data were located on the 1:200 pre-development site survey, excerpts from which form the basis for Figures 4 to 6. These plans were in turn related as a 'best fit' to the Ordnance Survey grid.

The OS coordinates to nearest metre for the local trench grid (Fig 6, *etc.*) are as follows:

| | | | | | | |
|---|---|---|---|---|---|---|
| *Trenches 8/9* | - | west point: | 30255 66635 | // | east point: | 30286 66641 |
| *Trench 10* | - | southwest point: | 30259 66594 | // | northeast point: | 30282 66621 |

The additional watching brief areas (WB 1-3, *etc.*) were planned directly in relation to the site survey.

The records and finds from the archaeological project have been allocated the site code: BFO03 by the Museum of London Archaeological Archive. The site archive will be ordered in line with the MoL *Guidelines for the Preparation of Archives* and will be deposited in the MoL Archive.

## 6. The archaeological investigation

### 6.1 Outline of the findings *(Figs 5 & 6)*

As described above (5.1, *etc*) the fieldwork programme comprised two principal trenches (Nos. 8 and 10), a smaller trench (No. 9) to the west of Trench 8, and subsequent monitoring of adjacent areas of the site during development groundworks.

**6.1.1** From the previous limited evaluation record these works revealed two continuous linear features on differing alignments (contexts [12/32/42] and [5/49]), which presumably represent field boundary/drainage ditches. Both features continued beyond the limits of excavation to the east and west, although further sections were recorded during the site monitoring. Both ditches were also largely truncated at the level of the natural ground surface: in the case of [5/49] by development of the former HGV Test track, whilst the northern ditch [32, *etc*] had undergone more conventional disturbance through post-medieval reworking of the soil (plus areas of subsequent development).

**6.1.2** The subsequent watching brief took place during stripping of the general area denoted on Fig 5, plus investigation of specific areas of deeper foundation trenching. Large parts of the area had been truncated by modern development, and a significant overview had already been provided by the two phases of trench investigation.

No other archaeological features or remains were identified, other than of recent date. Except where truncated by modern activity the sequence of deposits was quite uniform, with present surfaces and made ground overlying a post-medieval reworked soil and more or less sterile (and so undated) subsoil. Natural silty sands and gravels were generally encountered at depths of about 0.6m to 0.8m, although in the southeast corner of the site the truncated London Clay outcropped to between 0.2m and 0.45m of the pre-development land surface. In this latter area most (if not all) of the previous soil horizon had been removed, and for a distance of about 15m natural clay was directly overlaid by a recent imported topsoil (Fig 26).

**6.1.3** The relatively small finds assemblage that was collected during the fieldwork came almost entirely from the two ditch fills. Finds were largely a mixture of prehistoric struck and burnt flint, with isolated fragments of later pottery, ceramic building material and clinker. A number of environmental samples were also taken during the second phase of trenching and have made a significant contribution to analysis of the ditches, in particular the southern feature [5/49].

### 6.2 The northern ditch *(Contexts [12/32/42]: Figs 7-13)*

Evaluation Trench 3 exposed a possible prehistoric feature [12] which contained one struck flint, although the area was heavily disturbed by a modern service trench.

Subsequent excavation of Trenches 8 and 9, plus monitoring of groundworks (WB 1-2), revealed a continuous east-west ditch [32/42] which was traced for just over 42m. The feature was truncated at the level of the natural [17/43], with the base rising slightly to the east (by *c* 0.4m over 25m, to a maximum of *c* 35m OD). In cross-section the cut was roughly bowl-shaped, and up to 1.1m wide by 0.3m deep.

Approximately 50% of the available area of the ditch was hand-excavated, within a series of slots. The ditch fills [29], [31], [33], *etc.* were fairly homogeneous and apparently naturally deposited, although probably by sheetwash off the adjacent land surface rather

than as direct alluvial deposition within a flowing watercourse. In the better-preserved area at the western end of Trench 9 sequence of fills was discernible (Fig 12), but elsewhere there appeared to be only a single deposit.

The evaluation and further investigation yielded few finds, although one fragment of ceramic tile of Roman or later date was found at the base of fill [34]. The environmental sampling <1> of fill [41] also produced a tentative identification of spelt wheat, which is most likely to be of Iron Age or Roman date (Appendices III & IV). It is therefore suggested that the ditch itself is Roman, although a closer date cannot be given.

The remaining finds were undated, although three fragments of clinker/coal waste may well be of Roman date (Appendix III). There were also eight pieces of residual struck flint and twenty-four pieces of burnt flint, plus one fragment of oyster (Appendices I, II & V).

### 6.3 The southern ditch *(Contexts [5/49]: Figs 14-25)*

Evaluation Trench 2 contained an apparently linear feature [5], cut into the natural silty sand [8] and truncated by the overlying reworked deposit. The fills produced three pieces of prehistoric struck flint.

Excavation of Trench 10 traced the ditch feature [42] for nearly 35m on a northeast to southwest alignment, with a further record during monitoring of groundworks in area WB 3 giving a continuous length of over 47m. The ditch was also much more substantial that that in Trenches 8 and 9, and in the area of highest survival to the northeast up to 2.75m wide by 0.75m deep (Fig 21).

At the northeast end of Trench 10 the ditch cut was also overlain and presumably truncated by a deposit [50] that may represent colluvium, accumulating as a result of run-off from the higher ground that marks the outcrop of London Clay just to the southeast. However, there was also some fragmentary chalk in this context, and it could therefore represent the base to a ploughsoil (Appendix VI).

In cross-section the ditch was cut with fairly steep sides onto a more or less flat base that showed almost no change in level from northeast to southwest (*c* 34.9m OD, although slightly higher in the southernmost section recorded during the watching brief (WB 3). To the southwest [42] was progressively truncated by modern development, so that by the far end of Trench 10 the ditch cut was only about 1.1m wide and 0.3m deep (Fig 24). Survival was better in area WB3, with the ditch up to 1.7m wide and 0.55m deep.

Approximately 25% of the exposed area of the ditch was hand-excavated, within a series of six slots. Up to five fills were recorded in one area, although this number reduced as the feature was progressively truncated. The fills appear to have been apparently naturally deposited, principally by sheetwash off the adjacent landscape although probably in part as a result of alluviation within flowing clean water (Appendix VI).

The investigation of [5/42] yielded few finds, although one abraded sherd of Roman pottery was recovered from the upper truncated fill [45] (Appendix III). Moreover, radiocarbon dating of charred material from the lower ditch fill [54]: sample <2> has produced a date between 100BC and AD70 – that is, late Iron Age to early in the Roman occupation (Appendix VII).

Other finds from the ditch [5/42] consisted of nine residual struck flints and twelve pieces of burnt flint (Appendices I & II). The environmental sample also produced a few fragments of grain, although nothing diagnostic (Appendix IV).

## 7. List of recorded deposits and features by context

### 7.1 Trenches 3, 8, 9 & adjacent watching brief (WB 1/2)

| Context no. | Location | Description | Interpretation | Approx. date/ Comment |
|---|---|---|---|---|
| + | Trench 3 | Compacted sandy silt with gravel, occasional clay & building rubble | Made ground, forming rough surface of present yard | Recent |
| 9 | " | Mid brown-grey sandy clay with occasional flints | Fill of [10]. Same as [27] | Later post-medieval |
| 10 | " | Linear cut feature, bowl-shaped x-section & up to 0.12m deep | Small gully. Same as [28] | " |
| 11 | " | Mid grey-brown sandy silt with occasional gravel & one worked flint blade | Fill of [12] | ?Roman |
| 12 | " | Linear feature crossing trench, aligned approx. east-west but cut in centre by [14]. *c* 0.9m wide by 0.3m deep | Section through ditch. Truncated by modern cut [14] and overlying deposit [16] | " |
| 13 | " | Mixed grey-brown sandy clay with pebbles | Fill of [14] | Recent |
| 14 | " | Deep, steep-sided cut running along line of trench. *c* 1.2m wide by at least 1m deep, not bottomed | Probable service trench, running north-south. | Recent. On same line as [66] to S. |
| 15 | " | Fairly dark brown sandy silt with pebbles, occasional CBM frags & two residual struck flints | Reworked soil, ?cultivated | Later post-medieval |
| 16 | " | Mid to light grey-brown silty sand with occ. gravel & two struck flints | Reworked subsoil | Unknown date, ?post-med. |
| 17 | " | Clean yellow to light brown slightly silty sand with some medium/fine gravel | Natural River Terrace deposit | – |
| 27 | Trench 8 | Mid grey-brown silty sandy clay with moderate flint pebbles, occ. CBM, chalk & charcoal flecks | Fill of cut [28]. Same as [9] | Later post-med. |
| 28 | " | Shallow, flat-bottomed linear cut, aligned E-W. Approx. 0.5m wide x 6.0m long x <0.08m deep | Possible horticultural trench, truncated by machine clearance? Same as [10] | " |

| Context no. | Location | Description | Interpretation | Approx. date/ Comment |
|---|---|---|---|---|
| 29 | Trench 8 | Moderately firm dark grey sandy clay silt with occ. flint pebbles & charcoal flecks | Fill of linear cut [32], from westernmost sample slots | Roman |
| 30 | Watching brief to west of TR9 | Yellow-brown OVER fairly dark brown (?organic stained) sandy silt | Fill of cut [42], western limit of excavation. Similar to that in TR9 | " |
| 31 | Trench 8 | V. similar to [29]; sandy clay silt with occ. burnt flint & pebbles | Fill of cut [32], from central sample slots | " |
| 32 | " (east & west of evaluation TR3) | Linear cut feature, aligned approx. E-W. Fairly shallow bowl-shaped cross section onto flat base. Approx. 0.5m to 0.7m wide by 0.10m to 0.27m deep (both increasing to east) | Ditch/ boundary feature, upper levels truncated by reworking of soil | ?Roman (same as [12] & [42]) |
| 33 | Trench 8 | Mid grey-brown sandy silt with occasional flint pebbles | Fill of cut [32] from sample slots west of previous evaluation trench | Roman |
| 34 | Watching brief between TR8 & 9 | Fairly dark brown sandy silt with occasional flint pebbles & dark grey mottles | Fill of cut [42] | " |
| 35 | Trench 8 | Friable grey- to orange-brown sandy clayey silt with occasional small flints, pebbles & charcoal flecks | Fill of cut [36] – possibly several dumped deposits | ?Post medieval |
| 36 | " | Shallow, possibly linear feature (approx. SW-NE). Up to 0.9m wide x <0.08m deep | Nature uncertain – extent & shape in plan not really defined | " |
| 37 | Trench 9 | Loose fairly dark grey-brown clayey silty sand with some CBM & chalk flecks + occ. pebbles | Reworked soil, ?cultivated. Upper level truncated by recent groundworks | Post-medieval |
| 38 | " | Mid greyish-light brown clayey silty sand with very occ. charcoal & CBM flecks | Reworked subsoil, truncating linear cut [42] | Unknown date, ?post-med. |
| 39 | " | Soft sandy silt, mottled grey-brown & lighter orange-brown. Slightly humic, occasional gravel & burnt flint | Upper fill of linear cut [42]; may be waterlain | Roman |

| Context no. | Location | Description | Interpretation | Approx. date/ Comment |
|---|---|---|---|---|
| 40 | Trench 9 | Soft mid-dark grey clay-silt with sand. Appears v. humic | Shallow band of fill within linear cut [42] | Roman |
| 41 | " | Fairly dark mottled grey- to orange-brown clayey silt with sand. ?Slighly humic, moderate gravel at base | Primary fill of linear cut [42] | Roman: enviro. sample <1> |
| 42 | Trench 9 & watching brief to E & W | Linear cut feature (approx. E-W). Fairly shallow bowl-shaped cross section, up to c. 1.0m wide by 0.30m deep | Ditch/ boundary feature, upper levels truncated by reworking of soil. Same as [12] & [32] to east | ?Roman |
| 43 | – | Firm mid greyish brown to orange slightly silty sand with very occasional gravel | Natural River Terrace deposit | – |
| 44 | Trench 8 | Moderately firm mid grey-brown sandy silt with occ. flint gravel & some root disturbance | Fill of cut [32] from easternmost sample slots | Roman |

## 7.2 Trenches 2, 10 & adjacent watching brief (WB 3)

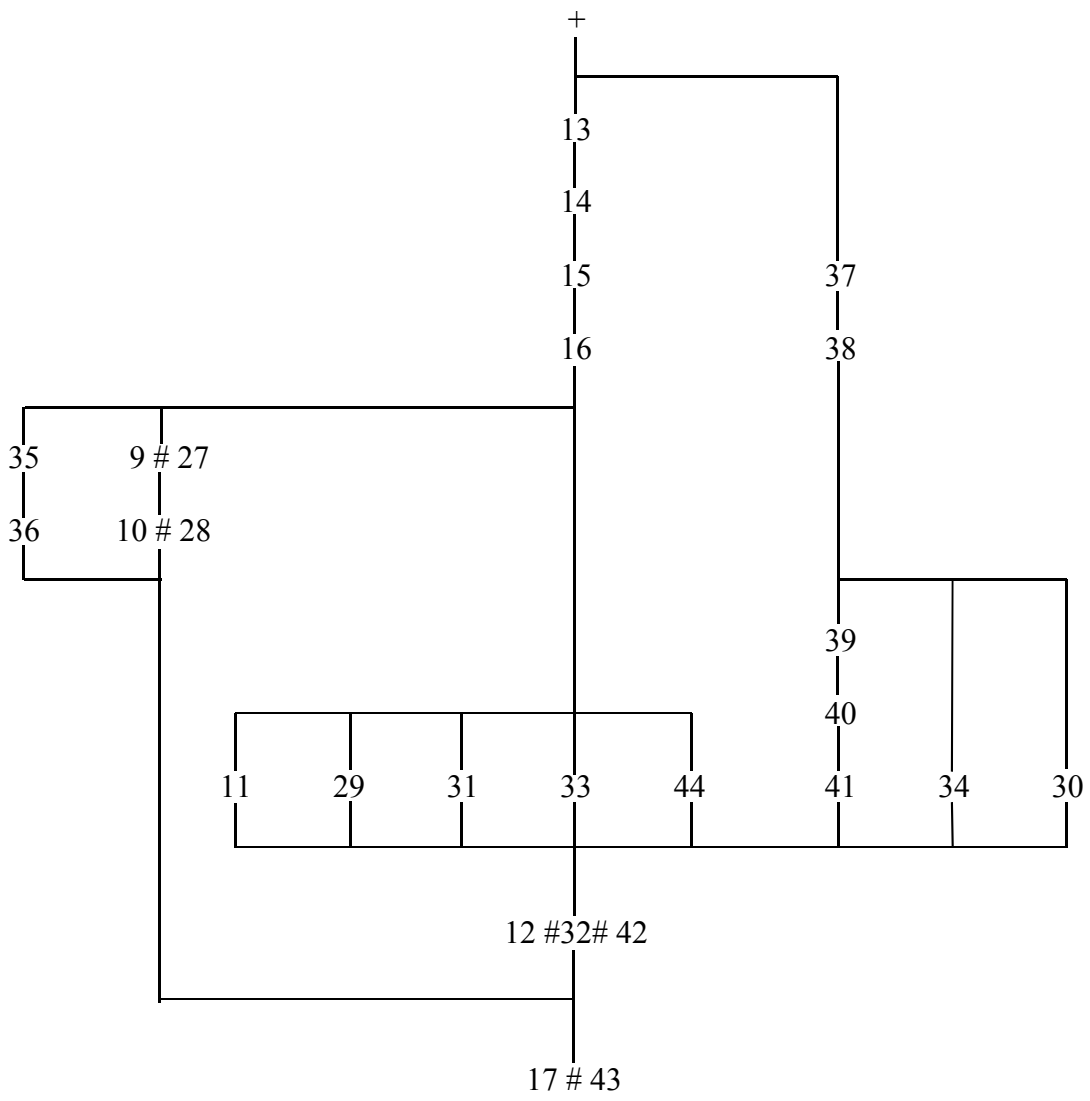
| Context no. | Location | Description | Interpretation | Approx. date/ Comment |
|---|---|---|---|---|
| 2 | Trench 2 | Light grey to brown sandy clay silt | Layer apparently sealing ditch cut [5/49], but truncated & may also be disturbed by overlying HGV track construction. Same as [68] | Unknown date; may be equivalent to lower part [50] |
| 3 | " | Firm brownish clay-silt with occ. flints & one struck flake | Upper surviving fill of [5] | Late Iron Age/ Roman |
| 4 | " | Homogeneous, fairly light grey silt-sand with frequent fine molluscs & occasional gravel | Primary fill of [5], apparently waterlain | " |
| 5 | " | Cut feature obliquely crossing trench. *c* 2.3m wide by 0.55m deep | Probable ditch cut, running northeast-southwest | Late Iron Age/ early Roman |
| 6 | " | Mid grey-brown sandy clay with scattered pebbles, one potsherd and one CBM frag. | Fill of cut [7] | Recent |
| 7 | " | Deep, near vertically-sided, cut feature obliquely crossing trench. *c* 1.75m wide by at least 2m deep, but not bottomed | Probable service trench, running northeast-southwest. On different alignment but similar to [66] below | Recent |
| 8 | " | Clean orange-brown silty sand with occasional pebbles and some gravel lensing. Becomes more clayey with depth, below *c* 0.65m | Natural River Terrace deposit | – |
| 45 | Trench 10 | Soft mid greenish grey sandy silt with occasional small pebbles & very occ. shell & charcoal flecks | Upper fill of cut [49], from sample slot east of previous evaluation TR2 | Late Iron Age/ Roman |
| 46 | " | Light grey silty sand with moderate shell & very occ. charcoal flecks | Fill of cut [49], from sample slot as above | " |
| 47 | " | Mid grey sandy silt with occasional small pebbles & very occ. charcoal flecks | As above | " |
| 48 | " | Mid orange-brown sandy silt with occasional small pebbles | As above, primary fill of cut [46] | – |

| Context no. | Location | Description | Interpretation | Approx. date/ Comment |
|---|---|---|---|---|
| 49 | Trench 10 | Linear cut feature aligned approx. NW-SE. Fairly steep -sided onto flat base; 1.10m to 2.75m wide by 0.30m to 0.75m deep (progressively truncated to west) | Substantial linear ditch, possibly boundary as well as drainage function…. | Late Iron Age/ early Roman |
| 50 | " | Fairly firm mid to light yellow- to greyish brown sandy clay silt. Moderate chalk flecks plus occasional shell fragments & gravel | Possible colluvium or base of agricultural soil, sealing and ?truncating eastern end of linear cut [49] | May continue to west as truncated layer [2]/[68] |
| 51 | " | Firm mid orange to greyish brown sandy clay silt with occasional gravel | Upper fill of cut [49], from easternmost sample slot. Very clean, possibly waterlain | Late Iron Age/ Roman. Column sample <4> |
| 52 | " | Mid greyish brown fine sandy clay silt with occ. gravel, fine molluscs & ?root frags. | Fill of cut [49], from sample slot as above | " |
| 53 | " | Soft mid brownish grey slightly clayey silty sand with frequent fine molluscs & some decayed root frags. | Fill of cut [49] as above. Waterlain deposit within open ditch | " |
| 54 | " | Soft mid greyish brown to grey silty sand, inclusions similar to above [53] | Fill of cut [49] as above. Waterlain deposit within open ditch | Column sample <4> & bulk sample <2> |
| 55 | " | Fairly soft mid orange- to grey-brown sandy clay silt. Occasional gravel becoming frequent to base | Primary fill of cut [49] | Column sample <4> |
| 56 | " | Clean mid greyish to orange-brown clayey silty sand with some medium-fine gravel & occ. larger flints | Natural River Terrace deposit | – |
| 57 | " | Firm mid reddish brown clay, no inclusions | Weathered top of natural London Clay | – |
| 58 | " | Moderately firm grey-brown clay-silt, slightly sandy + occasional pebbles/flints | Upper surviving fill of cut [49], from sample slot west of previous evaluation TR 2 | Late Iron Age/ Roman |
| 59 | " | Mid to fairly light grey sandy silt with some fine molluscs & occasional small pebbles/gravel | Primary waterlain fill of cut [49], from sample slot as above | " |
| 60 | " | Fairly dark grey firm sandy silt. V. occasional charcoal flecks | Fill of [49], from slot towards western end of TR 10 | " |

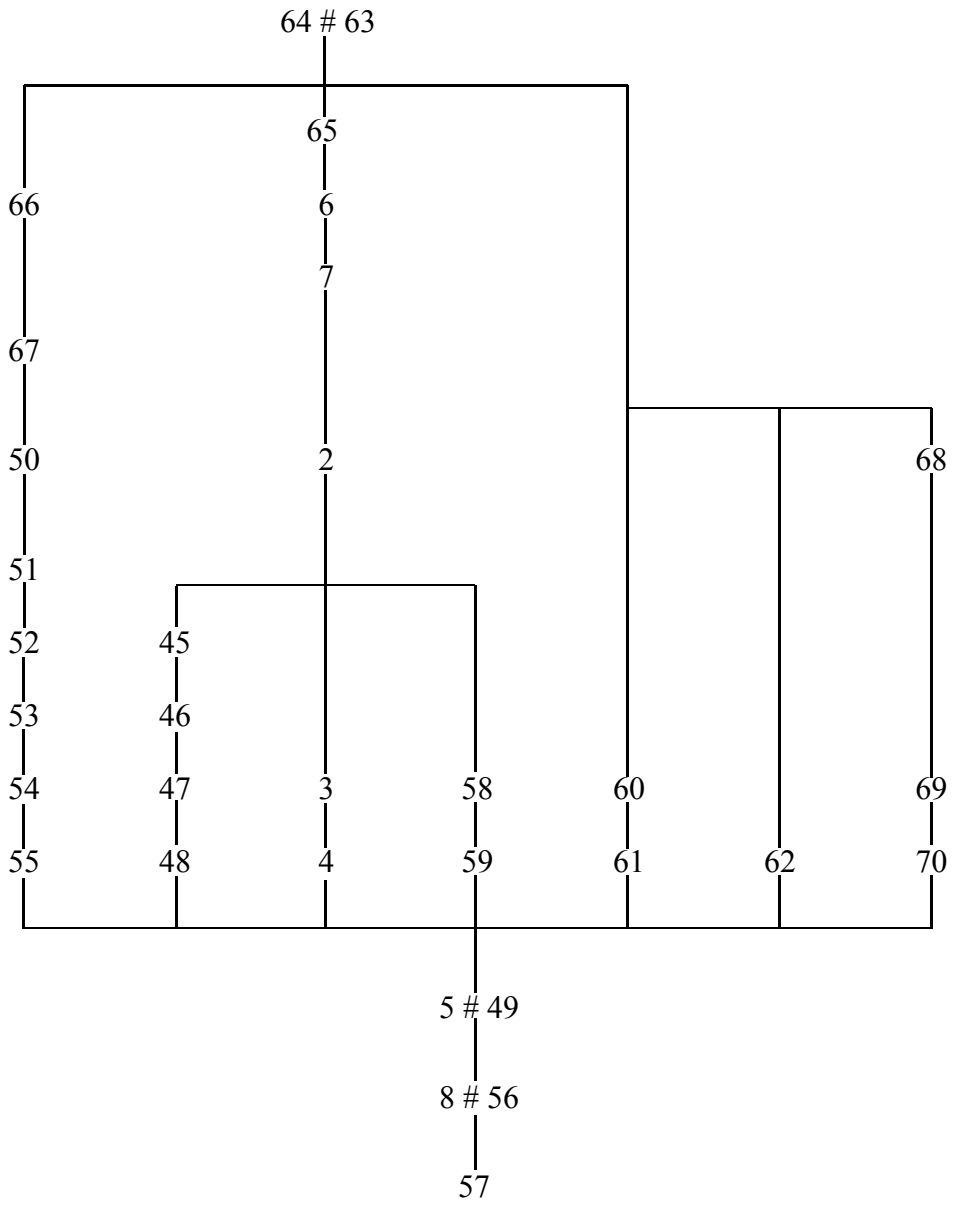
| Context no. | Location | Description | Interpretation | Approx. date/ Comment |
|---|---|---|---|---|
| 61 | Trench 10 | Similar to [60]; slightly less silty & lighter, occasionally brownish-grey | Lower fill from slot towards western end of TR 10 | Enviro. sample <3> |
| 62 | " | Fairly dark grey firm sandy silt | Fill of [49], from slot at western end of TR10 | Late Iron Age/ Roman |
| 63 | – | Tarmac over compacted gravel & crushed rubble | Eastern extension of HGV Test track | Recent |
| 64 | East end of TR10 & into SE corner of site | Dark grey-brown sandy silt with occ. pebbles (average depth 0.10m to 0.30m) OVER mid brown sandy clay with occ. chalk flecks. Latter v. shallow on southern boundary; increases to c. 0.15m along eastern boundary | Recent made ground with imported topsoil over. May be contemporary with [63] | " |
| 65 | – | Tarmac over gravel in weak mortar, compacted crushed stone & rubble | Main (1960s) HGV Test track construction | " |
| 66 | Trench 10 | North-south aligned trench *c* 1.2m wide containing mixed grey-brown sandy clay with some pebbles & occ. CBM frags. | Recent service? trench + fill. Not excavated but on almost same line as [7], [14], *etc*. to north | " |
| 67 | East end of TR 10 & c. 8m to south | Fairly dark brown sandy silt (depth <0.18m) OVER homogeneous fairly light brown sandy clay-silt; both with occ. pebbles | Topsoil & subsoil horizons at east end of TR 10. Wholly truncated towards SE corner of site | Pre-1960s |
| 68 | Watching brief to west of TR 10 | Firm orange-light brown slightly sandy silt with v. occasional pebbles ('brickearth') | Deposit apparently sealing ditch cut [49] at western limit of excavation, but may be disturbed by overlying HGV track construction | Same as [2] |
| 69 | " | Fairly firm mid grey sandy silt, slight brown mottling & occasional small pebbles | Fill of [49], western limit of excavation | Late Iron Age/ Roman |
| 70 | " | Similar to above but looser/more sandy & (esp. to SE) slightly lighter mottled grey-brown. Some fine molluscs, occasional small pebbles, one burnt flint | Primary fill as above | " |

## 8. Matrices to show stratigraphic relationship of contexts

### 8.1 Trenches 3, 8, 9 & watching brief



## 8.2 Trenches 2, 10 & watching brief



## 9. Environmental samples

During the investigation of trenches 8-10 three bulk soil samples and a column sample were collected for the recovery of biological remains, potential C14 dating, and for information on possible human activity and the nature of the local environment.

**9.1** In detail the samples were as follows:

**Trench 9**

Bulk sample <1> – context [41]

**Trench 10**

Bulk sample <2> – context [54]

Bulk sample <3> – " [61]

Column sample <4> – contexts [50] to [55] *(see Fig 21)*

**9.2** A single bulk sample was therefore taken from the ditch [32/42]. The column sample <1> was taken from the area of maximum survival of ditch [5/49], near the northeastern end of the trench. Two bulk samples were also taken from this feature, one just to the west of the column (<2>), the other from the truncated section of the ditch some 26m to the southwest (<4>).

The examination and assessment of the samples is discussed below in separate reports (Appendices IV-VII).

## 10. Assessment of the results of the investigation

### 10.1 Research questions

The further archaeological investigation has provided an opportunity to address revised research questions that were defined within the preliminary *Specification* (4.3 above):

- *What evidence is there for prehistoric land use or other activity?*

The principal feature on the site, the southern ditch [5/49], has been dated by radiocarbon analysis of a lower fill to the period 100 BC to AD 70 (95% probability). The 1 Sigma result (68% probability) provided a narrower range of BC 50 to AD 40, whilst a single sherd of Roman pottery manufactured after AD 70 was recovered from a truncated upper fill. On this evidence the ditch itself is most likely to be of late Iron Age date, but remained in use for some time and was only finally infilled after the Roman occupation.

Tentative evidence from the other notable feature, the northern ditch [32/42], suggests a slightly later date within the Roman period. This is based on one piece of ceramic tile, plus two fragments of probable spelt wheat.

There was limited evidence for earlier prehistoric activity on the site, in the form of a small assemblage (twenty-two pieces) of struck flint. This material consisted exclusively of knapped waste or debitage, with no diagnostic pieces, and can only be broadly dated to the Mesolithic or Bronze Age. The assemblage was also only found residually, within the fills of the late Iron Age or Roman ditches and occasionally in the overlying soil horizons.

- *What is the date range for prehistoric evidence, and does this potentially relate to land clearance and the development of agriculture in the area?*

The date ranges for prehistoric evidence are given above – potentially late Iron Age for the ditch [5/49], perhaps later for the northern ditch [32/42], and Mesolithic to Bronze Age for the small struck/worked flint assemblage.

The ditches would have formed significant features within an agricultural landscape that was probably already well-established. They may well have functioned as both drainage and boundary features, and (despite their differing alignments) it is possible that they were broadly contemporary. In both these areas a potentially useful parallel is provided by the 19th century boundary ditches, which are quite unrelated but in a broadly similar position and alignment (Fig 2).

Botanical remains recovered from the ditches included a small assemblage of charred cereal grain and chaff, including wheat fragments and possible spelt wheat. It is possible that such material originated from crop-processing (and in the case of spelt wheat dehusking) in the close vicinity.

- *How does the evidence on this site relate to other finds made in the area, in particular on the adjacent Valley Park site?*

The struck flint assemblage from the site was residual and only broadly datable to the Mesolithic to Bronze Age. As such, however, it is comparable with other small assemblages recovered from excavations in the area.

The principal remains on the site – the two ditches – have been dated to the late Iron Age and Roman periods. Thus they appear to be significantly later than ostensibly similar features that have been previously recorded in this area, for example the ditches and pits at Valley Park that were dated to the late Bronze/early Iron Age.

However, it is possible that the previous dating requires revision. Most artefacts from the present investigation were residual and of earlier prehistoric date, and the final dating of the ditches was based on very few finds and botanical remains plus C14 analysis.

## 10.2 Conclusions

The archaeological investigation has revealed significant evidence for late Iron Age to Roman activity. The two ditches were traced for between 42m and 47m, with the smaller northern feature up to 1.1m wide and the larger southern ditch some 2.7m wide by 0.75m deep. Both features were truncated more or less at the level of natural, either by erosion, agricultural activity or modern development.

The ditches would have formed boundary and/or drainage features within an agricultural landscape, the second role suggested particularly by the waterlain fills and mollusc assemblages of the southern ditch. The absence of other features on the site and the very small number of artefacts that were recovered from the ditch fills both indicate that there was no occupation in the close vicinity.

The radiocarbon dating of the large southern ditch – 100 BC to AD 70 – also supports the idea of continuous agricultural activity from the later prehistoric to Roman periods. The second and smaller ditch may be later, but it could also be quite closely contemporary (a view supported by the 19th century landscape pattern).

## Appendix I. Struck/worked flint assessment

*Tony Grey*

### 1. Introduction

Twenty-nine pieces of flint were submitted for analysis, including material from both the evaluation and further fieldwork. These included seven pieces of natural, which were discarded as frost broken or plough shattered. The remaining assemblage consisted entirely of knapped waste or debitage (see Table 1 for detailed breakdown by context.) This material was spread over twelve contexts, comprising various fills of the two principal ditches and the soil horizons [15] and [16].

### 2. The struck/worked flint

Struck flint was confirmed from possibly prehistoric or Roman contexts [3], [4], [11], [29], [31], [34], [39], [44], [45] and [60], and was also present residually in post-medieval/possibly post-medieval contexts [15] and [16].

The raw material was generally of poor quality grey/mottled flint nodules and pebbles derived from natural River Terrace Deposits of the Hackney Gravel Terrace. Most pieces had cortex present, a few pieces had white patination on one face and several were iron-stained.

| Context | Flakes | Blades | Total | Comments |
|---|---|---|---|---|
| 3 | 1 | | 1 | Irregular, cortex, reddish iron staining (plunging trimming flake) |
| 4 | 2 | | 2 | One poss. sharpening plunging flake (orange-brown flint), one corticated slice out of small nodule (secondary flake, translucent grey-brown flint) |
| 11 | 1 | | 1 | Large robust flake with cortex, shattered distal end, poor quality orange-brown flint, some white patina |
| 15 | 2 | | 2 | One small squat tertiary flake & one small secondary flake. Both mottled yellow-brown flint, one flake with cortex |
| 16 | 2 | 1 | 3 | One blade-like orange-brown flake with cortex; one irregular secondary flake, translucent orange-brown with iron-staining; & one flake with some white patina on black flint plus flake and blade removal scars |
| 29 | 1 | | 1 | Flake in opaque pale orange-grey flint |
| 31 | 1 | | 1 | Very small corticated flake |
| 34 | 1 | | 1 | Irregular flake with cortex and white patina, from pebble |
| 39 | 1 | 1 | 2 | One irregular flake with cortex, one blade-like flake with black cortex |
| 44 | 2 | | 2 | Flakes with cortex & iron-staining of mottled grey flint. One thick flake with blade removal scars |
| 45 | 1 | | 1 | Small flake/blade end in pale orange flint with cortex |
| 60 | 2 | 3 | 5 | 3 blade-like flakes with cortex, 2 having blade removal scars. 2 irregular flakes with cortex, one hard hit with sharp ripples |
| **Total** | **17** | **5** | **22** | |

*Table 1: Breakdown of the struck/worked flint assemblage*

The technology indicates hard hammer striking with some of the flakes being irregular, shattered and, in one flake, with sharp ripples from being hard-struck (context [60]). None of the material was retouched for use and no cores or core fragments were present. A small amount of the material consisted of blade-like flakes and several flakes exhibited blade removal scars. Without diagnostic pieces the debitage cannot be dated more closely than the Mesolithic to Bronze Age date range given in the previous evaluation report. The flint recovered is probably from more than one phase of knapping.

## 3. Potential and significance

The flint assemblage has only limited potential for further research, in relation to other recorded sites in the area which have produced similar small assemblages.

The struck flint is residual within the recorded contexts and has no discernible context grouping. Possibly both Mesolithic and Bronze Age activity is indicated, with the raw material very probably locally derived.

## 4. Recommendations

Research into the presence of similar material in the surrounding areas could be considered. A written report on the struck flint would not be recommended.

## Appendix II. The burnt flint

**1.** Thirty-four pieces of burnt flint were recovered during all phases of fieldwork, plus a further four pieces from off-site sieving. The material came from a total of eleven contexts, comprising various fills of the two principal ditches and the subsoil [16] as itemized below. Most of these contexts also produced small quantities of struck flint (see Appendix I above).

Burnt flint can occur naturally (for example through heath fires) but is potentially the result of prehistoric domestic activity, associated with the heating of water and/or cooking. The small number of pieces found here is not conclusive, although a number of factors suggest deliberate heating – the association with struck material, the large size of several of the flints and the residual nature of the finds.

**2. Summary of burnt flint by context:**

| Context | Number | Total weight (gm) |
|---|---|---|
| 3 | 2 | 24 |
| 16 | 2 | 220 |
| 29 | 7 | 78 |
| 30 | 1 | 10 |
| 31 | 8 | 56 |
| 34 | 1 | 110 |
| 39 | 1 | 2 |
| 41* | 4 | 13 |
| 44 | 2 | 46 |
| 45 | 1 | 22 |
| 60 | 9 | 234 |
| **Totals** | **38** | **815** |

** Recovered during wet sieving of sample <1>*

The northern ditch [32/42] therefore produced a total of twenty-four pieces of flint (315gm); the larger southern ditch [5/49] twelve pieces (280gm).

The flint varied considerably in size. Two particularly large pieces (up to c. 40mm by 60mm) were recovered in evaluation from the subsoil [16] in the vicinity of the northern ditch. Two similar examples were subsequently found in the southern ditch fill [60], and one slightly larger piece in the northern ditch fill [34]. Some very small fragments were also recovered, most obviously from sieving, and others of this size may have gone unrecognised in excavation.

## Appendix III. The pottery, building material and coal waste

*Lyn Blackmore (MoLSS)*

### 1. Description of the finds

#### *1.1 Roman pottery*

One body sherd of abraded Roman pottery was recovered from the truncated upper fill [45] of the southern ditch (weight 4g). This is Highgate Wood type C ware, dating to between AD 70-160.

#### *1.2 Post-medieval pottery*

One sherd from a post-medieval redware dish with patchy internal green glaze was found in the subsoil horizon [16] (weight 11gm); this dates to after 1580 and could be as late as the 19th century. The fabric is lighter in colour than the equivalent wares found in London and is probably of Surrey origin, although it is not Surrey-Hampshire border redware.

One small sherd of refined white earthenware, of probable 19th century date, was recovered from the truncated fill [27] of a linear feature.

#### *1.3 Building material*

One piece of tile was found at the base of the northern ditch fill [34] (weight 5g); this is so small that it is impossible to tell if it is of Roman or later date, although botanical and other evidence favours the former.

#### *1.4 Clinker*

One fragment of coal waste was found in the fill [34] (weight 1g) and two fragments in the adjacent fill [39] (weight 12g). These could derive from a domestic hearth or a more industrial context such as a furnace, although no evidence for such features was recorded during the investigation.

### 2. Significance of the finds

The site is relatively close to a Roman villa and it is not unexpected to find Roman pottery. In fact, more might have been anticipated. The origin of the clinker is uncertain although it is apparently of similar date, and may thus be related to the Villa estate. The two post-medieval sherds presumably derive from general activity in the area and are of no significance.

### 3. Potential of the finds and further work

The finds indicate some human activity in the area in the Roman and post-medieval periods and are of value for dating, but they have no further potential at this stage.

No further work is required.

## Appendix IV. Assessment of the plant remains from ditches [42] and [49]

*John Giorgi (MoLSS)*

### 1. Methodology

During excavations at the site three bulk soil samples and a column sample were collected for the recovery of biological remains and for information on possible human activities in the area and the nature of the local environment. The following report is concerned with the assessment of the plant remains from the three bulk samples. The assessment of the molluscs and of the monolith tin are discussed in separate reports (Appendices V & VI).

The samples were collected from (waterlain) fills associated with two ditches, the lower fill [41] (sample <1>) of the northern ditch [42] (Trench 9) and two fills [54] (sample <2>) and [61] (sample <3>) from the southern ditch [49] (Trench 10). The ditches were provisionally dated to the prehistoric period although a radiocarbon date from fill [54] has given a calibrated date of between 100 BC and 70 AD, placing this ditch in a late Iron Age, early Roman context. Likewise, the ditch [42] yielded one small tile fragment that indicates a Roman+ date (Appendices III & VII).

The sample size for the ditch fills <1-3> was ten litres and these were processed by flotation using a 0.25mm and 1mm mesh for the recovery of the flots and residues respectively. The residues were dried and sorted for biological remains and finds, while the flots were also dried and divided into fractions using a stack of sieves for the purpose of assessment and examination under a binocular microscope. Presence, item frequency and species diversity of different forms of biological remains (botanical, molluscs) was recorded and identifications noted of easily recognisable material using the following rating system:

| *Item Frequency* | | | *Species diversity* | | |
|---|---|---|---|---|---|
| 1 or + | = | 1-10 items | 1 or + | = | 1-4 species |
| 2 or ++ | = | 11-50 items | 2 or ++ | = | 5–10 species |
| 3 or +++ | = | 51 + items | 3 or +++ | = | 10+ species |

### 2. Results

The assessment of the individual samples is shown in Figure 1 overleaf. The samples only produced very small flots (5ml to 20ml), with the majority of the plant remains consisting of rootlets. Other uncharred remains consisted of variable numbers of seeds and fruits representing wild plants from a range of habitats in all three samples, while charred plant remains included charcoal and a small number of poorly preserved cereal grains and chaff fragments in two samples. Freshwater molluscs were also present in two samples. The results will be discussed by sample.

#### *2.1 Ditch fill [41], sample <1>*

This sample from ditch [42] produced a fairly large number of uncharred seeds from plants of disturbed (including cultivated) ground and waste places, eg. stinging nettle (*Urtica dioica*), goosefoots *etc.* (*Chenopodium* spp.), chickweed (*Stellaria media*), brambles (*Rubus* spp.), and wetland species, eg. rushes (*Juncus* spp.), water plantain

(*Alisma* spp.), gypsywort (*Lycopus europaeus*). It is difficult to establish whether this material is intrusive although the presence of rootlets could suggest that this is the case.

A small charred assemblage was also recovered from the flot, consisting of three indeterminate cereal grains or fragments and two possible spelt wheat (*Triticum* cf. *spelta*) glume bases as well as one indeterminate wheat spikelet base and glume base. There was also a moderate amount of very fragmented charcoal in this sample, and occasional burnt flint was recovered from the sample residue (Appendix II).

### *2.2 Ditch fill [54], sample <2>*

This sample was from near the eastern end of ditch [49]. It produced a moderate number of uncharred seeds from various habitats: plants of disturbed ground and waste places, eg. oraches (*Atriplex* spp.), goosefoots, brambles; grassland species, eg. self heal (*Prunella vulgaris*), and wetland species, eg. celery leaved crowfoot (*Ranunculus sceleratus*). Again, it is difficult to know whether this material is intrusive given the large amount of rootlets in the sample. A single wheat (*Triticum* sp.) grain and several charred cereal grain fragments were found in the flot together with a small amount of very fragmented charcoal. There was also a fairly large amount of freshwater molluscs.

### *2.3 Ditch fill [61], sample <3>*

The other sample from near the western end of ditch [49] produced very little botanical material, which consisted mainly of rootlets and a small number of uncharred seeds of chickweeds, gypsywort and stinging nettle.

## 3. Discussion

The assessment of the samples only produced small botanical assemblages of both charred and uncharred material. It is difficult to establish the potential of the uncharred plant remains because it is possible that the seeds are intrusive, particularly considering the presence of rootlets in the samples. The charred plant remains only produced small assemblages of cereal grain and chaff although it was possible to identify the presence of wheat from the grains. This included the tentative identification of spelt wheat, a hulled grain that is usually the best represented wheat grain in archaeobotanical assemblages from both the Iron Age and Roman periods. Despite the paucity of this material, the grain and chaff is indicative of the burnt residues from the final stages of crop-processing, possibly taking place close-by with the material being windblown into the ditches. Spelt wheat is a hulled grain and would have required dehusking before consumption. The few grains and glumes probably represent material accidentally charred during this process.

## 4. Recommendations

On the basis of this assessment the potential of the botanical remains in providing information on the local environment or human activities at the site is limited, although the remains do point to the presence of wheat (including possibly spelt wheat) being used at the site and crop-processing taking place in the area. However, no further work on the samples is recommended.

| Period | Trench | Feature | Context | Sample <> | Context type | Sample size (l) | Vol flot (ml) | wl seeds/fruits F/D | wl wood F | wl roots F | Charred plant remains (seeds, chaff) F/D | Charcoal F | Molluscs F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ?late prehistoric/ Roman | 9 | fill | 41 | 1 | ditch [42] | 10 | 5 | 3/2 | 1 | 2 | 1/1 | 3 | 3 |
| Late IA/early R | 10 | fill | 54 | 2 | ditch [49] | 10 | 5 | 2/2 | - | 3 | 1/1 | 1 | 2 |
| Late IA/early R | 10 | fill | 61 | 3 | ditch [49] | 10 | 20 | 2/1 | - | 3 | - | - | - |

Figure 1: The biological remains from the environmental samples

Key:

F = item frequency; 1 or + = 1-10 items; 2 or ++ = 11-50 items; 3 or +++ = 51 + items

D = species diversity; 1 or + = 1-4 species; 2 or ++ = 5–10 species; 3 or +++ = 10+ species

## Appendix V. Assessment of the molluscan remains from ditches [42] and [49]

*Alan Pipe (Environmental Archaeology Section, MoLSS)*

### 1. Quantification and assessment

*Table 1: Environmental archive general summary (quantification and description)*

| | |
|---|---|
| Mollusc shells | Estimated 140 shells in flots and residues from three samples [41] <1>, [54] <2> and [61] <3>, contained in one archive quality 'shoebox' |

### 2. The invertebrates (*see Table 2 overleaf*)

#### 2.1 Introduction/methodology

The flots and residues from samples [41] <1>, [54] <2> and [61] <3> were scanned using a low-powered binocular microscope, and the diversity and abundance in terms of species composition and estimated abundance of molluscan taxa were recorded. Identification followed Cameron & Redfern 1976 and Macan 1977. There was no attempt to identify each shell to species level, and instead it was intended to determine the diversity of the assemblage in terms of numbers of separate taxa, and to estimate the shell count for each of them. Preliminary ecological interpretation followed Kerney 1999. Table 2 summarises the molluscan remains from each sample.

#### 2.2 Marine molluscs

A single fragment of common/flat oyster *Ostrea edulis* was recovered from context [41] sample <1>, the fill of the northern ditch [42]. No marine taxa were recovered from samples [54] <2> or [61] <3> (the southern ditch).

#### 2.3 Terrestrial molluscs

Sample [54] <2>, a fill of the late prehistoric/early Roman ditch [49], produced up to twenty well-preserved examples each of two unidentified terrestrial snail taxa. Samples [41] <1> and [61] <3> produced no terrestrial molluscan remains.

#### 2.4 Freshwater molluscs

Sample [54] <2>, a fill of the ditch [49], produced up to one hundred shells from at least five freshwater molluscan taxa. These included at least one bivalve species together with examples of bithynia *Bithynia sp*., pond snail *Lymnaea sp*., valve snail *Valvata sp*. and ram's-horn snail Planorbidae (see Table 2). Samples [41] <1> and [61] <3> produced no freshwater molluscan remains.

### 3. Analysis of potential

Although the terrestrial and freshwater molluscan assemblage is numerically small, there is potential for information particularly with regard to the freshwater taxa. Although the families and genera identified are common throughout suitable still and slow-flowing freshwater habitats in south-east England, their component species show considerable variation in habitat requirement, particularly in terms of vegetation, substrate, seasonal desiccation, and water quality and flow. For example, the pond snails *Lymnaea sp*., show

considerable inter-specific variation in their tolerance of acidity, organic pollution, and locations liable to dry up in the summer.

## 4. Significance of the data

The assemblage has some local significance for ecological interpretation of the ditch [49] and its margins, through the identification of the freshwater shells to species-level. There is no regional or national significance.

*Table 2: Summary of the terrestrial, freshwater and marine molluscs*

| context | sample | interpretation | period | terrestrial | freshwater | marine | nos. | habitat |
|---|---|---|---|---|---|---|---|---|
| **41** | **1** | ditch [42] | ?prehistoric/ Roman | nil | nil | oyster | frag. | all UK coasts |
| **54** | **2** | ditch [49] (E) | late Iron Age/ early Roman | taxon 1 | | | 20 | |
| **54** | **2** | " | " | taxon 2 | | | 20 | |
| **54** | **2** | " | " | | bivalve | | 30 | still/slow |
| **54** | **2** | " | " | | *Bithynia sp.* | | 10 | still/slow |
| **54** | **2** | " | " | | *Lymnaea sp.* | | 20 | still/slow |
| **54** | **2** | " | " | | *Planorbidae* | | 20 | still/slow |
| **54** | **2** | " | " | | *Valvata sp.* | | 20 | still/slow |
| **61** | **3** | ditch [49] (W) | " | nil | nil | nil | | |
| **Totals** | | | | **40** | **100** | **fragment** | **140** | |

## Appendix VI. Geo-archeaological assessment of a monolith tin sample from ditch [49]

*Graham Spurr (MoLSS)*

### 1. Introduction

As part of the archaeological investigation a single monolith tin sample <4> was taken from a stratigraphic section exposed in ditch [49] (see Figs 21 & 22). The aim of the stratigraphic sampling was to provide a more detailed analysis of the different sedimentary units in terms of the lithostratigraphy in order reconstruct the nature of the palaeo-environmental conditions influencing the site through time.

### 2. Methods

The monolith tin was placed vertically into an exposed section near the northeastern end of the large ditch in order to retrieve a continuous stratigraphic sample. A single tin some 0.9m in length was used to cover the full sequence from the natural [57] at the base of the ditch to the machine-cleared surface of the overlying deposit [50]. The monolith tin was then sealed and transported to the MoLSS environmental laboratories. Once at MoLSS the monolith tin was described to standard sedimentary criteria (*eg*. Gale & Hoare, 1991).

### 3. Results of the lithostratigraphy

The results of the sedimentary analysis of Monolith sample <4> are as follows (from basal units upward):

| Context | Depth (OD) | Description |
|---|---|---|
| 50 | 35.62m to 35.72m | 10YR 5/4 Yellowish brown firm, sandy clay with a large root trace (continuing through unit below); poorly sorted with occasional clasts of subrounded flint – one possibly burnt; contact with unit below unclear |
| 51 | 35.32m to 35.62m | 10YR 5/6 Yellowish brown sandy clay, firm, clean, moderately well sorted. Grades into unit below |
| 52 | 35.22m to 35.32m | 10YR 5/3 Brown fine sandy clay becoming sandier with depth, well sorted; grades into unit below |
| 53/54 | 35.02m to 35.22m | 10YR 5/2 Greyish brown loose fine to medium sand with frequent, small terrestrial/freshwater molluscs; poorly sorted; contact with unit below graded |
| 55 | 34.94m to 35.02m | 10YR 6/3 pale brown clayey sand, moderately well sorted with no inclusions; contact with below clear and horizontal |
| 57 | unknown depth to 34.94m | 7.5YR 5/6 Strong brown soft clay well sorted with no inclusions. Extant top of natural; depth unknown |

*Table 1: Lithostratigraphy of monolith Sample <4>*

### 4. Interpretation

This sequence of sediments is seen as largely waterlain, although not alluvial in the sense of flood deposits given the distance from the River Wandle (1.25km). Most of the sediments probably accumulated locally through sheetwash off the vegetation-denuded landscape. This idea is reinforced by the nature of the terrace upon which the site is situated as it consists of clean silty sands with occasional pebbles, plus an outcrop of

London Clay to the southeast, forming the essential sediments of the deposits found in the ditch.

The sedimentary profile in general fines upward and this is seen as indicative of the slowing down of the fluvial energy within the ditch over time, presumably leading to its redundancy. The mollusc rich deposit was defined in the fieldwork as two separate though similar layers [53 & 54], but examination here indicates a single unit or deposit. The cleanliness of the sands also suggests that there was flowing clean water in the ditch during the deposition.

The uppermost unit [50], which covers the ditch and the surrounding area, could be colluvial as suggested by the field archaeologists. However, it could also be the basis to a plough soil, given its mixed nature and its chalk content (used in agriculture for liming the soil).

## Appendix VII. Radiocarbon dating analysis of fill from ditch [49]

**1.** A sample of charred material from the southern ditch (from context [54]: sample <2>) was submitted for radiocarbon analysis by Beta Analytic Inc. The fill also included occasional botanical remains and frequent molluscs (see Appendices IV & V).

**2.** The basic radiocarbon analysis is given as follows:

| Sample Data | Measured Radiocarbon Age | 13C/12C Ratio | Conventional Radiocarbon Age(*) |
|---|---|---|---|
| Beta - 195985 | 2030 +/- 40 BP | -26.1 o/oo | 2010 +/- 40 BP |
| SAMPLE : BF003C54S2 | | | |
| ANALYSIS : AMS-Standard delivery | | | |
| MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid | | | |
| 2 SIGMA CALIBRATION : Cal BC 100 to Cal AD 70 (Cal BP 2050 to 1880) | | | |

**3. Calibration of Radiocarbon Age to Calendar Years**

*(Variables:* C13/C12 = -26.1: lab. mult =1)

*Conventional radiocarbon age:* 2010±40 BP

*2 Sigma calibrated result:* Cal BC 100 to Cal AD 70 (Cal BP 2050 to 1880)
*(95% probability)*

Intercept data

*Intercept of radiocarbon age with calibration curve:* Cal BC 10 (Cal BP 1960)

*1 Sigma calibrated result:* Cal BC 50 to Cal AD 40 (Cal BP 2000 to 1900)
*(68% probability)*

**3.1** The analysis therefore gives a date range for the ditch fill from the late Iron Age to early in the Roman occupation. The 1 Sigma result suggests that a date prior to the occupation *may* be more likely.

**3.2 References:**


***Database used***
*INTCAL 98*
***Calibration Database***
***Editorial Comment***
*Stuiver, M., van derPlicht, H., 1998, Radiocarbon 40 (3), pxii-xiii*
***INTCAL98 Radiocarbon Age Calibration***
*Stuiver, M., et al., 1998, Radiocarbon 40 (3), p1041-1083*
***Mathematics***
***A Simplified Approach to Calibrating Cl4 Dates***
*Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35 (2), p317-322*

**3.3** Graph showing the calendar calibrated age range:

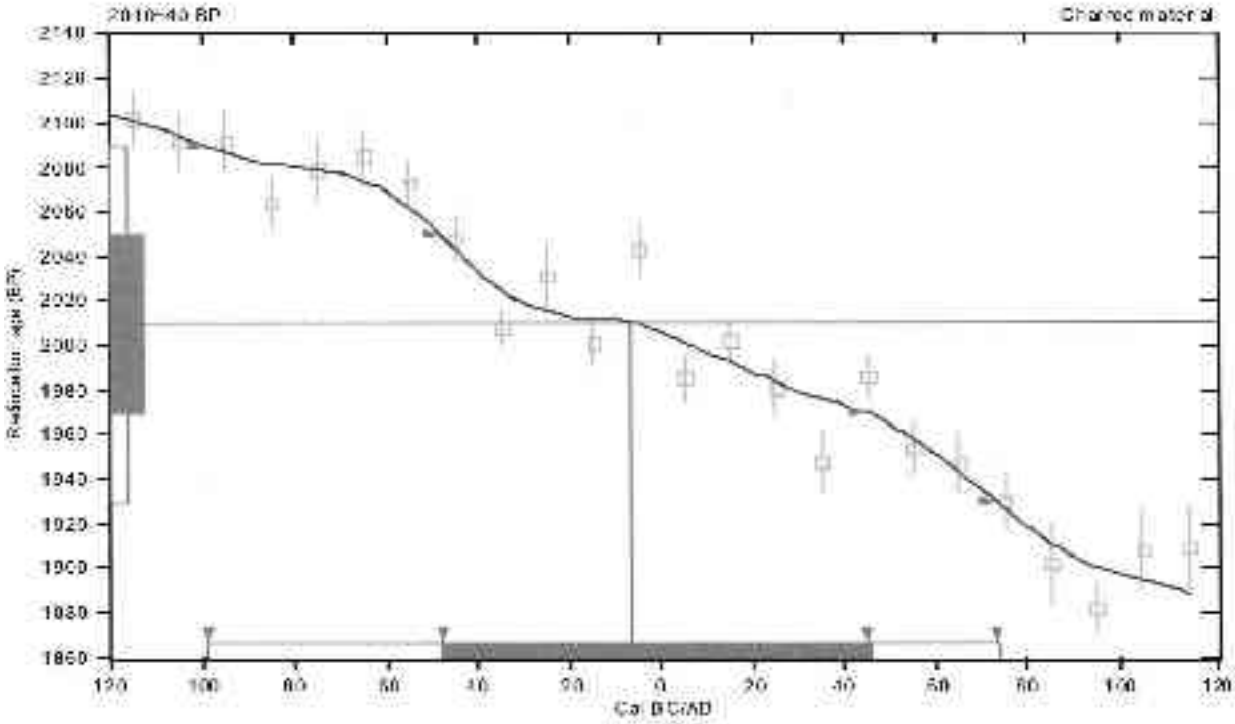
## CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-26.1;lab. mult=1)

| | |
|---|---|
| **Laboratory number:** | **Beta-193985** |
| **Conventional radiocarbon age:** | **2010±40 BP** |
| **2 Sigma calibrated result: (95% probability)** | **Cal BC 100 to Cal AD 70 (Cal BP 2050 to 1880)** |

Intercept data

| | |
|---|---|
| Intercept of radiocarbon age with calibration curve: | Cal BC 10 (Cal BP 1960) |
| 1 Sigma calibrated result: (68% probability) | Cal BC 50 to Cal AD 40 (Cal BP 2000 to 1900) |




References:

*Database used*

INTCAL98

*Calibration Database*

*Editorial Comment*

Stuiver, M., van der Plicht, J., 1998. Radiocarbon 40(3), pxii-xiii

*INTCAL98 Radiocarbon Age Calibration*

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*Mathematics*

*A Simplified Approach to Calibrating C14 Dates*

Talma, A. S., Vogel, J. C., 1993. Radiocarbon 35(2) p317-323

The solid bars shown on the graph axes represent 1 Sigma statistics (68% probability) and the hollow bars 2 Sigma statistics (95% probability). The age range is determined by the portion of the curve that falls within a 'box' drawn from the 2 Sigma limits on the radiocarbon age.

## Appendix VIII. London Archaeologist summary

| | |
|---|---|
| Site address: | Land to the east of Beddington Farm Road & south of Stirling Way, Croydon, London Borough of Sutton |
| Project type: | Further excavation & watching brief |
| Dates of fieldwork: | January to March 2004 |
| Site code: | BFO03 |
| Supervisor/Project Manager: | Geoff Potter |
| NGR: | TQ 30270 66610 |
| Funding body: | Croydon Land Limited |

Trench excavation and a watching brief followed previous evaluation (August 2003). The investigation revealed two substantial ditches of late Iron Age to Roman date, aligned east-west and northeast-southwest. The larger southern ditch was up to 2.7m wide by 0.75m deep.

The ditches would have formed boundary/drainage features in an agricultural landscape, although the lack of other features and artefacts indicate that there was no nearby occupation. Botanical remains included some charred cereal grain and chaff, plus possible spelt wheat.

Evidence for earlier activity was represented by a small and residual group of struck flint. This was broadly datable to the Mesolithic to Bronze Age and so comparable with other local assemblages.

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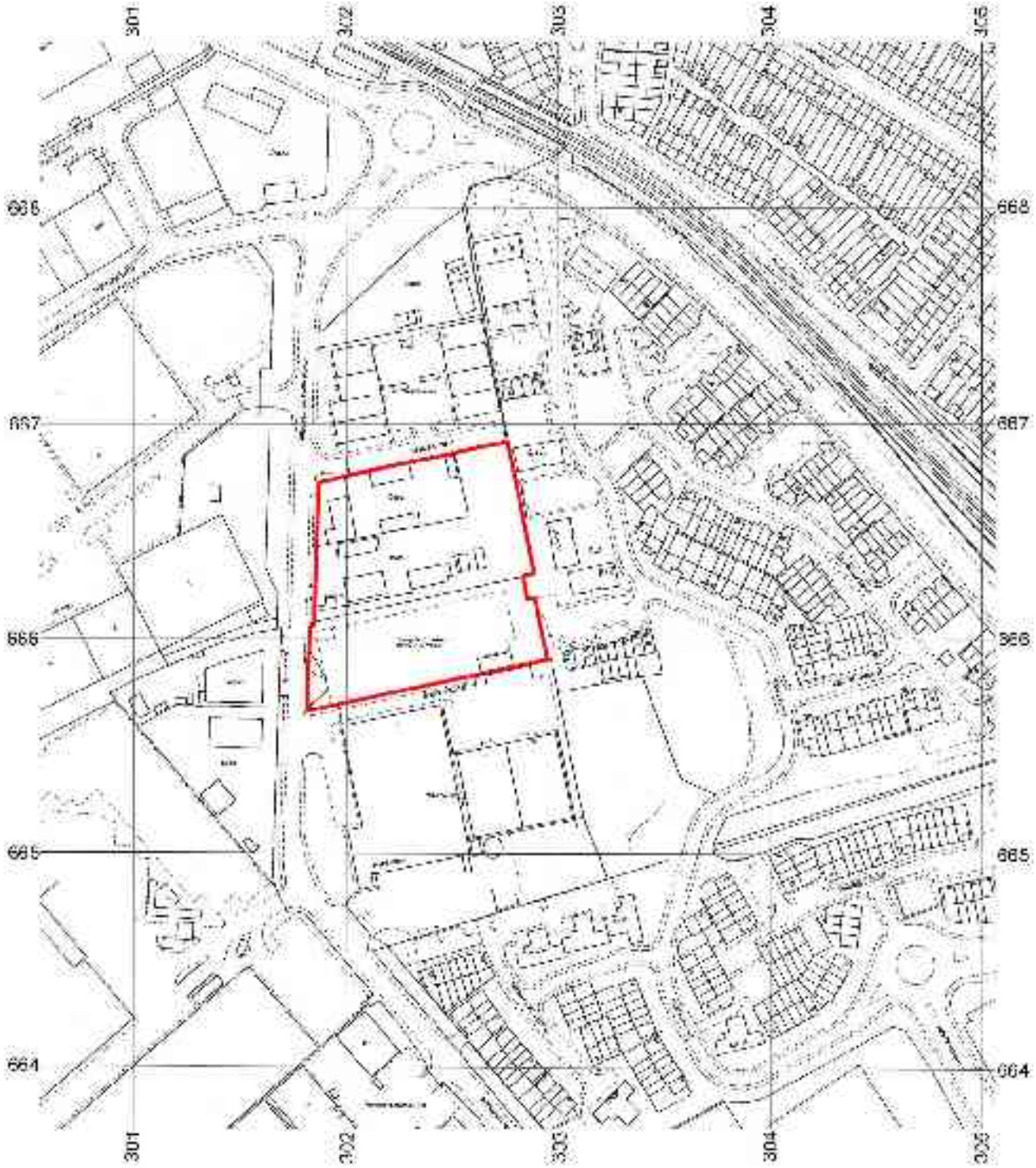


Fig 1 The site outline in relation to the 1:1250 Ordnance Survey map *(TQ 3066)*


Fig 2 The site outline in relation to the Ordnance Survey 25 inch 1st Edition map of 1881 (*Surrey Sheet XIV)*. Surveyed 1861-67.

The map covers the same area as Figure 1. The site is quite open but divided into three fields by drainage channels. The principal channel approximately follows the contour marking higher ground to the southeast

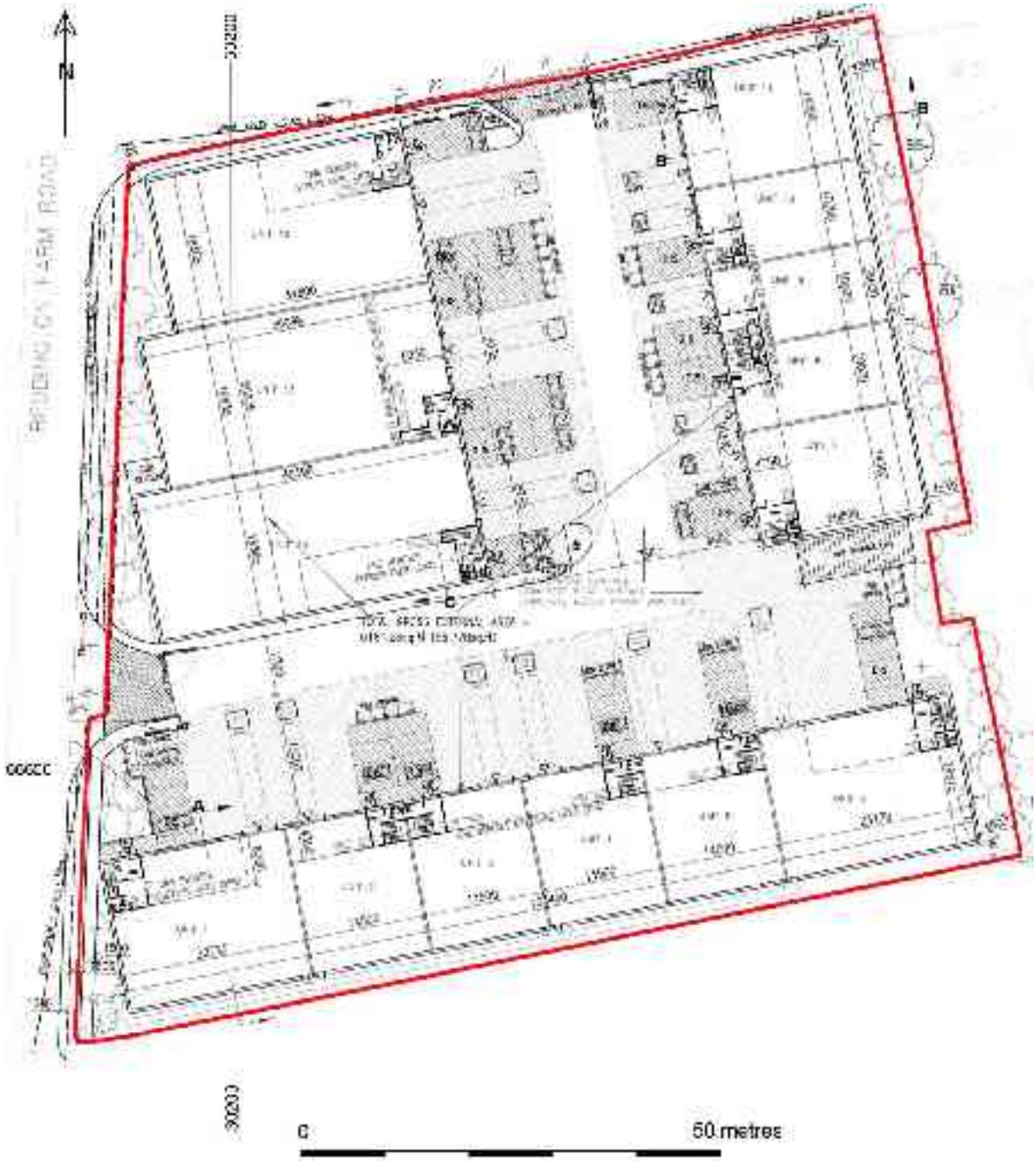


Fig 3  Plan showing the site boundary and proposed redevelopment

*Based on a plan by Buller Greenbury Associates, Chartered Architects. Drg. No. 648/DP/001(J)*

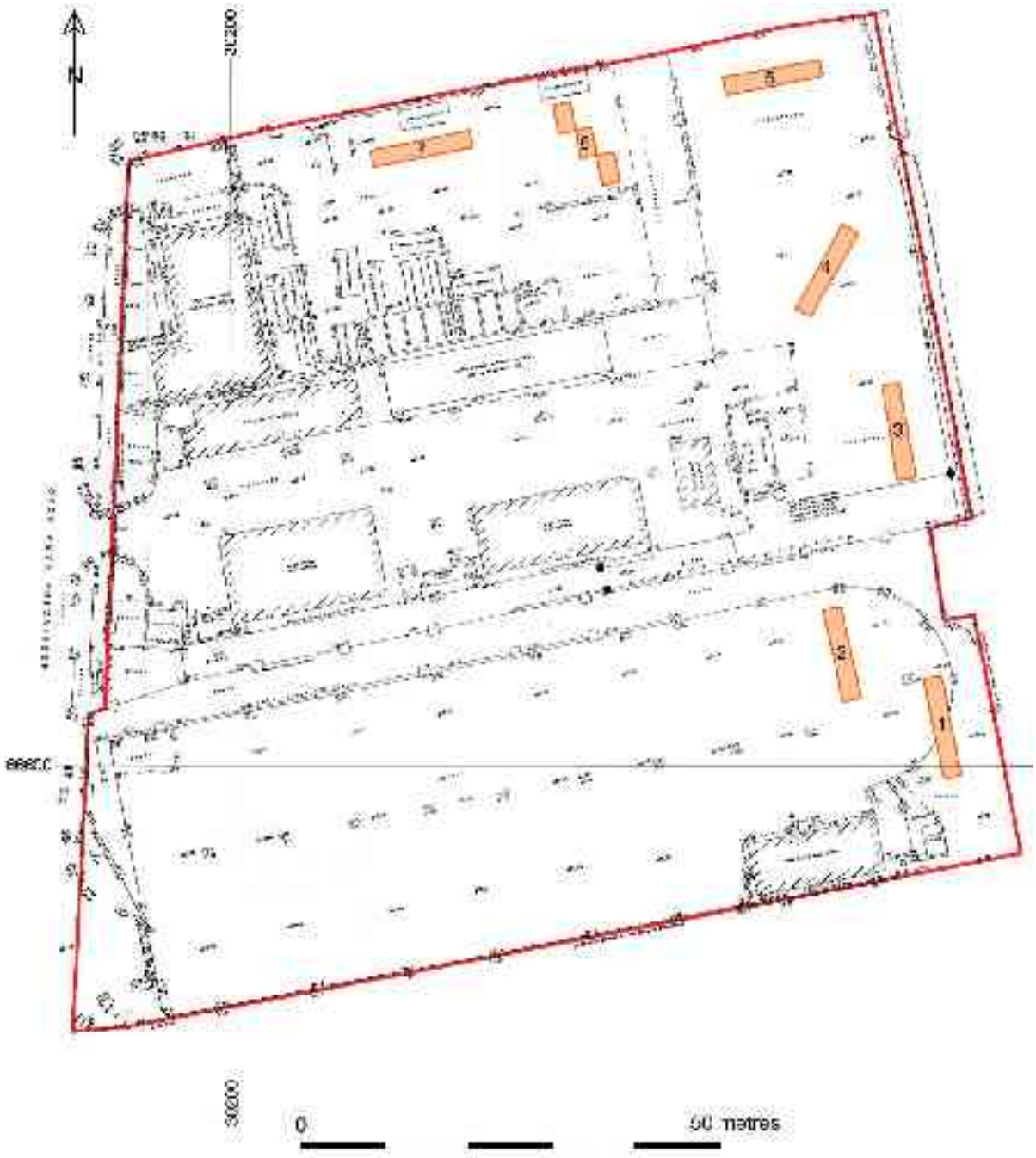


Fig 4 Location of the archaeological evaluation trenches (1-7)

***Based on a pre-development site survey by CSL Surveys, Drg. No. 13803T/1***

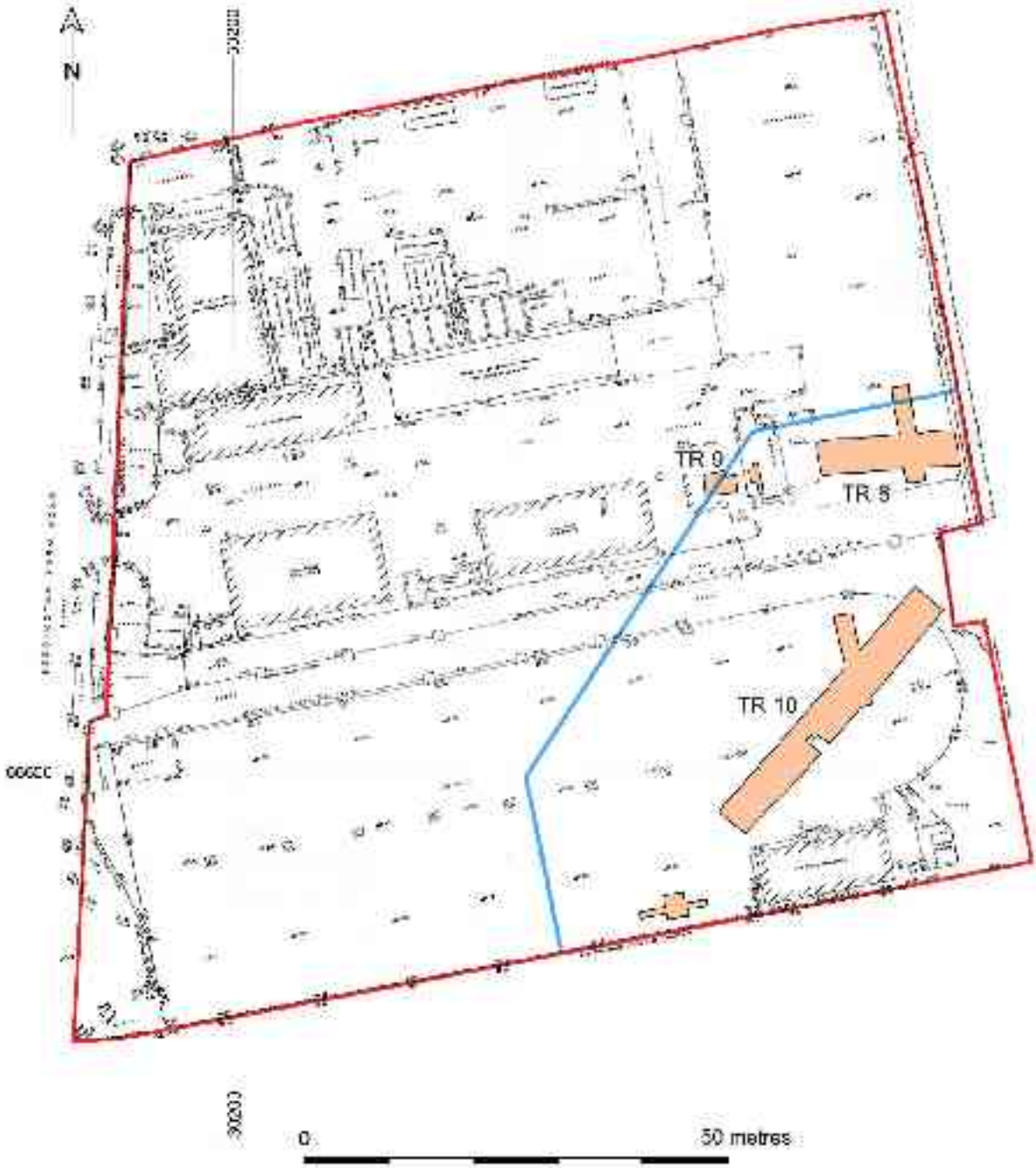


Fig 5 The main areas of further archaeological investigation: trenches (8-10) and watching brief. The blue line denotes the area defined by English Heritage as of archaeological interest, following results of the initial evaluation

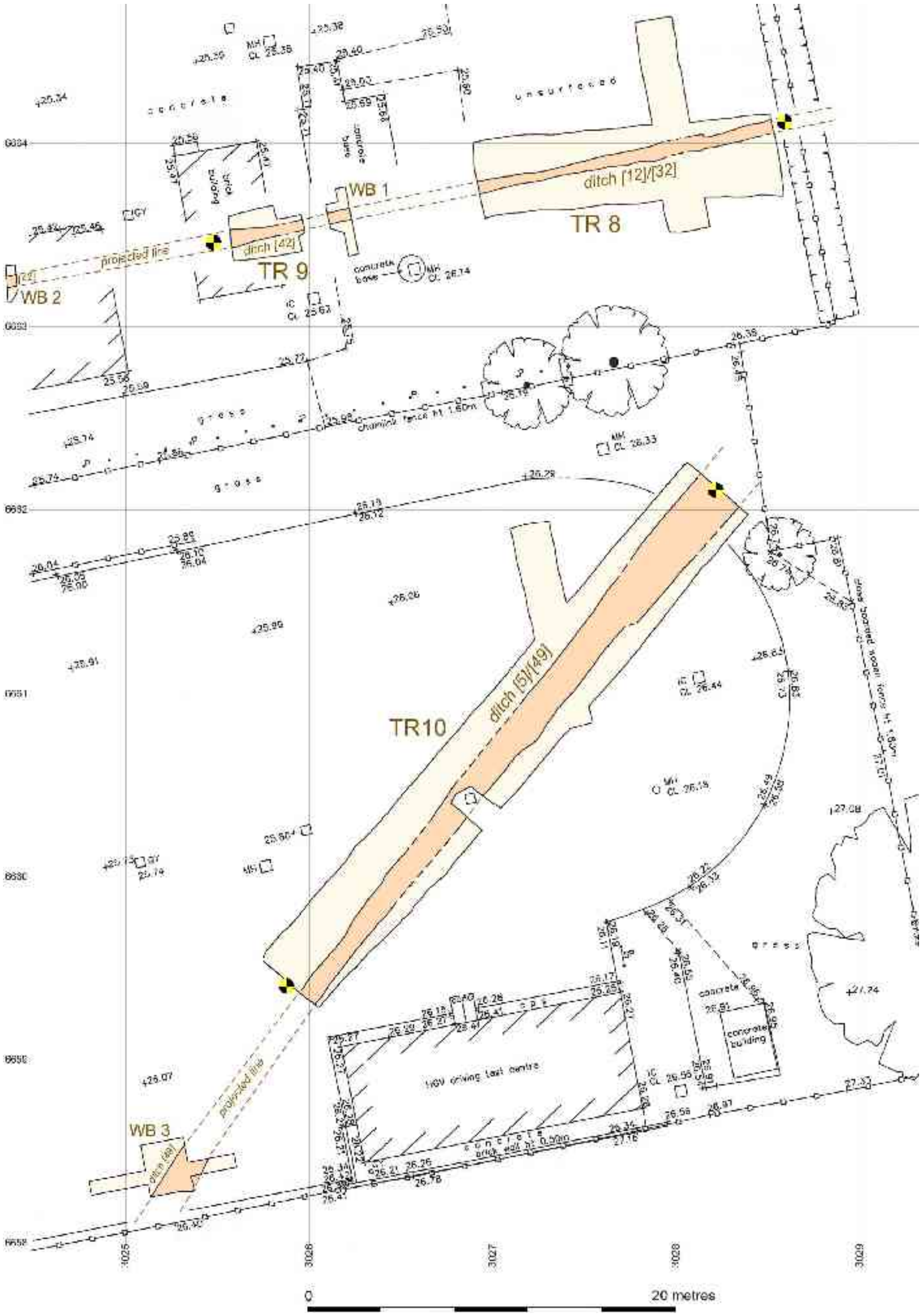


Fig 6 Plan of the southeastern part of the site, showing the two principal features (ditches [12/32/42] and [5/49]) as recorded within the evaluation, excavation (TR 8-10) and subsequent watching brief (WB 1-3)

*Based on a pre-development site survey by CSL Surveys, Drg No. 13803T/1. Levels based on an arbitrary datum (OD -9.89m)*

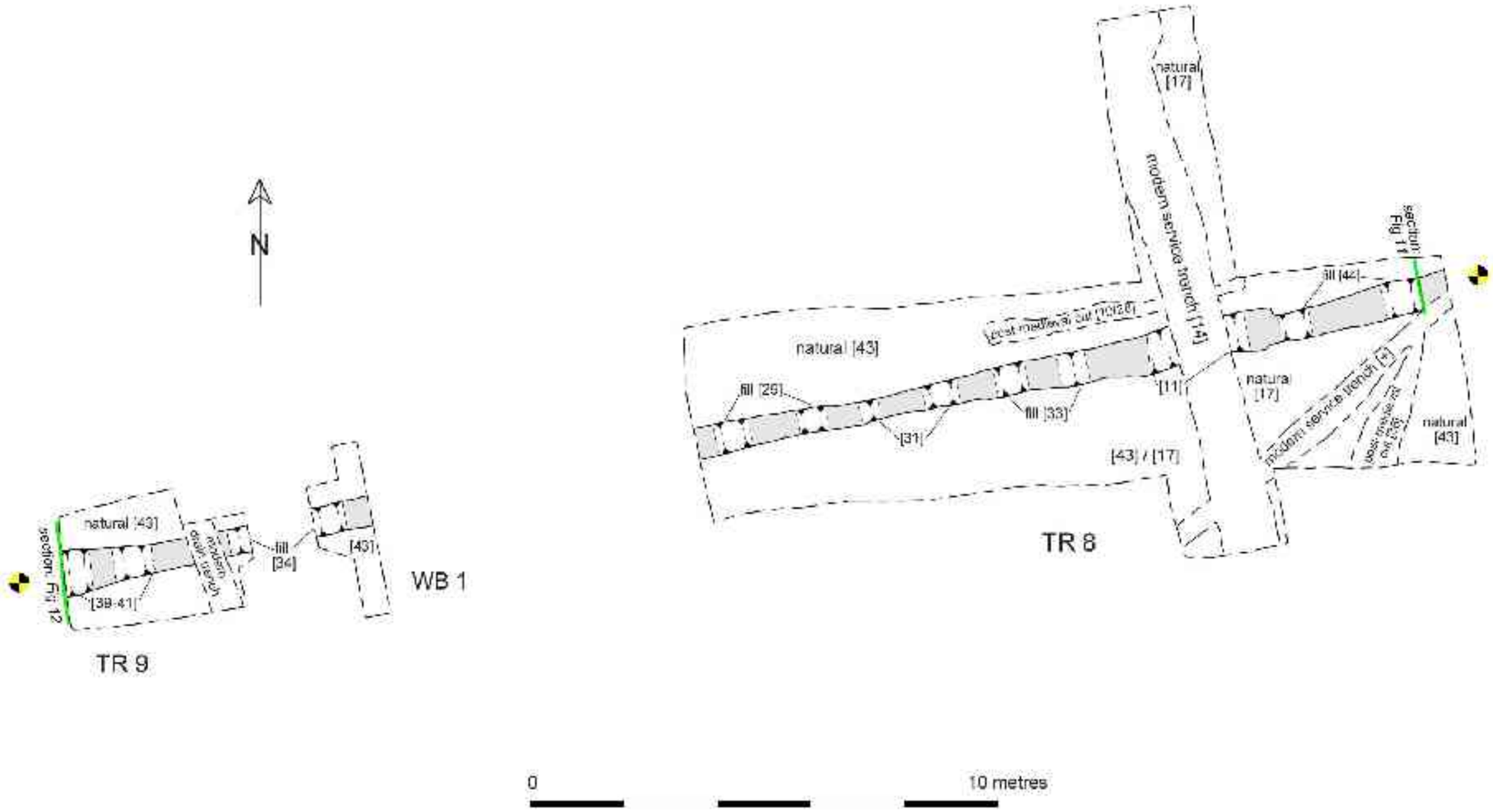


Fig 7 Detail of the smaller east-west ditch [contexts 12/32/42], showing location of drawn and photographed sections (Figs 11 to 13 below) and excavated areas of fill [29, 31, 33/4, *etc.*]. For additional watching brief record to west see Fig 6 (area WB2)

Fig 8  General view of Trench 8 during planning, looking northeast

Fig 9  View of Trench 8 looking eastward along the line of the infilled ditch [32] *(0.5m scale)*

Fig 10 View looking north across the line of the ditch [32] within the western part of Trench 8 *(0.5m scale)*

Fig 11 Section across ditch [32] at the east end of Trench 8, showing fill [44] behind the 0.2m scale. *See Fig 7 for location*

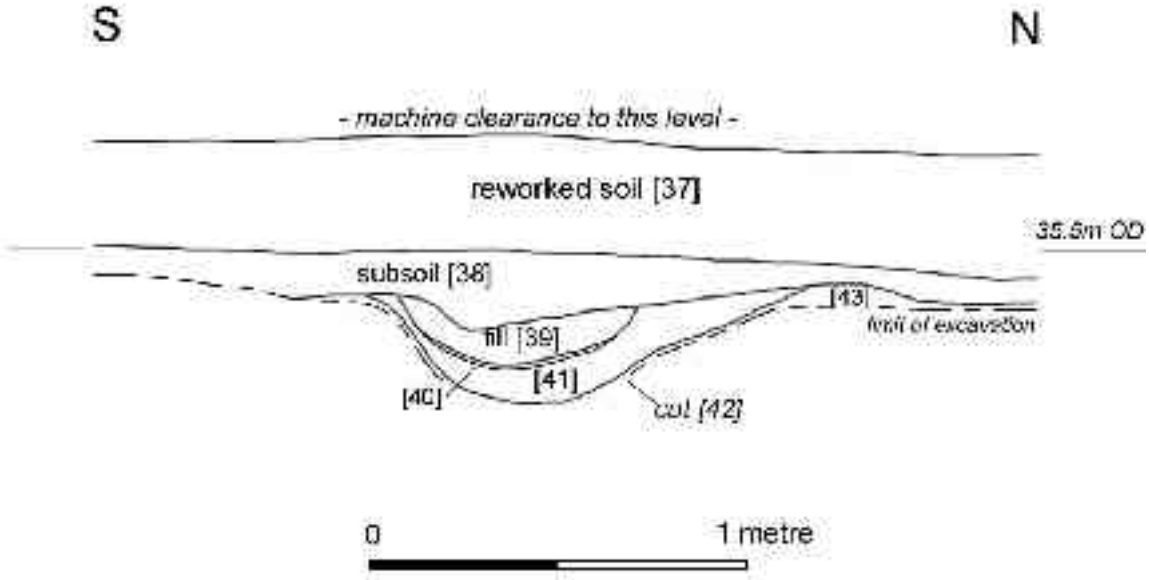


Fig 12 Section drawing of ditch cut [42] and overlying deposits within the western section of Trench 9. See Fig 7 for location

Fig 13 View of deposits shown in Figure 12, with unexcavated ditch fill (39) in foreground *(0.2m scale)*

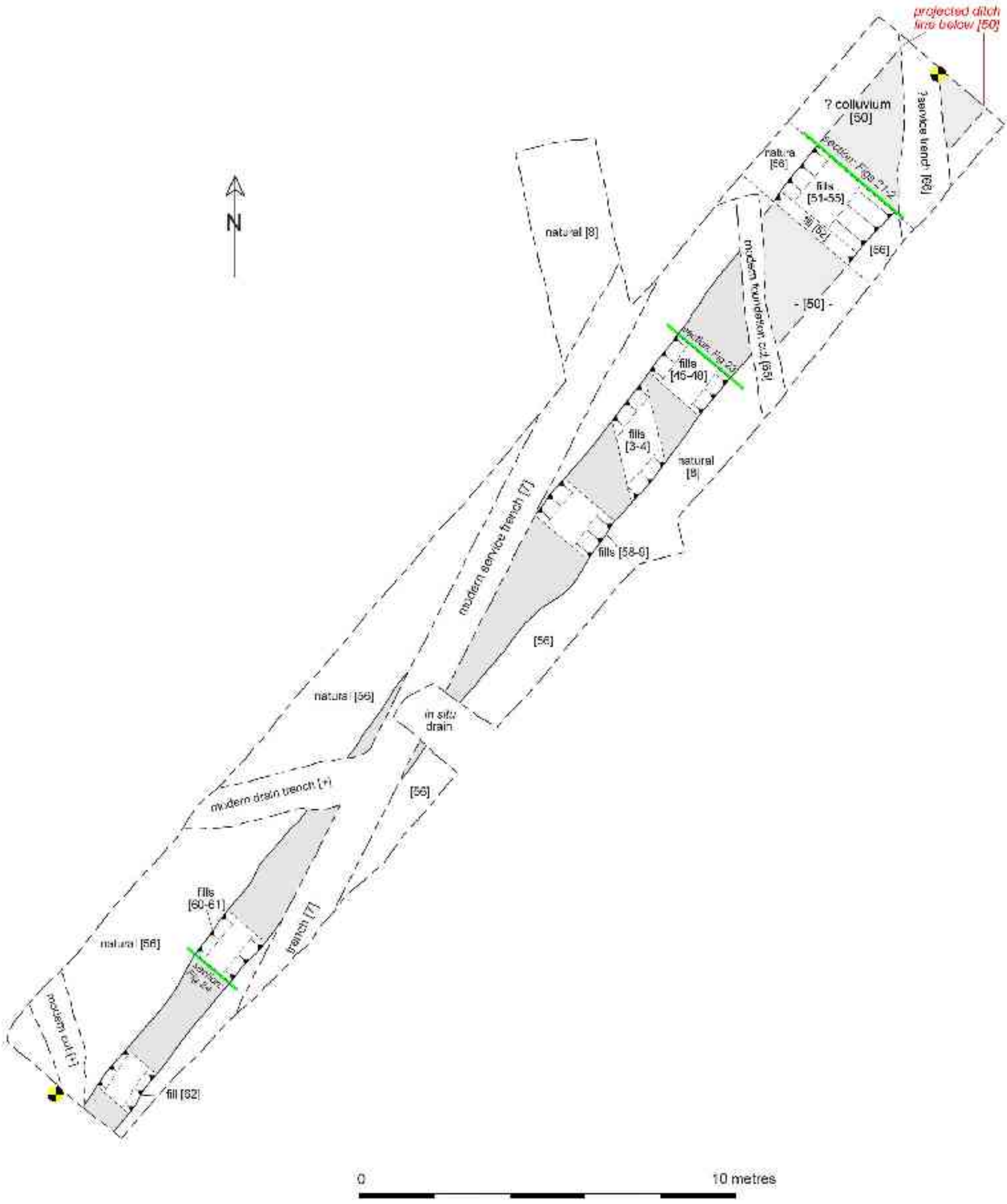


Fig 14 Detail of the large ditch [5/49], showing location of drawn and photographed sections (Figs 21 to 24 below) and excavated areas of fill [3/4, 45/8, 51/5, *etc.*]. For watching brief record of continuation to southwest see Fig 6 (area WB3)

Fig 15  General view of Trench 10 during the investigation, looking east

Fig 16  View from the southwest end of Trench 10 looking along the line of the infilled ditch [49] *(2m scale)*

Fig 17 View from the northeast end of Trench 10 looking along the line of ditch [49] *(2m scale)*

Fig 18 View of Trench 10 looking southeast across the line of ditch [49]. Note the overlying and partially excavated colluvial? deposit [50] on the left hand side of frame *(2m scale)*

Fig 19 View of the northeastern half of Trench 10, showing the line of the infilled ditch [49] and in the background the overlying colluvial? deposit [50] *(2m scale)*

Fig 20 A similar view to the above, during the subsequent excavation of the ditch [49]

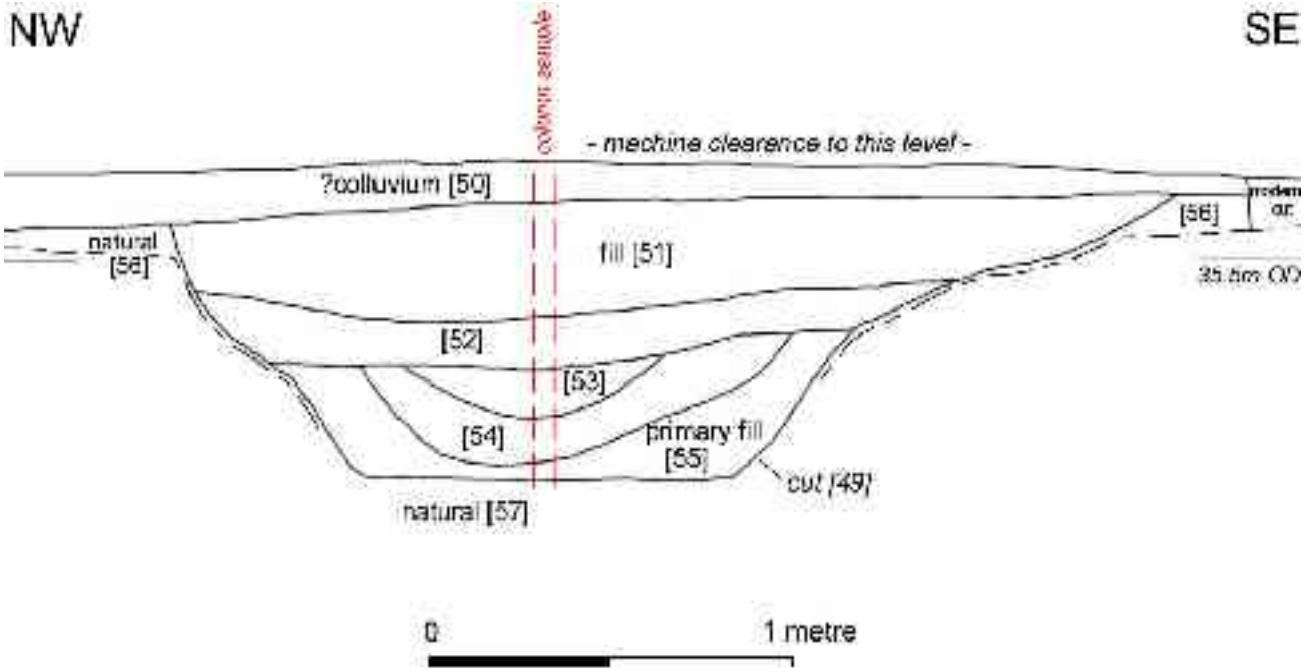


Fig 21 Section drawing through the ditch cut [49] and overlying deposit [50], towards the north-eastern end of Trench 10. *See Figure 14 for location*

Fig 22 View of deposits shown in Fig 21 and described in the column sample *(0.5m scale)*

Fig 23 Excavated slot towards the eastern end of Trench 10, showing ditch fills [45] to [48] behind the 0.2m scale. *See Fig 14 for location*

Fig 24 Excavated slot c. 5m from the western end of Trench 10, showing ditch fills [60/ 61] and also progressive truncation by modern construction. *0.2m scale; see Fig 14 for location*

Fig 25 Oblique section through ditch [49], looking south during the watching brief *(see Fig 6, area WB3).* Sequence shows London Clay [57] at base, natural Terrace deposit [56], greyish-coloured ditch fills [69] & [70] (at top of 0.5m scale) and overlying layer [68]

Fig 26 View across the south-eastern corner of the site after machine clearance, looking northeast. The sequence consisted of natural clay directly overlain by recent made ground *(0.5m scale)*