

# HERITAGE NETWORK



## ABBEY MILLS Waltham Abbey, Essex

HN545 / WA13

*Archaeological Evaluation Report*



# ***THE HERITAGE NETWORK LTD***

*Registered with the Institute of Field Archaeologists as an Archaeological Organisation*

Archaeological Director: David Hillelson, BA MIFA

## **ABBEY MILLS Waltham Abbey, Essex.**

Heritage Network ref.: HN545

Site Code: WA13

NGR: TL 3780 0055

### *Archaeological Evaluation*

*Prepared on behalf of the Lee Valley Regional Park Authority*

by

Abigail Rothwell, BSc (Hons) PIFA

and

Chris Turner, BSc (Hons)

Report no. 313

*October 2005*

© The Heritage Network Ltd

**11 FURMSTON COURT, ICKNIELD WAY, LETCHWORTH SG6 1UJ  
TEL: (01462) 685991 FAX: (01462) 685998**

## Contents

|           |                              |                   |
|-----------|------------------------------|-------------------|
|           | Summary.....                 | Page i            |
| Section 1 | Introduction.....            | Page 1            |
| Section 2 | Fieldwork .....              | Page 2            |
| Section 3 | Discussion & Conclusion..... | Page 11           |
| Section 4 | Bibliography.....            | Page 14           |
| Section 5 | Illustrations .....          | following Page 14 |

*The cover photograph shows the brick structure in Trench 5, facing west*

## Acknowledgements

The fieldwork for this project was carried out by Abigail Rothwell, Geoff Saunders and Chris Turner. The report text was compiled by Abigail Rothwell and Chris Turner, the illustrations were prepared by David Kaye and Abigail Rothwell, and the report was edited by David Hillelson.

The Heritage Network would like to express its thanks to the Lee Valley Regional Park Authority; Hertford Planning Service; Bowyer Bryce Chartered Surveyors; BW Services Ltd; Epping Forest District Museum; Peter Huggins, Waltham Abbey Historical Society; and Vanessa Clark of the Historic Environment Management Team, Essex County Council, for their co-operation and assistance in the execution of this project.

## Summary

|                                    |  |                                   |                        |
|------------------------------------|--|-----------------------------------|------------------------|
| <b>Site name and address:</b>      | Abbey Mills, Highbridge Street, Waltham Abbey, Essex                           |                                   |                        |
| <b>County:</b>                     | Essex  | <b>District:</b>                  | Epping Forest          |
| <b>Village/town:</b>               | Waltham Abbey  | <b>Parish:</b>                    | Waltham Abbey          |
| <b>Planning reference:</b>         | EPF/0640/04  | <b>NGR:</b>                       | TL 3780 0055           |
| <b>Client name and address:</b>    | Lee Valley Regional Park Authority, Abbey Mills, Highbridge St., Waltham Abbey |                                   |                        |
| <b>Nature of work:</b>             | New Flats & Offices  | <b>Former land use:</b>           | Car park               |
| <b>Size of affected area:</b>      | 2600m <sup>2</sup>   | <b>Size of area investigated:</b> | 128m <sup>2</sup>      |
| <b>Site Code:</b>                  | WA13   | <b>Other reference:</b>           | HN545                  |
| <b>Organisation:</b>               | Heritage Network   | <b>Site Director:</b>             | David Hillelson        |
| <b>Type of work:</b>               | Evaluation   | <b>Curating Museum:</b>           | Epping Forest          |
| <b>Start of work</b>               | 23 August 2005   | <b>Finish of work</b>             | 31 August 2005         |
| <b>Related SMR Nos:</b>            | n/a  | <b>Periods represented:</b>       | Medieval/Post-medieval |
| <b>Previous summaries/reports:</b> | n/a  |                                   |                        |

**Synopsis:**

In order to determine the archaeological risk posed by a proposal to build new flats and offices at Abbey Mills, Waltham Abbey, the Heritage Network was commissioned by the owners to undertake a programme of archaeological evaluation.

The ground had been severely disturbed by modern activity, including the site's past use as a scrap yard. The site is also prone to waterlogging because of the close location of the now canalised River Lee.

Despite this, evidence of archaeological activity was identified, which took the form of a pit containing a large collection of cattle horncores, possibly linked with the 18th century tannery or hornery seen on the neighbouring site to the east. Evidence of boundary walls and elements of the steam mill, which formerly occupied the southern half of the site, particularly a possible chimney base and a brick tank, survive below the present ground surface. The remains of post-medieval and Victorian structures dating from 18th century were identified, increasing in density through the 19th century, when the steam mill was established.

## 1. Introduction

**1.1** This report has been prepared at the request of *Hertford Planning Service* acting on behalf of the *Lee Valley Regional Park Authority* as part of a programme of archaeological work associated with the redevelopment of Abbey Mills, Highbridge Street, Waltham Abbey, Essex. The determination of the planning application for the development (ref. EPF/0640/04) by the Epping Forest District Council (EFDC), has been referred back to the applicants for further information on the archaeological potential of the site. This is in accordance with the provisions set out in Planning Policy Guidance Note No.16 (PPG16) on Archaeology and Planning. The scope of the required work was defined in a brief for *Archaeological Evaluation* prepared by the Historic Environment Management Team (HEMT) of Essex County Council acting as advisers to EFDC (ref. VC 06/06/2005). The evaluation followed the provisions set out in the Heritage Network's approved Project Design dated July 2005.

**1.2** The study area forms a plot between the south side of Highbridge Street, adjacent to the western approach to the Abbey View roundabout, and the River Lee. It is centred on NGR TL 3780 0055. The development proposes the construction of a mixed scheme of flats and offices with associated car parking. The site is currently occupied by an industrial unit on the frontage, with tarmac hard-standing, storage and temporary buildings to the rear.

**1.3** The site lies on the main road linking Waltham Abbey with Waltham Cross. The adjacent site to the east, which is currently under development, produced evidence for a medieval tanning industry, a 16<sup>th</sup> century post-dissolution dwelling, and workmen's cottages of 18<sup>th</sup> and 19<sup>th</sup> century date.

**1.4** On the basis of the known archaeology in the area it was considered that the site had the potential to contribute to our understanding of:

- the relationship of the abbey to the development of the secular settlement;
- the commercial and industrial development of the town in the medieval and post-medieval period.

**1.5** The aim of the evaluation has been to consider the location, extent, date, character, condition, significance and quality of any remains that are liable to be threatened by the development, and to provide a local and regional, archaeological and historical context for them, in accordance with the current published regional research agenda (Glazebrook 1997, Brown and Glazebrook 2000), if they were discovered.

**1.6** The present report is intended to provide the planning authority with sufficient data to allow it to consider the archaeological implications of the proposed development, and to determine what further, if any, mitigation measures may be required to allow the development to proceed.

## 2. Fieldwork

### *SITE TOPOGRAPHY AND GEOLOGY*

**2.1** The site is located on the south side of Highbridge Street, on the northwest edge of Waltham Abbey town centre. It is situated at approximately 18.75m OD. To the south of the development site lies the now canalised River Lee.

**2.2** The underlying geology was only seen in Trench 3 due to the amount of heavy modern disturbance on the site, and consisted of a waterlogged silt at a depth of 16.90mOD .

### *METHODOLOGY*

**2.3** All work was carried out in accordance with the approved *Project Design*, current health and safety legislation, and both IFA and ALGAO standards.

**2.4** The trenches were triangulated from known points using fibreglass tape measures.

**2.5** Five trenches were opened using a combination of a wheeled JCB excavator and a tracked mini-digger fitted with a 1.2m wide toothless bucket, under close archaeological supervision (see Figure 2). Spoil from the machining was inspected for archaeological artefacts. Trenches were machined to the first significant archaeological horizon.

**2.6** All potential archaeological features and deposits were sampled to ascertain their nature, depth, date, and quality of preservation.

**2.7** All identified contexts were photographed, and recorded using the appropriate pro-forma. Scaled plans and sections were drawn on drafting film at scales of 1:50.

**RESULTS****General Site Stratigraphy**

**2.8** In general the site's underlying deposits had been heavily disturbed by modern activity. A layer of tarmac, on average 0.10m deep, covered the site above a layer of concrete of varying depth. For the most part, this was followed a layer of disturbed black (10YR 2/1) silty clay.

**Trench 1**

| <b>Length (m):</b>                       | 20          | <b>Width (m):</b>  | 1.60                  | <b>Maximum Depth (m):</b>                | 1.70         | <b>Orientation</b> | E-W   |
|--|-------------|--|-----------------------|--|--------------|--------------------|-------|
| <b>Level at East End of Trench (mOD)</b> |             | <b>Top</b>   | 18.83                 | <b>Level at West End of Trench (mOD)</b> |              | <b>Top</b>         | 18.88 |
|  |             | <b>Base</b>  | 18.63                 |  |              | <b>Base</b>        | 18.23 |
| <b>Context</b>                           | <b>Type</b> | <b>Description</b>   | <b>Dimensions (m)</b> |  |              |                    |       |
|  |             |  | <b>Length</b>         | <b>Width</b>                             | <b>Depth</b> |                    |       |
| 101                                      | layer       | Tarmac   | >20                   | >1.60                                    | 0.10         |                    |       |
| 102                                      | layer       | Concrete   | >20                   | >1.60                                    | 0.20         |                    |       |
| 103                                      | structure   | Iron Weighbridge. Orientation E-W  | >10                   | >1.60                                    | >1.5         |                    |       |
| 104                                      | layer       | Disturbed layer. Black (10YR 2/1) plastic clay containing building debris                                      | >2.6                  | >1.60                                    | >0.60        |                    |       |
| 105                                      | structure   | Brick wall, 1 course wide, >3 courses long & >5 courses deep. Brick size 20x11x8cm, unfrogged. Orientation E-W | >0.60                 | 0.11                                     | >0.40        |                    |       |
| 106                                      | layer       | Waterlogged building Debris in weighbridge including CBM & large fragments of concrete                         | >10                   | >1.60                                    | >1.5         |                    |       |
| 107                                      | service     | Modern service pipe  | >0.80                 | 0.10                                     | -            |                    |       |

**2.9** Trench 1 was largely occupied by an iron weighbridge [103] likely to date from when the site was used as scrap yard. The feature had been back-filled using building material [106] including large concrete slabs, and it was also full of water.

**2.10** Further modern disturbance was noted, in the form of a modern service pipe [107] at the western end of the trench.

**2.11** Brick wall [105] at the western limit of the trench, is orientated E-W, roughly in alignment with the current road frontage. It appears to have been disturbed by both the laying of service [107] and the construction of weighbridge [104] construction.

**2.12** No further archaeological features or deposits were observed in this trench.

**Trench 2**

| <b>Length (m):</b>                        | 25          | <b>Width (m):</b>  | 1.60                  | <b>Maximum Depth (m):</b>                 | 1.5          | <b>Orientation</b> | N-S   |
|---|-------------|--|-----------------------|---|--------------|--------------------|-------|
| <b>Level at North End of Trench (mOD)</b> |             | <b>Top</b>   | 18.88                 | <b>Level at South End of Trench (mOD)</b> |              | <b>Top</b>         | 18.63 |
|   |             | <b>Base</b>  | 17.83                 |   |              | <b>Base</b>        | 18.14 |
| <b>Context</b>                            | <b>Type</b> | <b>Description</b>   | <b>Dimensions (m)</b> |   |              |                    |       |
|   |             |  | <b>Length</b>         | <b>Width</b>                              | <b>Depth</b> |                    |       |
| 201                                       | layer       | Tarmac   | >25                   | >1.60                                     | 0.30         |                    |       |
| 202                                       | layer       | Concrete   | >25                   | >1.60                                     | 0.40         |                    |       |
| 203                                       | layer       | Disturbed layer. Black (10YR 2/1) plastic clay containing building debris  | >11.60                | >1.60                                     | 0.10         |                    |       |
| 204                                       | layer       | Brown (10YR 4/3) loose rubble silt containing gravel rubble  | >10                   | >1.60                                     | 0.10         |                    |       |
| 205                                       | layer       | Light greyish brown (10YR 6/2) loose silt containing ceramic building debris   | >10                   | >1.60                                     | 0.40         |                    |       |
| 206                                       | layer       | Dark grey (10YR 4/1) waterlogged loose silt containing ceramic building debris   | >25                   | >1.60                                     | >0.50        |                    |       |
| 207                                       | layer       | Brown (10YR 4/3) loose silt clay containing ceramic building debris, roots & rubble  | >11                   | >1.60                                     | 0.50         |                    |       |
| 208                                       | structure   | Brick floor, 3 courses wide, >14 courses long & >1 courses deep. Brick size 20x10x8cm, unfrogged. Orientation E-W          | >1.60                 | >0.50                                     | >0.08        |                    |       |
| 209                                       | layer       | Brick wall, 2 courses wide, >16 courses long & >5 courses deep. Brick size 20x10x8cm, unfrogged. Orientation E-W           | >1.60                 | >0.50                                     | 0.40         |                    |       |
| 210                                       | layer       | Brick structure/tank, >8 courses wide, >14 courses long & >12 courses deep. Brick size 20x10x8cm, frogged. Orientation E-W | >1.7                  | >1.60                                     | >0.90        |                    |       |
| 211                                       | deposit     | Large pit containing cattle horncores. Orientation E-W   | >1.9                  | >1.10                                     | -            |                    |       |
| 212                                       | cut         | Modern machine cut containing building debris  | >5.20                 | >0.10                                     | >1           |                    |       |
| 213                                       | service     | Concrete & modern service pipe   | >1.60                 | 0.25                                      | -            |                    |       |

**2.13** Trench 2 contained a large pit [211] filled with cattle horncores. The top of the feature was reached at 1.5m below the existing surface. Because of this, and the waterlogged nature of the surrounding layers, the feature was not excavated. A sample of the horncores within the pit was removed. The feature had been cut by a modern service trench [212] and so is potentially contaminated.

**2.14** Brick surface [208] and the brick wall [209] are associated with each other and appear to represent the remains of a late post-medieval building or boundary wall. Both features are orientated E-W.

**2.15** A large brick structure [210] was observed within the trench. A square shaped void on the surface indicates that this is a storage tank of some type. The frogged bricks suggest a relatively recent date for the structure.



**2.16** A modern concrete encased service pipe [213] was observed at the southern end of the trench, running on a east-west alignment. The service pipe was not disturbed.

**2.17** No further archaeological features or deposits were observed within this trench.

### Trench 3

| <b>Length (m):</b>                       | 10        | <b>Width (m):</b>   | 1.60           | <b>Maximum Depth (m):</b>                | 1.8   | <b>Orientation</b> | E-W   |
|--|-----------|---|----------------|--|-------|--------------------|-------|
| <b>Level at East End of Trench (mOD)</b> |           | <b>Top</b>  | 18.75          | <b>Level at West End of Trench (mOD)</b> |       | <b>Top</b>         | 18.60 |
|  |           | <b>Base</b>   | 18.15          |  |       | <b>Base</b>        | 16.90 |
| Context                                  | Type      | Description   | Dimensions (m) |  |       |                    |       |
|  |           |   | Length         | Width                                    | Depth |                    |       |
| 301                                      | layer     | Tarmac  | >10            | >1.60                                    | 0.10  |                    |       |
| 302                                      | layer     | Concrete  | >10            | >1.60                                    | 0.25  |                    |       |
| 303                                      | layer     | Disturbed layer. Black (10YR 2/1) plastic clay containing building debris                                       | >10            | >1.60                                    | >0.20 |                    |       |
| 304                                      | structure | Brick wall, 2 courses wide, >6 courses long & >1 courses deep. Brick size 23x10x6cm, unfrogged. Orientation N-S | >1.60          | 0.20                                     | >0.06 |                    |       |
| 305                                      | layer     | Brown (10YR 4/3) loose silty clay   | >6             | >1.60                                    | 0.10  |                    |       |
| 306                                      | layer     | Dark Grey (10YR 4/1) waterlogged plastic silt   | >6             | >1.60                                    | 0.60  |                    |       |
| 307                                      | layer     | Brown (10YR 4/3) plastic silt   | >2.60          | >1.60                                    | 0.10  |                    |       |
| 308                                      | natural   | Waterlogged natural silt  | >10            | >1.60                                    | -     |                    |       |
| 309                                      | service   | Modern service pipe   | 1.60           | 0.20                                     | 0.25  |                    |       |
| 310                                      | service   | Modern service pipe   | 0.80           | 0.20                                     | -     |                    |       |
| 311                                      | structure | Modern brick structure - drain  | 0.50           | -  | 0.40  |                    |       |
| 312                                      | structure | Modern concrete strip   | >1.6           | 0.50                                     | 0.50  |                    |       |
| 313                                      | service   | Modern service pipe-previously disturbed  | -              | -  | -     |                    |       |

**2.18** Trench 3 was disturbed by several modern services: [309],[310],[311] & [313]

**2.19** A section of 19<sup>th</sup> century brick wall [304] survived at the eastern extent of the trench. The wall was orientated N-S, perpendicular with the current road frontage.

**2.20** A sondage was excavated at the western extent of this trench to discover the depth of the natural geology. The ground had been heavily disturbed and was severely waterlogged. The silty natural was reached at a depth of 16.90mOD.

**2.21** No further archaeological features or deposits were observed within this trench.

## Trench 4

| <b>Length (m):</b>                             | 15        | <b>Width (m):</b>  | 1.60           | <b>Maximum Depth (m):</b> | 1.50   | <b>Orientation</b> | NW-SE       |       |
|--|-----------|--|----------------|---------------------------|--|--------------------|-------------|-------|
| <b>Level at North East End of Trench (mOD)</b> |           |  | <b>Top</b>     | 18.70                     | <b>Level at South West End of Trench (mOD)</b> |                    | <b>Top</b>  | 18.45 |
|  |           |  | <b>Base</b>    | 18.15                     |  |                    | <b>Base</b> | 17.65 |
| Context  | Type      | Description  | Dimensions (m) |                           |  |                    |             |       |
|  |           |  | Length         | Width                     | Depth  |                    |             |       |
| 401  | layer     | Tarmac   | >15            | >1.60                     | 0.10   |                    |             |       |
| 402  | layer     | Concrete   | >15            | >1.60                     | 0.30   |                    |             |       |
| 403  | layer     | Dark Brown (10YR 3/3) loose silt   | >15            | >1.60                     | 0.20   |                    |             |       |
| 404  | layer     | Disturbed layer. Dark Brown (10YR 3/2) loose silt, containing ceramic building debris                | >4.20          | >1.60                     | 0.35   |                    |             |       |
| 405  | layer     | Dark Grey (10YR 4/1) waterlogged plastic silt, containing ceramic building debris, antler & horncore | >9.50          | >1.60                     | >0.60  |                    |             |       |
| 406  | layer     | Disturbed layer. Brown (10YR 4/3) plastic silt, containing ceramic building debris & rubble          | >6             | >1.60                     | >0.40  |                    |             |       |
| 407  | structure | Deposit of modern concrete   | 1.10           | -                         | 0.30   |                    |             |       |
| 408  | service   | Modern service pipe  | >2             | 0.20                      | -  |                    |             |       |
| 409  | service   | Modern service pipe – ceramic drain & brick inspection chamber                                       | >2.35          | 0.60                      | 0.35   |                    |             |       |
| 410  | structure | Heavily disturbed brick surface  | >1.60          | >1.5                      | -  |                    |             |       |
| 411  | service   | Modern service pipe  | >1.60          | 0.30                      | 0.20   |                    |             |       |

**2.22** Three service pipes, [408], [409] and [411], were identified in Trench 4. Water pipe [409] was attached to a disused modern brick inspection chamber.

**2.23** Large amounts of post-medieval material including ceramic building material (CBM), animal bone and cattle horncore were observed in waterlogged layer [405]. No feature cut was visible. It is possible that this is material laid down by water action or that the material was deliberately dumped to consolidate the ground.

**2.24** At the north-eastern end of the trench, the remains of a brick surface were observed. The surface had been heavily disturbed by service [108].

**2.25** No further archaeological features or deposits were observed in this trench.

## Trench 5

| <b>Length (m):</b>                        | 5         | <b>Width (m):</b>  | 3.2            | <b>Maximum Depth (m):</b>                 | 0.70  | <b>Orientation</b> | E-W   |
|---|-----------|--|----------------|---|-------|--------------------|-------|
| <b>Level at North End of Trench (mOD)</b> |           | <b>Top</b>   | 18.65          | <b>Level at South End of Trench (mOD)</b> |       | <b>Top</b>         | 18.65 |
|   |           | <b>Base</b>  | 18.30          |   |       | <b>Base</b>        | 18.63 |
| Context                                   | Type      | Description  | Dimensions (m) |   |       |                    |       |
|   |           |  | Length         | Width                                     | Depth |                    |       |
| 501                                       | structure | Brick wall. 1 courses wide, >43 courses long & >7 courses deep. Brick size 23x10x8cm, frogged. Orientation E-W | >5             | >0.23                                     | >0.56 |                    |       |
| 502                                       | structure | Raised Brick Floor. 3 courses deep. Brick size 22x12x6 unfrogged   | >3             | 1.5                                       | 0.20  |                    |       |
| 503                                       | service   | Modern service pipe disturbance  | >3.50          | 0.70                                      | >0.20 |                    |       |
| 504                                       | layer     | Brown (10YR 4/3) loose silt, containing ceramic building debris & rubble                                       | >4.40          | 1.05                                      | -     |                    |       |
| 505                                       | service   | Modern concrete inspection chamber   | >0.50          | >0.30                                     | >0.50 |                    |       |
| 506                                       | service   | Modern service pipe disturbance  | >0.10          | 0.30                                      | >0.50 |                    |       |
| 507                                       | structure | Brick Floor. Brick size 22x12x6 unfrogged  | >4             | 0.70                                      | -     |                    |       |
| 508                                       | structure | Brick wall. 2-3 courses wide & >7 courses deep. Brick size 22x10x8cm, unfrogged. Orientation E-W & N-S         | >5             | 0.30                                      | >0.56 |                    |       |

**2.26** Trench 5 contained a series of brick walls. The earliest walls form the remains of a small 18<sup>th</sup>-19<sup>th</sup> century rectangular building. This structure was almost immediately below the present surface and measures approximately 3.30m wide and over 5m long. It is composed of external wall [508] and associated floor surface [507]. The raised brick surface [502] may also be part of the original structure, or it may be a later addition as it appears to overlay [507]. The function of this surface may be to support machinery or raise tanks above normal floor level, as the northern half of the building appears to have had a suspended wooden floor. All these features were built from unfrogged bricks.

**2.27** The inside edge of wall [508] appeared to be blackened with soot suggesting the presence of a chimney at the west end of the structure.

**2.28** Wall [501], orientated E-W, cuts through the earlier building and is built with more recent frogged bricks.

**2.29** Three services, [503], [505] and [506], were identified in Trench 5. All had disturbed the brick structures, particularly service [503] which cut through the raised brick floor [502] and wall [508], but not through wall [501].

*Concordance of finds*

| Context      | Pottery  |            | Vitrified Brick |            | CBM      |             | Animal Bone |             | Horncores |             |
|--------------|----------|------------|-----------------|------------|----------|-------------|-------------|-------------|-----------|-------------|
|              | No       | Wt (g)     | No              | Wt (g)     | No       | Wt (g)      | No          | Wt (g)      | No        | Wt (g)      |
| 104          | 4        | 130        |                 |            | 1        | 1750        |             |             |           |             |
| 206          | 1        | 15         |                 |            |          |             |             |             |           |             |
| 211          | 1        | 15         |                 |            |          |             | 5           | 50          | 11        | 3320        |
| 405          | 1        | 205        |                 |            |          |             | 2           | 50          | 2         | 655         |
| 504          |          |            | 1               | 230        | 1        | 1950        |             |             |           |             |
| Tr2 u/s      |          |            |                 |            |          |             | 2           | 1500        |           |             |
| <b>Total</b> | <b>7</b> | <b>365</b> | <b>1</b>        | <b>230</b> | <b>2</b> | <b>3700</b> | <b>9</b>    | <b>1600</b> | <b>13</b> | <b>3975</b> |

**2.30** Further artefacts of 19<sup>th</sup> and 20<sup>th</sup> century date, including pottery, CBM, concrete, plastic, and iron objects were observed within the disturbed layers on the site. This material was not considered to be of archaeological significance and was not collected.

*Pottery*

**2.31** The pottery from the site was largely post-medieval. The four sherds from layer [104] and the fragment recovered from [405] were all 19<sup>th</sup>-20<sup>th</sup> century in date.

**2.32** The sherd of pottery recovered from layer [206] was late medieval in date, making it the earliest fragment recovered from the site. Unfortunately this layer is severely waterlogged and therefore the sherd may not be in its original context. Fragments of ceramic building material were also seen in this layer but not collected.

**2.33** The fragment of pottery recovered from the pit containing horncores, [211], was 17<sup>th</sup>-18<sup>th</sup> century in date. This can not accurately date the pit unfortunately because of disturbance in adjacent layer [206] caused by waterlogging, and disturbance from modern feature [212] which cuts through the pit.

*Recommendations*

**2.34** Due to the small size and undiagnostic nature of the assemblage no further work is proposed on the artefacts collected.

*Vitrified Brick*

**2.35** A single fragment of vitrified brick was recovered from context [504], which is likely to be associated with the 18<sup>th</sup>-19<sup>th</sup> century structure identified in that trench.

*Recommendations*

**2.36** Due to the small size of the assemblage and undiagnostic nature of the item no further work is proposed.

### *Ceramic Building material*

**2.37** A total of two fragments of ceramic building material (CBM), weighing 3700g, was recovered from the site, both from contexts that had been disturbed by modern drains.

**2.38** The brick recovered from layer [104] was unfroged, handmade and 18<sup>th</sup> century in date and is possibly related to wall [105] which is formed from bricks of a similar type.

**2.39** The brick recovered from [504] is a modern brick. The remains of a stamped inscription reading ‘...FORD...RBRIDGE’ was noted. It is likely that this brick relates to the most recent phase of building seen in Trench 5.

### *Recommendations*

**2.40** Due to the small size and undiagnostic nature of the assemblage no further work is proposed on the artefacts collected.

### *Animal Bone*

**2.41** The unstratified animal bones recovered from Trench 2 consist of a scapula and a femur from an adult horse. They showed no signs of having been butchered, therefore they may represent a working animal. Similar remains were identified on the neighbouring site to the east (AOC Archaeology 2004). The remains had been disturbed by the later activity in the area

**2.42** The animal bone recovered from waterlogged layer [405] consisted of two sheep/goat metatarsals. Both bones had fused epiphyses and therefore represent adult animals. They indicate a minimum number of two individuals because of a difference in bone length. One of the bones showed evidence of butchery in the form of repeated knife cuts.

### *Recommendations*

**2.43** Due to the small and undiagnostic nature size of the assemblage no further work is proposed.

### *Horncores*

**2.44** Due to the nature of the ground conditions, only a small sample of the horecores present in pit [211] were collected. The presence of a single faunal element in abundance suggests an industrial process rather than domestic waste. The large quantities of cattle horn core and skull fragments point towards hornering (removing the horn from horncores) and possibly tanning too.

**2.45** The horncores collected from pit [211] differ in size and curvature, which indicates that the sex, age and possibly breed of the cattle used in the process varied.

**2.46** The adjacent site to the east revealed evidence of hornering, tanning and leatherworking and it is likely that these industrial processes extend into the current site. The position of the site outside of the medieval market place may be considered to reflect both the monopoly the church

had on the land to the north and west of the Abbey, and the unsavoury nature of the industrial processes (AOC Archaeology, 2004).

*Recommendations*

**2.47** If further excavation of pit [211] is undertaken then these sample horncores should be amalgamated with rest of the horncores excavated to produce a representative assemblage. This is important as, in addition to information on industrial processes, horn cores also can be measured and used to identify the age, sex and breed of the animals from which they derive.

### 3. Discussion

**3.1** On the basis of the known archaeology in the area, it was considered that the Abbey Mills site had the potential to develop our understanding of the relationship of the abbey to the development of the secular settlement, and of the commercial and industrial development of the town in the medieval and post-medieval period. The archaeological evaluation has demonstrated post-medieval activity which has been heavily disturbed, particularly as a result of the site's former use as a scrap yard, but virtually no medieval remains.

**3.2** The high density of post-medieval unstratified material suggests that there was occupation and possibly industrial activity in the immediate area. Cartographic evidence indicates that the site was occupied by a series of thin linear tithe plots, aligned approximately north- south (Figure 6). The early 19<sup>th</sup> century maps indicate that activity on the site was concentrated and the evaluation demonstrates that some evidence of earlier activity survives, despite modern truncation.

#### *Stratigraphy*

**3.3** Broadly the stratigraphic evidence consisted of layers of fine silts and spreads of dumped building debris and domestic waste, overlying mottled clays indicative of waterlogging. In addition to truncation from a variety of former services running across the site, most of the stratigraphy along the length of Trench 1 was removed by the construction of a modern weighbridge.

**3.4** Evidence from Trench 4 suggests that the width of the river to the south of the site was once much greater, encroaching northwards into the present site. This was also seen in the neighbouring site to the east, where evidence suggests that much of the land was marsh in the early medieval period. This is further suggested by the presence nearby of a feature recorded as 'Marsh Bank' in 1888 (Huggins, 2005). This bank lies outside the present area, adjacent to the western limits of the almshouses which existed immediately to the west of the site, and ran at right angles to Highbridge Street towards the river. Investigations to the east of the present site have suggested that this marsh land was used to dump domestic waste from the town. This would have, over years, raised the ground level above the water level of the River Lee (AOC Archaeology, 2004). The stratigraphy in Trench 4 included dumped post medieval waste spread in repeated episodes, which would have the effect of consolidating the ground.

**3.5** It is unlikely that the southern 20-30m of the site was utilised for occupation until the 18-19<sup>th</sup> century because of its marshy nature, close to the river. However, the 1842 tithe map shows some structures were present on this area site by the mid 19<sup>th</sup> century, and the establishment of steam driven flour mills across the southern half of the site in 1867 (Huggins, 2005), suggests that the reclamation of this area had been effective by this period.

#### *Structures*

**3.6** The remains of brick structures can be seen in all of the five trenches. All seem to be constructed to align roughly with the current road frontage. Most of these structures have been

heavily disturbed. The fact that some evidence can be seen in all trenches confirms that use of the land during the 18-19<sup>th</sup> century was extensive.

**3.7** By the latter half of the 19<sup>th</sup> century the Highbridge Street frontage was built up, with the steam mills occupying the rear (Figure 6).

**3.8** Trenches 1 and 3 contained walls which appear to relate to boundary walls shown on the Tithe Plans of 1842/3, and on the 1879 OS map. Trench 2 contained a wall [209], with associated brick surface [208] for a building located adjacent to the eastern boundary of the site. In addition, to the south of this wall, there was a brick structure [210] which appears to be an underground tank. This feature was well constructed with sloping sides, and had a blocked square access hole on top. This structure is likely to form part of the steam mill constructed in 1867.

**3.9** Trench 5 revealed the most complete structural evidence, of a small building close to the western boundary of the site. This building appears to have been constructed to house plant such as machinery or large tanks. However, elements of the inside of the walls were blackened with soot and the 1879 OS plan (Figure 6) indicates a small structure in this location. It is likely that this feature is a chimney associated with the steam mills constructed in 1867, and not a domestic dwelling.

**3.10** One of the research aims for the post-medieval period, set out in the Waltham Abbey Historic Town Assessment (Medlycott, 1998), states that although the nearby gunpowder works have been intensively studied and recorded, the nature of its relationship with the wider urban area is not fully understood, particularly in respect of the provision of housing and other services. There does not appear to be any purpose-built housing for workers at the gunpowder mill on the present site, but it is likely that businesses along Highbridge Street profited from their proximity to the works.

### ***Tanning***

**3.11** A continuation of the 18<sup>th</sup> century industrial processes of hornering or tanning, seen on the neighbouring site to the east, was evident in Trench 2 in the form of a pit containing horncores. The sample recovered from this feature indicates a varied cattle population, and the presence of this pit confirms that the industry was once extensive in this area.

**3.12** Medieval occupation of the area was only suggested by a single sherd of late medieval pottery in layer [206]. The layer had been subject to recent disturbance, and thus the medieval context cannot be confirmed.

### ***CONCLUSION***

**3.13** The work undertaken by the Heritage Network has identified evidence of post-medieval and Victorian structures, and modern disturbance.

**3.14** The whole of the Abbey Mills site has been severely disturbed by modern activity, including the site's earlier use as a scrap yard. The site is prone to waterlogging because of the close location of the canalised River Lee.



**3.15** Some evidence for earlier industrial activity was identified in the form of a pit containing a large collection of cattle horncores, which may be associated with the 18<sup>th</sup> century tannery or hornery evidence seen on the neighbouring site to the east. The site became built up in the post-medieval period, probably from the 18<sup>th</sup> century onwards, increasing in density in the 19<sup>th</sup> century with the establishment of the steam mills.

**3.16** Despite the severe modern disturbance, and the high level of post-medieval and Victorian activity on the site, it's considered that a low potential exists for the survival of deposits predating the 18<sup>th</sup> century, and their consequent disturbance by the development of the site. Such evidence should be considered to be of high significance in the context of the established research aims for the town.

**3.17** The development of the site will certainly encounter evidence of activity from the 18<sup>th</sup> century onwards which should be considered to be of moderate significance in the context of the established research aims for the town.

### ***Confidence Rating***

**3.18** The high level of modern disturbance on the site and the presence of waterlogged deposits caused significant difficulties for the collection of meaningful evidence. Nevertheless, it is considered that a sufficient sample was examined to draw appropriate conclusions, and the confidence rating for the work should be considered to be *high*.

## 4. Bibliography

AOC Archaeology, 2004 *The Former Drill Hall Site, Highbridge Street, Waltham Abbey, Essex: A Post-Excavation Assessment*. AOC Archaeology

Clarke, V, 2005 *Brief for Archaeological Evaluation at Abbey Mills Highbridge Street, Waltham Abbey*. Essex County Council: Historic Environment Management Team

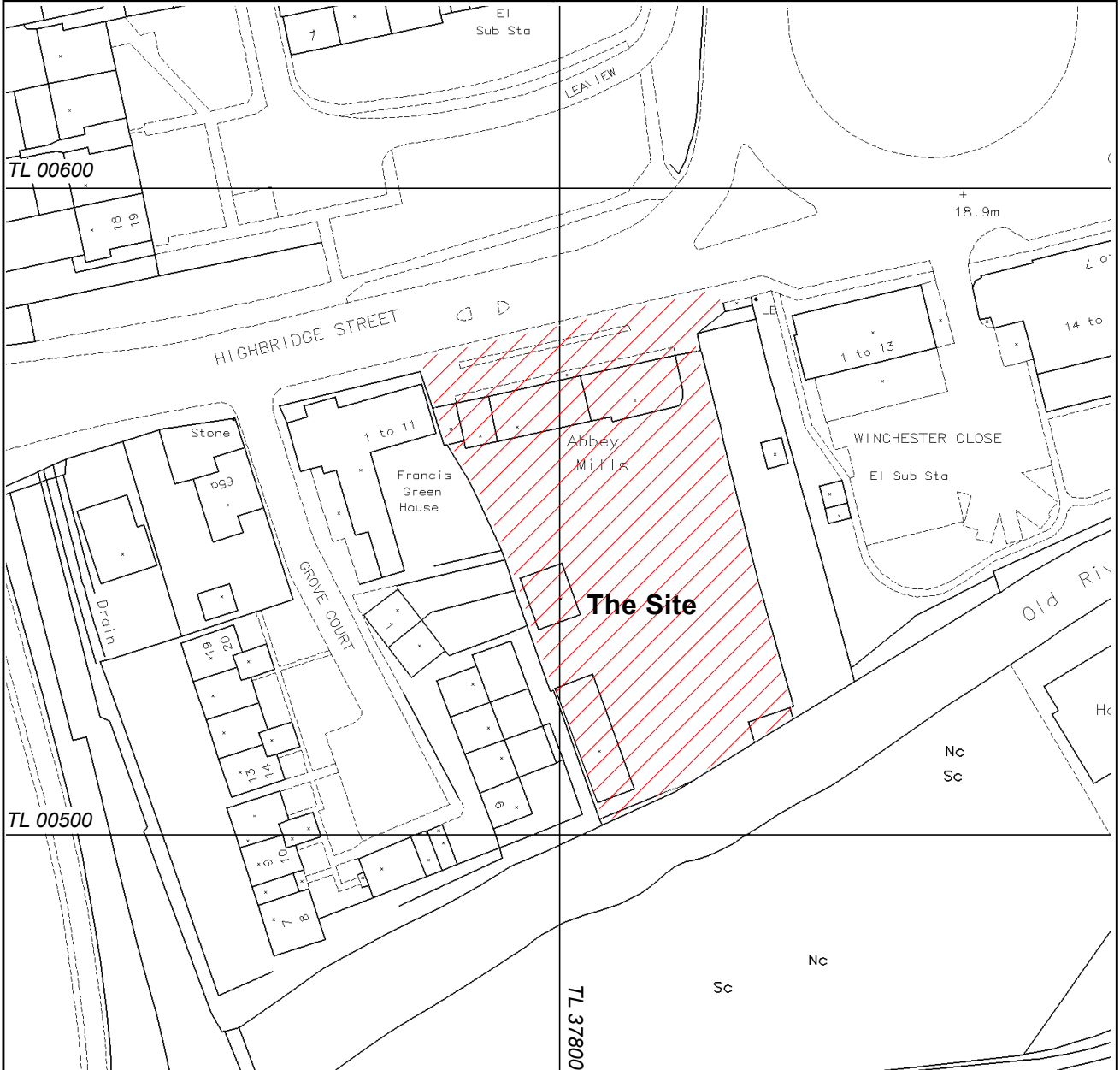
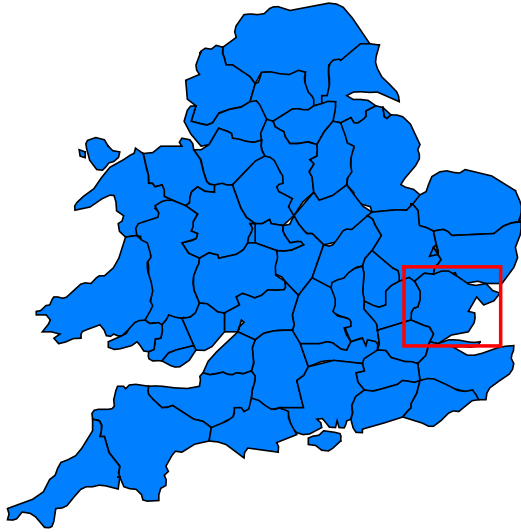
Hillelson, D, 2005 *Abbey Mills, Highbridge Street, Waltham Abbey*. Project Design: Archaeological Evaluation. Heritage Network.

Huggins, P, 2005 *From the Ship to the Angel*. Unpublished.

Medlycott, M, 1998 *Waltham Abbey, Historic Town Project Assessment Report*. Essex County Council.

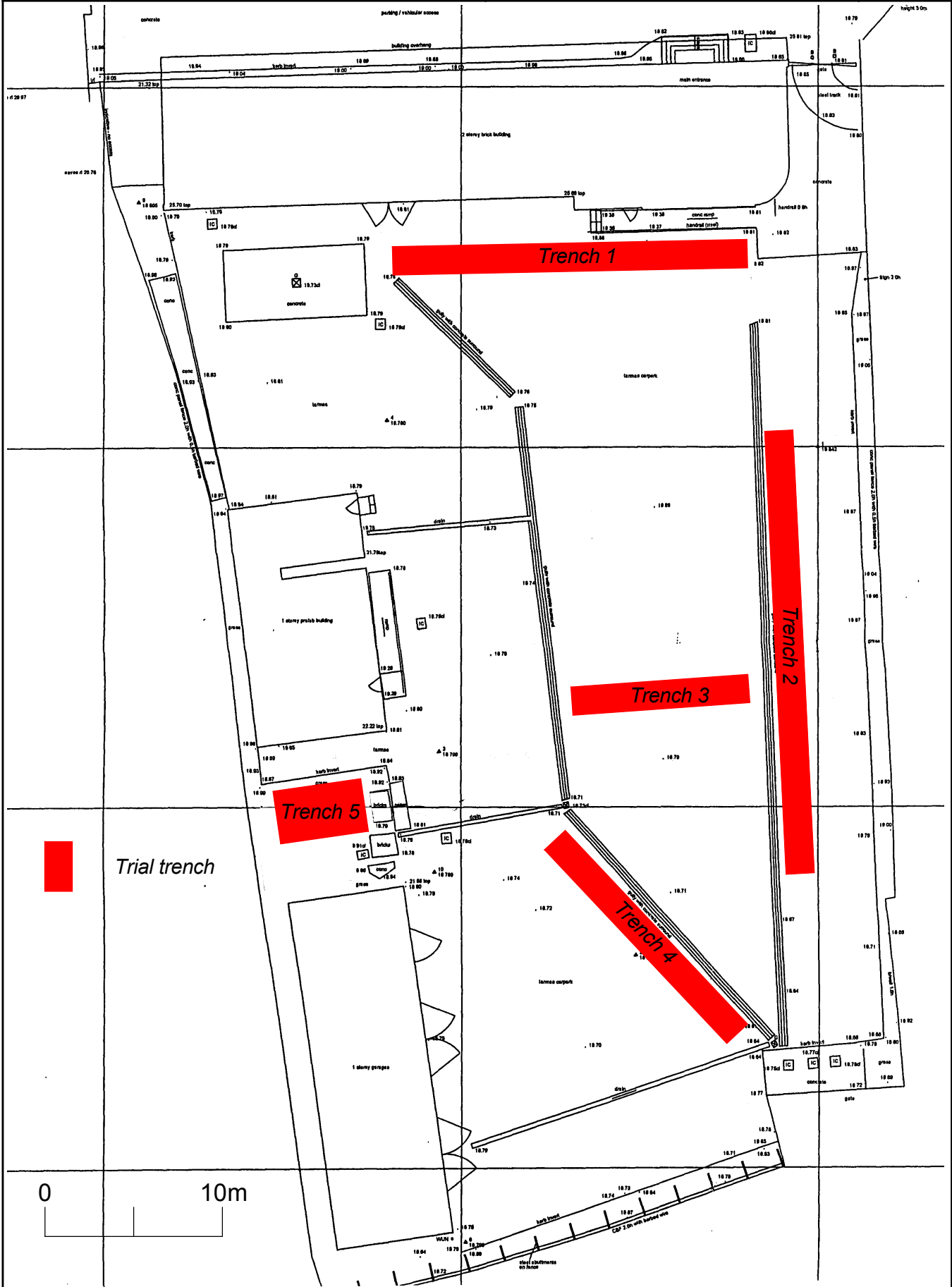
## 5. Illustrations

|                |                                     |
|----------------|-------------------------------------|
| Figure 1 ..... | Site location                       |
| Figure 2 ..... | Trench layout                       |
| Figure 3 ..... | Trenches 1 & 2 : plans and sections |
| Figure 4 ..... | Trenches 3 & 4 : plans and sections |
| Figure 5 ..... | Trench 5 : plan and profile         |
| Figure 6 ..... | Trench layout over 1879 OS plan     |



Site Location

Scale 1:1250



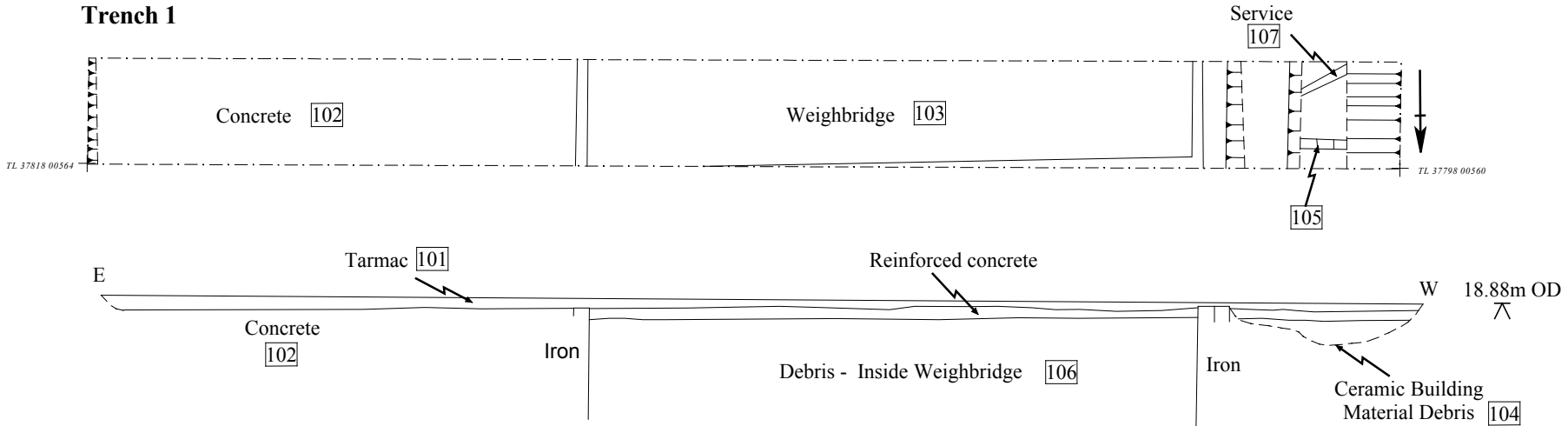
Trench Layout

(base plan courtesy Site Engineering Services Ltd)

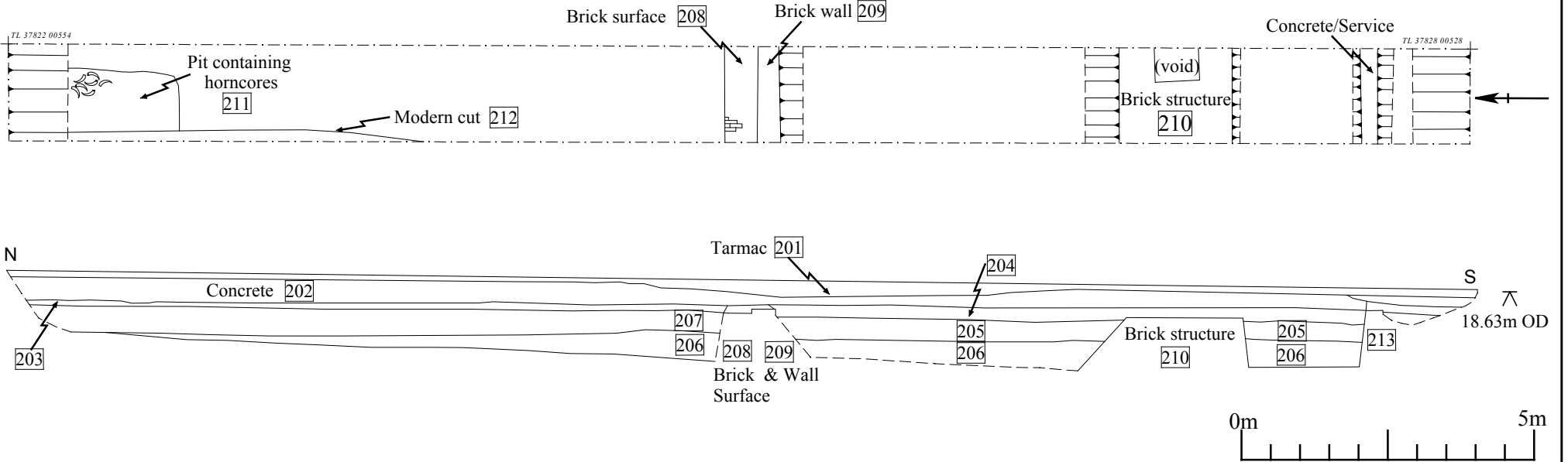
Scale 1:300

Figure 2

**Trench 1**



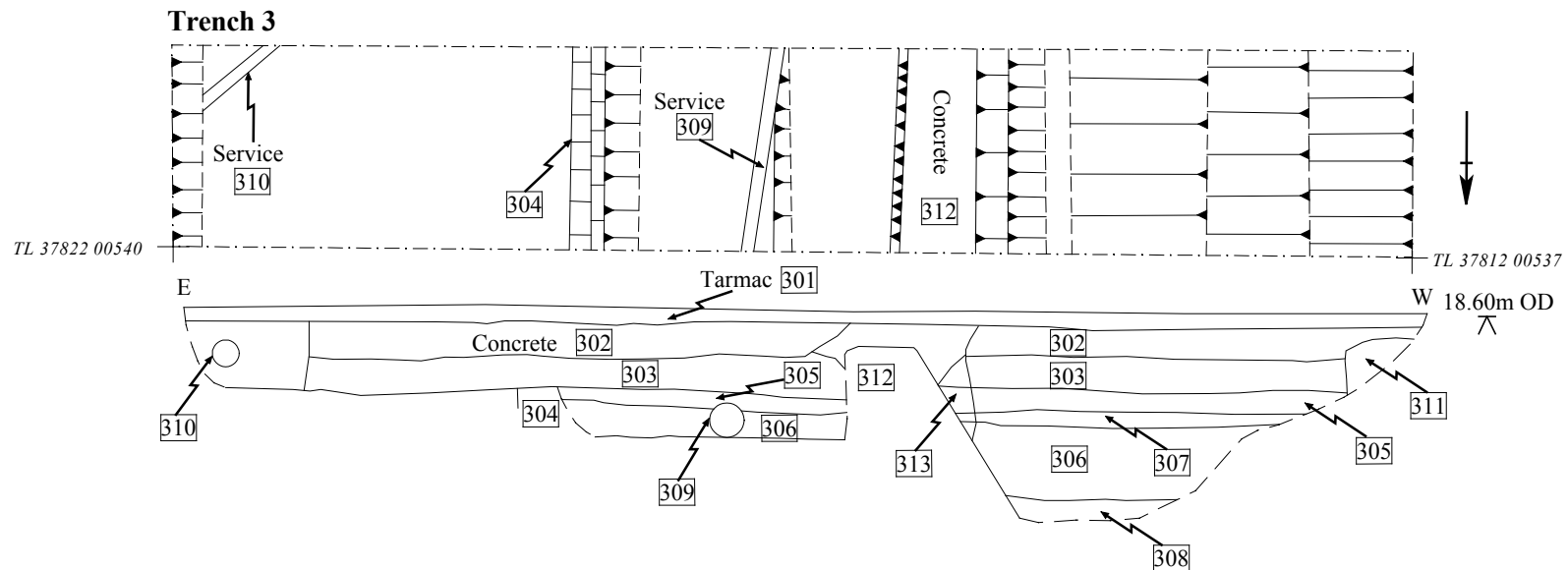
**Trench 2**



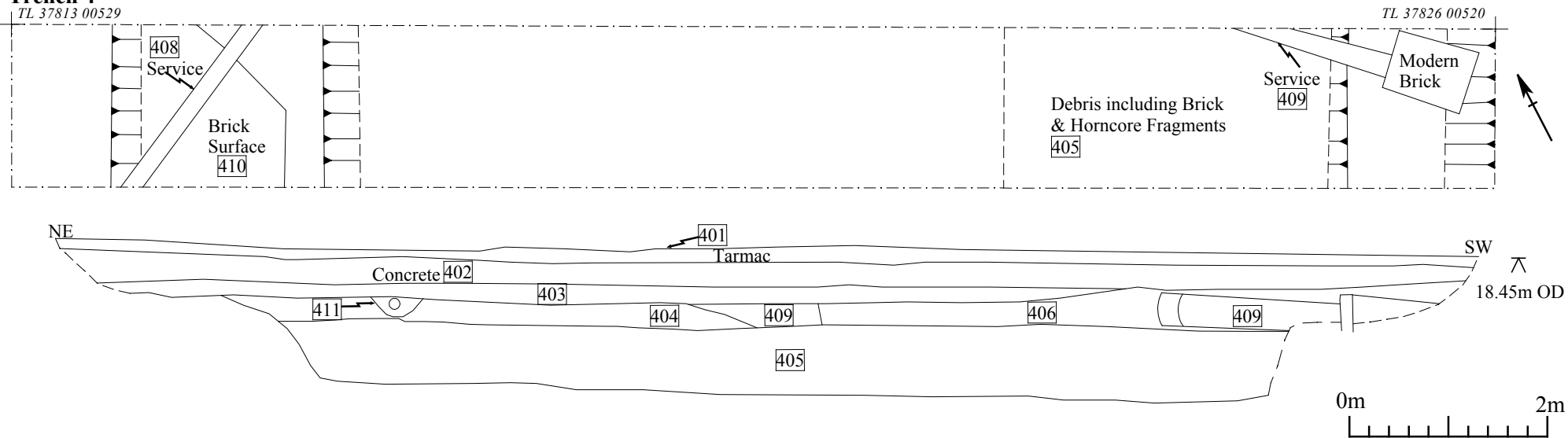
Trenches 1 & 2: Plans and Sections

Scale 1:100

Figure 3



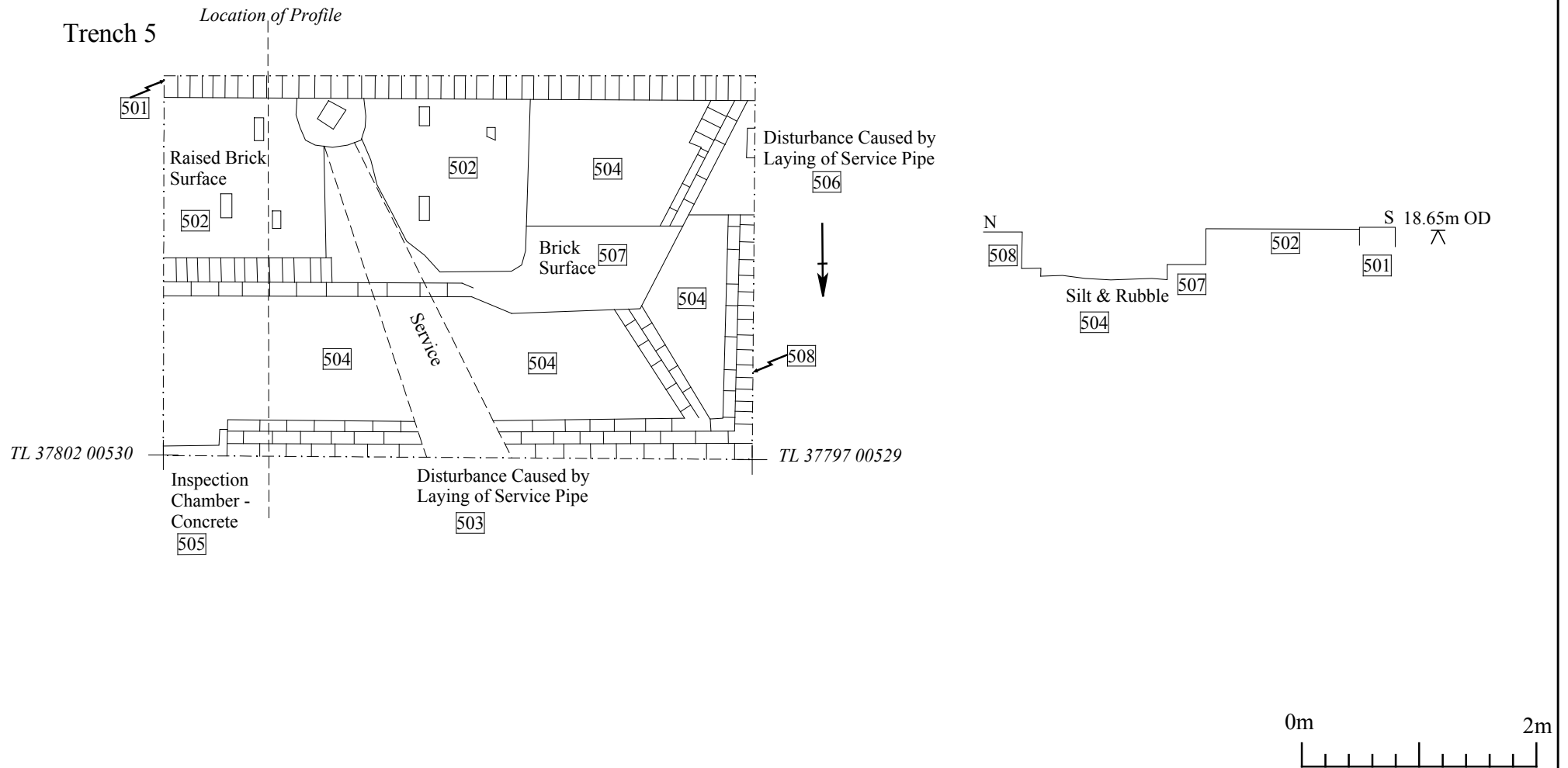
### Trench 4



Trenches 3 & 4: Plans and Sections

Scale 1:60

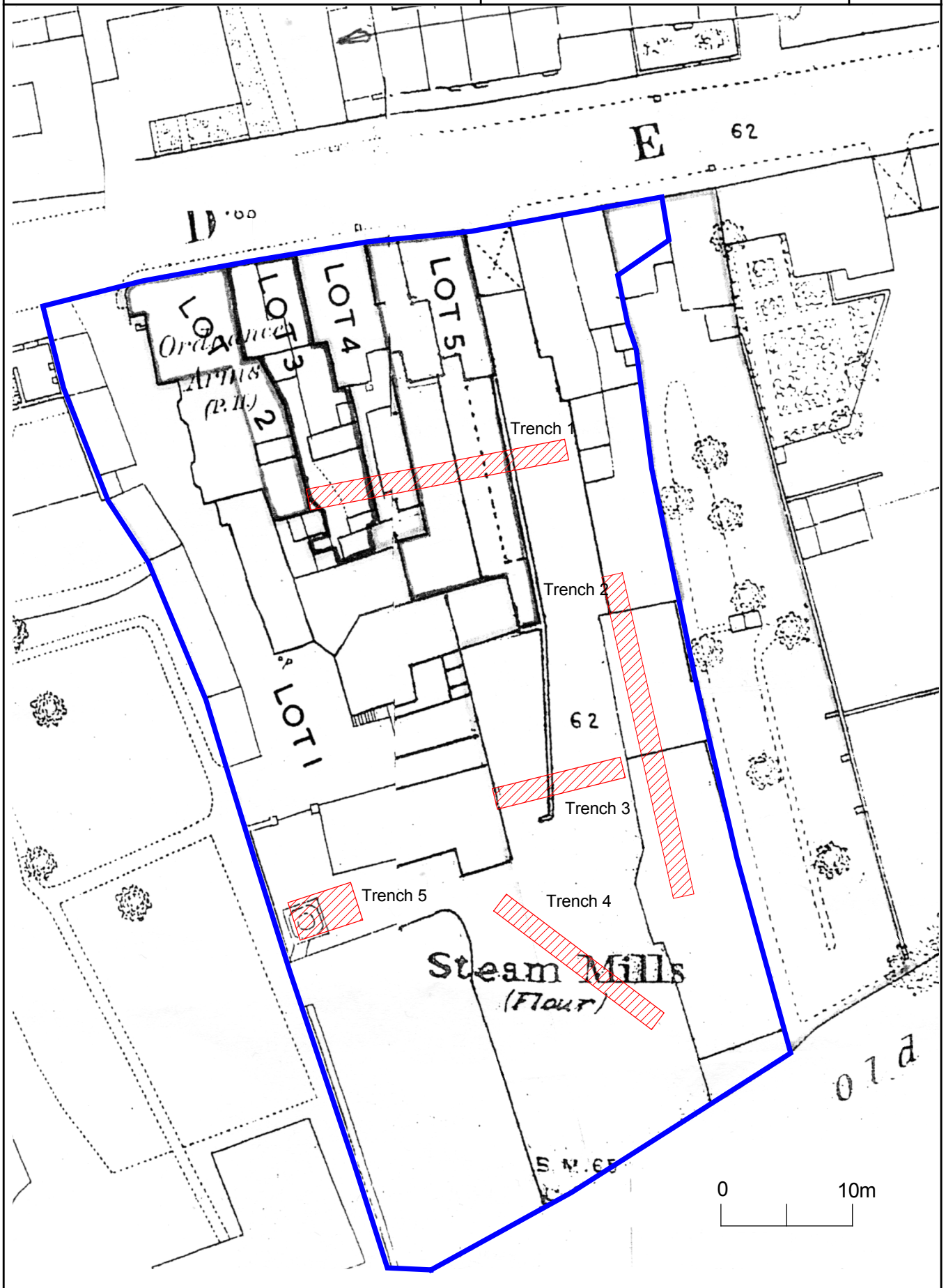
Figure 4



Trench 5: Plan and Profile

Scale 1:50

Figure 5



Trench layout over 1879 OS plan

Scale 1:400

Figure 6