
**ARCHAEOLOGICAL EVALUATION
AT BLUBBERHOUSE CREEK,
KING'S LYNN,
NORFOLK
(ENF 124816)**

Work Undertaken For
King's Lynn and West Norfolk Borough Council

June 2010

Report Compiled by
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National Grid Reference: TF 6195 1919
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APS Report No. **57/10**

**ARCHAEOLOGICAL
PROJECT
SERVICES**



CONTENTS

List of Figures

List of Plates

| | | |
|------------|--|----------|
| 1. | SUMMARY | 1 |
| 2. | INTRODUCTION | 1 |
| 2.1 | DEFINITION OF AN EVALUATION | 1 |
| 2.2 | PLANNING BACKGROUND | 1 |
| 2.3 | TOPOGRAPHY AND GEOLOGY | 1 |
| 2.4 | ARCHAEOLOGICAL SETTING | 2 |
| 3. | AIMS | 2 |
| 4. | METHODS | 3 |
| 5. | RESULTS | 3 |
| 6. | DISCUSSION | 5 |
| 7. | CONCLUSIONS | 5 |
| 8. | ACKNOWLEDGEMENTS | 5 |
| 9. | PERSONNEL | 5 |
| 10. | BIBLIOGRAPHY | 6 |
| 11. | ABBREVIATIONS | 6 |

Appendices

| | |
|---|---|
| 1 | Specification for archaeological evaluation |
| 2 | Context Descriptions |
| 3 | The Finds <i>by Alex Beeby and Anne Boyle</i> |
| 4 | Glossary |
| 5 | The Archive |

List of Figures

- Figure 1 General location plan
- Figure 2 Site location plan
- Figure 3 Trench location plan
- Figure 4 Section 1
- Figure 5 Trench 1: Plan
- Figure 6 Trench 1: Sections
- Figure 7 Trench 2: Plan
- Figure 8 Trench 2: Section
- Figure 9 Elevation showing relationship of extant timber revetment and timbers in Trench 1

List of Plates

- Plate 1 View looking over Trench 1 along the River Nar
- Plate 2 View looking south over Blubberhouse Creek and Trench 2
- Plate 3 Section 1 showing the sequence of deposits recorded after removal of the revetment
- Plate 4 Trench 1 after cleaning
- Plate 5 Section 2 showing the excavated timber revetment
- Plate 6 Section 4
- Plate 7 Section 3 showing the sequence of deposits encountered in Trench 2

1. SUMMARY

An archaeological evaluation was undertaken on land at Blubberhouse Creek, King's Lynn, Norfolk. The evaluation was undertaken in advance of remodelling of the area around the creek and adjacent River Nar.

The site lies immediately south of the medieval (AD 1066-1540) defences of the town which in this locality used the River Nar. These defences were enhanced and refortified during the Civil War (1642-45) and ramparts were constructed in the evaluated area. During the 18th century, the site was partly occupied by a whale oil factory and shipyards were also located in the vicinity. During the mid 19th century, a railway was constructed to the southwest of the site which remained in use until the 1960s.

The evaluation recorded a timber revetment of probable 19th century date behind which were dumped deposits intended to raise and stabilise the ground level as well as formalise reclamation alongside the river. The quayside revetment is probably part of the same structure evidenced by extant remains adjacent to the trenches, though could also be of a later phase of construction. The extant structures were recorded by a photographic survey.

Within the former channels of the River Nar and Blubberhouse Creek, natural accretion was recorded along with possible dumping of deposits associated with the canalisation of the Nar. No evidence of the former whale oil factories was revealed.

Finds retrieved from the investigation comprise post-medieval to modern roof tile.

2. INTRODUCTION

2.1 Definition of an Evaluation

An archaeological evaluation is defined as 'a limited programme of non-intrusive and/or intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area or site. If such archaeological remains are present Field Evaluation defines their character and extent, quality and preservation, and it enables an assessment of their worth in a local, regional, national or international context as appropriate' (IfA 1999).

2.2 Planning Background

Archaeological Project Services was commissioned by King's Lynn and West Norfolk Borough Council to undertake further archaeological evaluation of land at Blubberhouse Creek, King's Lynn, Norfolk, in advance of proposed development of the site. The work was undertaken between the 15th and 21st June 2010 in accordance with a specification prepared by Archaeological Project Services (Appendix 1) and approved by the Development Control Archaeologist, Norfolk Landscape Archaeology.

In addition to the evaluation, a photographic record of the extant quayside revetment was requested by Norfolk Landscape Archaeology prior to its removal as part of the development. No brief was issued for this work.

2.3 Topography and Geology

King's Lynn is located 36km west of East Dereham and 17km north of Downham Market alongside the River Great Ouse, Norfolk (Fig. 1).

The site lies 630m south of the centre of

King's Lynn as defined by the parish church of St Margaret at National Grid Reference TF 6195 1919 (Fig. 2). The area of investigation lies on the south bank of the River Nar, northwest of Wisbech Road at heights of between 2.74m and 4.07m OD.

King's Lynn lies on marine and freshwater silts which overlay the Kimmeridge Clay of the Fen basin (GSGB 1978). As the site lies within an urban area, local soils have not been mapped.

2.4 Archaeological Setting

The site lies outside the medieval core of King's Lynn. During the medieval period the River Nar formed the southern line of defences to the town which was also marked by an earthen bank on the northern side of the river (Smith 1970, 60).

During the English Civil War (1643-45) the town defences had extended further south into the investigation area. This defensive circuit was begun by the Royalist garrison in 1643 but was unfinished by the time of the Parliamentary siege in August of that year (Clarke and Carter 1977, 437). It has been suggested that the defences were incomplete for a plan of the southern defences dating to 1645 was for this work (*ibid.*). However, south of the Nar the profile of the defences show an elaborate scheme with two ditches, the main rampart with a covered way (Kent 1988, 230). An angled bastion existed to the west of the site with a square bastion occupying an area to the southwest and an outwork to the South Gate existed to the east. Early maps of the area and its vicinity show the defensive earthworks as still present as late as the 18th century (Raistrick 1725). By the time of the 1st edition Ordnance Survey plan of 1888, there appears no visible trace of the Civil War defences.

The loop of the River Nar was home to the Lynn whaling fleet, established around 1774. Associated with this were two blubber houses, one of which disappeared before 1900 (Richards 1997, 35). Additionally, a map of 1830 shows shipyards to the north of the Nar and immediately southwest of South Gates, east of the site.

Railways were introduced in 1849 to serve the Boal Quay and extended through the area southwest of the current investigation. The harbour section of the railway became disused during the 1960s.

A watching brief undertaken just to the west during Trial Pit and borehole excavations identified 19th century deposits relating to a brick surface and railway embankments with evidence for widespread dumping of refuse which continued into the 20th century (Cope-Faulkner 2003, 10). Evaluation of the Harding's Pits and Blubberhouse Creek in 2009 identified further deposits relating to the railway and sequences of dumped layers of probable mid 19th century date adjacent to Blubberhouse Creek (Cope-Faulkner 2009, 6).

3. AIMS

The aim of the evaluation, as detailed in the specification (Appendix 1), was to gather information to establish the presence or absence, extent, condition, character, quality and date of any archaeological deposits. This was in order to provide information to the client to mitigate the risk of delay to the development that the discovery of unexpected remains might lead to. Additionally, they were in order to enable Norfolk Landscape Archaeology to formulate a policy for the management of archaeological resources present on the site. In particular, the trenches were

positioned to investigate any potential quayside structures and the overall development of the blubber house site.

The aim of the photographic survey was to record the fabric of the quayside revetment prior to its removal as part of the development proposals.

4. METHODS

Two trenches, one measuring 20m by 1.6m and one measuring 10m by 1.6m, were excavated to the upper surface of surviving archaeology or to a maximum depth of 1m below the ground level. Trench 1 was located parallel to the River Nar and Trench 2 within Blubberhouse Creek. A small portion of timber quayside revetment in Blubberhouse Creek was also removed to allow for the recording of deposits behind it (Fig. 3).

Removal of topsoil and other overburden was undertaken by mechanical excavator using a toothless ditching bucket. The exposed surfaces of the trenches were then cleaned by hand and inspected for archaeological remains.

Each deposit exposed during the evaluation was allocated a unique reference number (context number) with an individual written description. A list of all contexts and their interpretations appears as Appendix 2. A photographic record was also compiled and sections and plans were drawn at a scale of 1:10 and 1:20 respectively. Recording of the deposits encountered was undertaken based on the single context approach developed by the Museum of London (MoLAS 1994) with minor modifications by Archaeological Project Services.

In addition to the above, a photographic record was compiled of the extant remains of the quayside revetment. Photographic

recording was undertaken with a manual 35mm camera fitted with a 28-70mm macro lens along with a digital camera. Archive stable black and white print film was used together with digital images. An index of the photographs was compiled on Archaeological Project Services pro forma recording sheets.

The locations of the excavated trenches were surveyed by using a Thales Global Positioning System (GPS). A base receiver was established over a temporary survey station which logged satellite data while a roving receiver was used to record points of detail. This was processed using N4ce (version 1.11) software to produce CAD drawings.

Following excavation, all records were checked and ordered to ensure that they constituted a complete MAP II (English Heritage 1991) archive and a stratigraphic matrix of all identified deposits was produced. Phasing was based on the nature of the deposits and recognisable relationships between them and supplemented by artefact dating.

5. RESULTS

The results of the archaeological evaluation are discussed by section and trench order. Archaeological contexts are described below. The numbers in brackets are the context numbers assigned in the field.

Section 1

The earliest deposit encountered after removal of the timber revetment was a made ground layer of grey silt with green stained chalk fragments (015), this measured in excess of 0.55m thick (Fig. 4).

Cut into this were two features. The larger (014) was 0.9m wide by over 0.9m deep (Fig. 4). Three fills were recorded

comprising compacted chalk and grey silt (013), brown silty sand (012) and brown sand (011). Tile of 19th – 20th century date was retrieved from the uppermost fill.

The second feature (010) was over 0.64m long, by 0.3m wide and 0.39m deep. Fills consisted of brown sand (009) and orange sand and gravel (008).

A former topsoil of greyish brown sand (007) developed over the features and was 0.29m thick. This had then been sealed by a 0.17m thick dumped layer of grey sandy silt with bitumen fragments (006).

Above this was a make-up layer of brownish yellow sand (004) for a probable bitumen surface (003). This had been disturbed towards the southwest by root activity (005). An 80mm thick topsoil of grey silty sand (002) had developed over this.

The recorded elements of the timber revetment comprised a main vertical single square post (017). A number of smaller vertical posts (016), (018), (019), (020) and (022) were placed either side of this. The vertical posts were attached to horizontal beams (021) and (023) by wooden dowelling and square headed iron spikes.

Lying above the former topsoil (002) and over the timber verticals was modern concrete capping (001) that extended upslope.

Trench 1

The earliest feature within Trench 1 was the elements of a timber revetment. This comprises a principal large square post (030) with a number of smaller posts, (031), (032), (033), (034), (035), (036) and (059), set at 77° adjacent to it. Two horizontal beams, (029) and (037), were recorded into which the upright posts were attached. A further horizontal beam was

encountered at depth by auger survey.

A brownish grey silt (028) had then been dumped on the landward side of the revetment, raising the level to a height of c. 3m OD. This had been sealed by well compacted chalk fragments (026), possibly laid down to stabilise the ground, measuring 0.25m thick.

Overlying the rammed chalk were dumped deposits of brown sandy silt (025) and orange sand (057). Tile dated to the 19th – 20th century was recovered from (025).

Auger survey on the river side of the timber revetment revealed a layer of grey/black organic silt (060), which was at least 0.84m thick. The full depth could not be ascertained as the sloping timbers of the revetment impeded the auger. Brown (058) and dark grey silt (027) lay above this. Sealing these silts was a dumped deposit of brown silt (056) measuring 0.34m thick.

Overlying dumped deposits (056) and (057) was a further dumping episode evidenced by a mixed grey and brown silt (055). Topsoil sealed the trench and comprised brownish grey sandy silt (024).

Trench 2

Auger survey in the base of the trench identified a brown silt layer with black organic staining (062), which measured in excess of 1.8m thick, and black clayey silt (053). Above this were layers of brown silty clay (040), (042), (045), (047), (049) and (051) interleaved with orange brown sand (041), (043), (044), (046), (048), (050) and (052). These were generally between 10mm and 30mm thick.

Sealing these layers was concrete (039) of the modern river defences which was in turn sealed by topsoil comprising brown clayey silt (038) that was 0.3m thick.

6. DISCUSSION

No ancient natural deposits were encountered in either trench. The earliest feature recorded would appear to be the sloping timber revetment revealed in Trench 1. Its relationship to the extant quayside revetment is largely unclear (Fig. 9) but it appears to form part of the same structure, particularly as a similar method of construction is used. It is possible that the vertical timbers sit on top of horizontal beams, like those recorded in Trench 1 and that the sloping timbers in the same trench act as a brace. However, the upper part, represented by the extant revetment, may indicate a second later phase of construction.

The date of construction of the timber revetment is also unclear. However, the timbers used have the appearance of rail road sleepers and a mid 19th century date would not be unreasonable, particularly as a branch line of the harbour railway ran close to the site and tile retrieved from the investigation is of a similar date.

Silts on the landward side of the revetment indicate reclamation along the river front with the rammed chalk deposited to stabilise the ground level. Rammed chalk was also recorded within the area of Section 1. Dumped deposits raised the level of the ground to match that of the timber revetment. Topsoil formation and bitumen surfaces were also recorded.

Two features were recorded within Section 1, both of unknown function. Both features were immediately behind the timber revetment and may have been excavated to facilitate the replacement of timbers.

Within the channels of the River Nar and Blubberhouse Creek, alluvial silts were recorded. These are likely to post-date the construction of the revetment and probably were formed after the quayside was no

longer used. Upcast from the canalisation of the Nar may also have deposited silt layers against the revetment.

7. CONCLUSIONS

Archaeological evaluation was undertaken at Blubberhouse Creek, King's Lynn, as the site lay adjacent to a whale oil factory with associated quayside revetments.

The investigations recorded quayside revetments and deposits associated with land reclamation and stabilisation. Both are likely to be of 19th century date. Alluvial accretion was recorded within the channels of the Nar and Blubberhouse Creek. No evidence for the whale oil factory was retrieved however.

Late post-medieval to modern tile was retrieved from the work but has not been retained as part of the site archive.

8. ACKNOWLEDGEMENTS

Archaeological Project Services wishes to acknowledge the assistance of Mr David Hardy, Regeneration programme Manager, Borough Council of King's Lynn and West Norfolk for commissioning the fieldwork and post-excavation analysis. The work was coordinated by Gary Taylor who edited this report along with Tom Lane. Dave Start kindly allowed access to the parish files and library maintained by Heritage Lincolnshire.

9. PERSONNEL

Project Coordinator: Gary Taylor
 Site Staff: Paul Cope-Faulkner, Bryn Leadbetter
 Surveying: Chris Moulis
 Finds Processing: Denise Buckley
 Photographic reproduction: Sue Unsworth

Illustration: Paul Cope-Faulkner
 Post-excavation Analyst: Paul Cope-Faulkner

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11. ABBREVIATIONS

APS Archaeological Project Services

GSGB Geological Survey of Great Britain

IfA Institute for Archaeologists

MoLAS Museum of London Archaeology Service

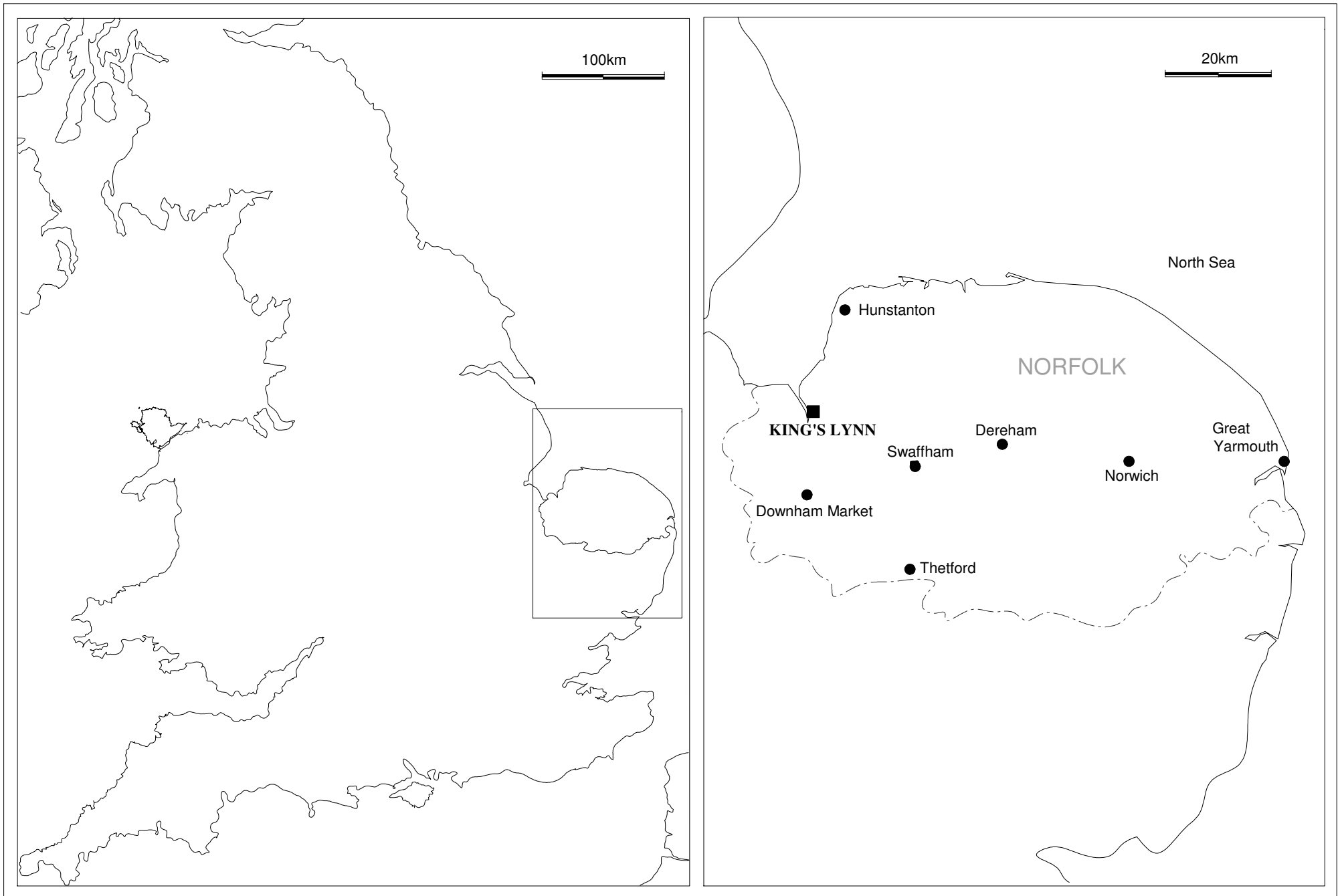
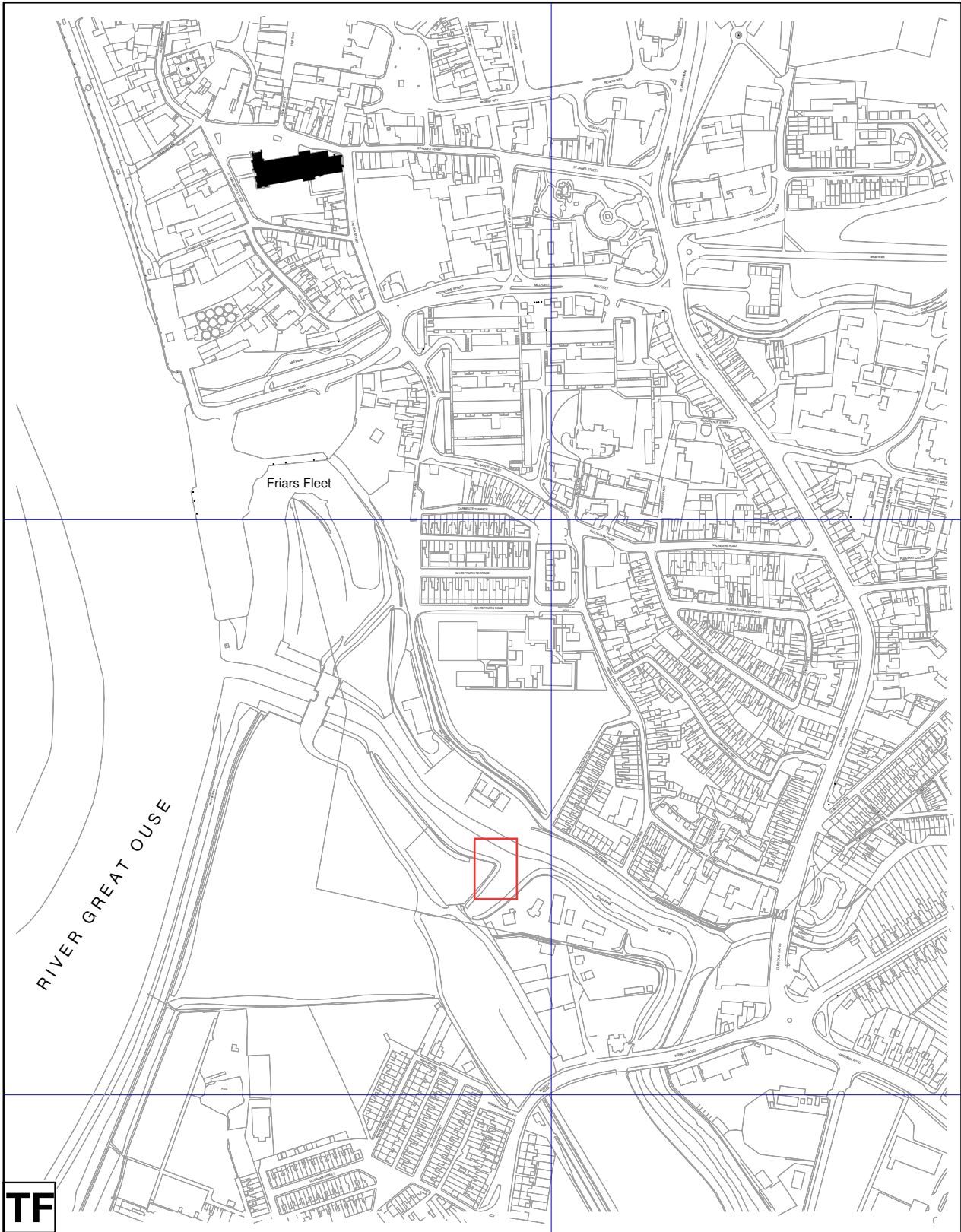


Figure 1 - General location plan



195

190

620

RIVER GREAT OUSE

Friars Fleet

TF

 Area detailed in Figure 3

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Archaeological Project Services

Project Name: Blubberhouse Creek, King's Lynn

Scale 1:5000 Drawn by: PCF Report No: 57/10

Figure 2 - Site location plan

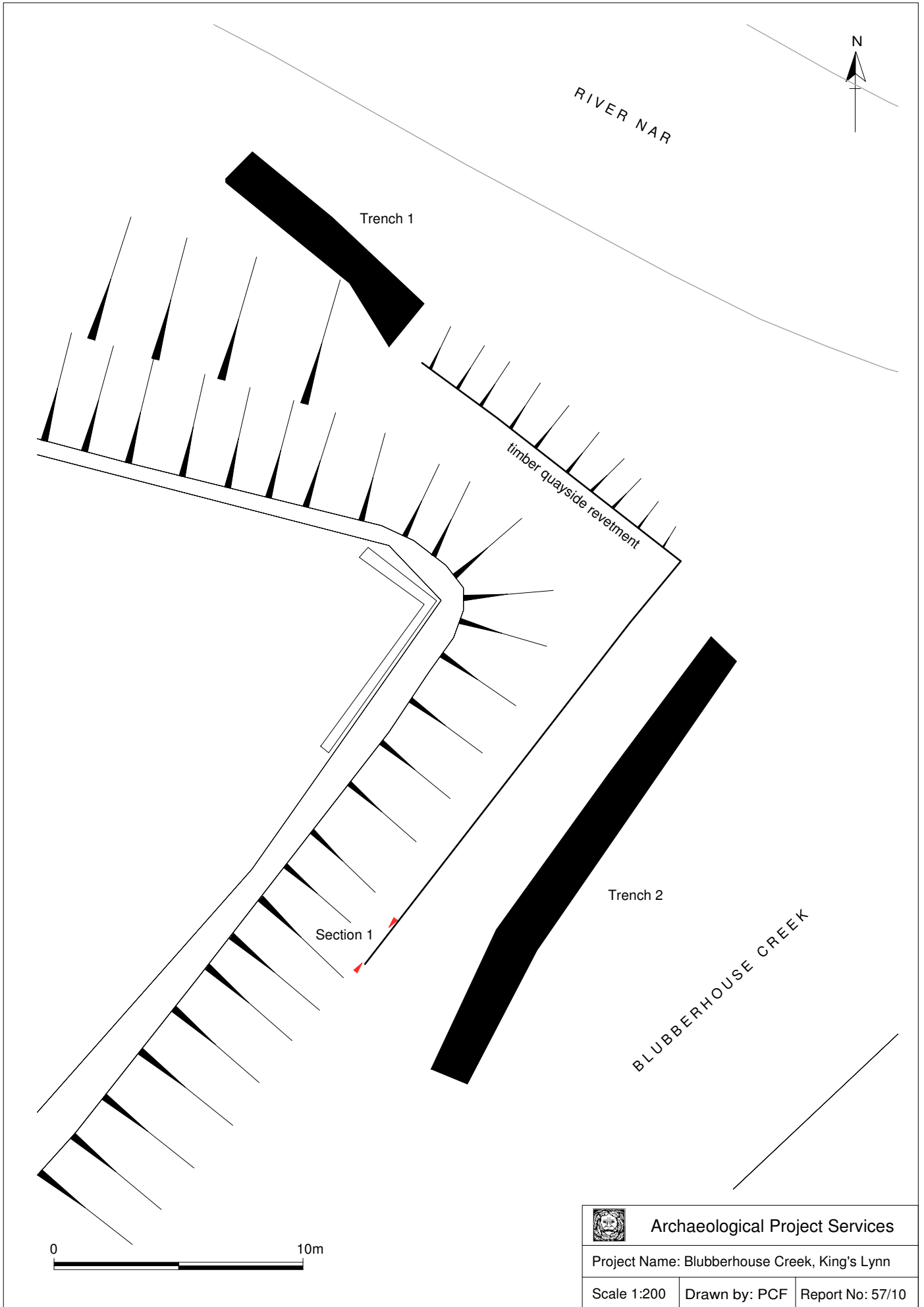
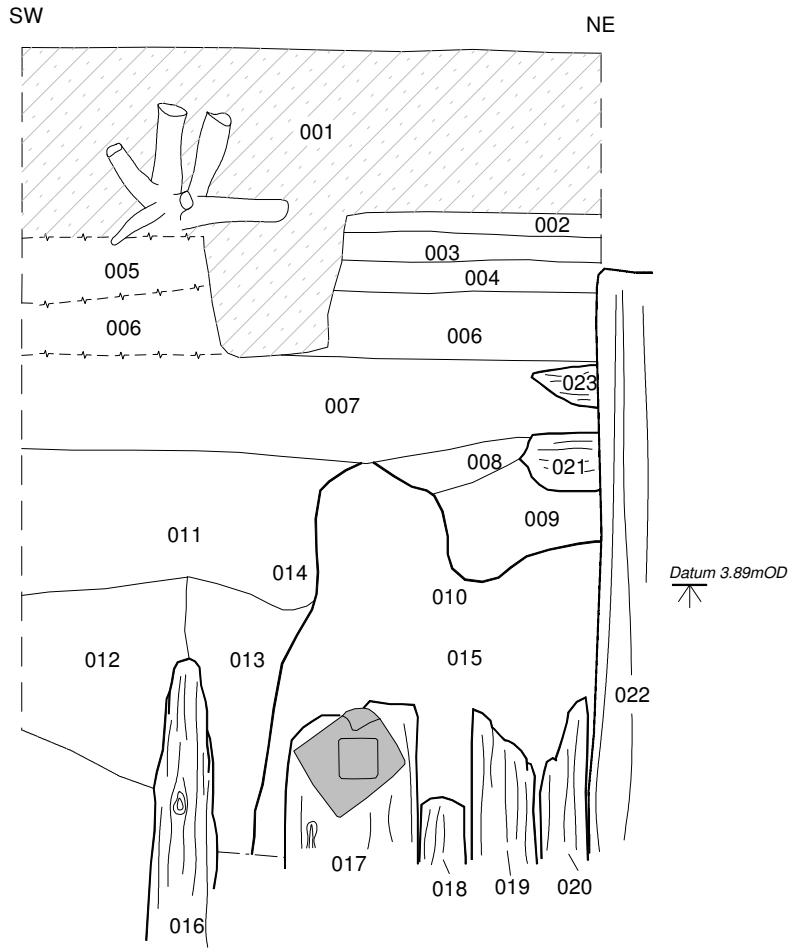


Figure 3 - Trench location plan



Section 1




| | | |
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|  Archaeological Project Services | | |
| Project Name: Blubberhouse Creek, King's Lynn | | |
| Scale 1:20 | Drawn by: PCF | Report No: 57/10 |

Figure 4 - Section 1

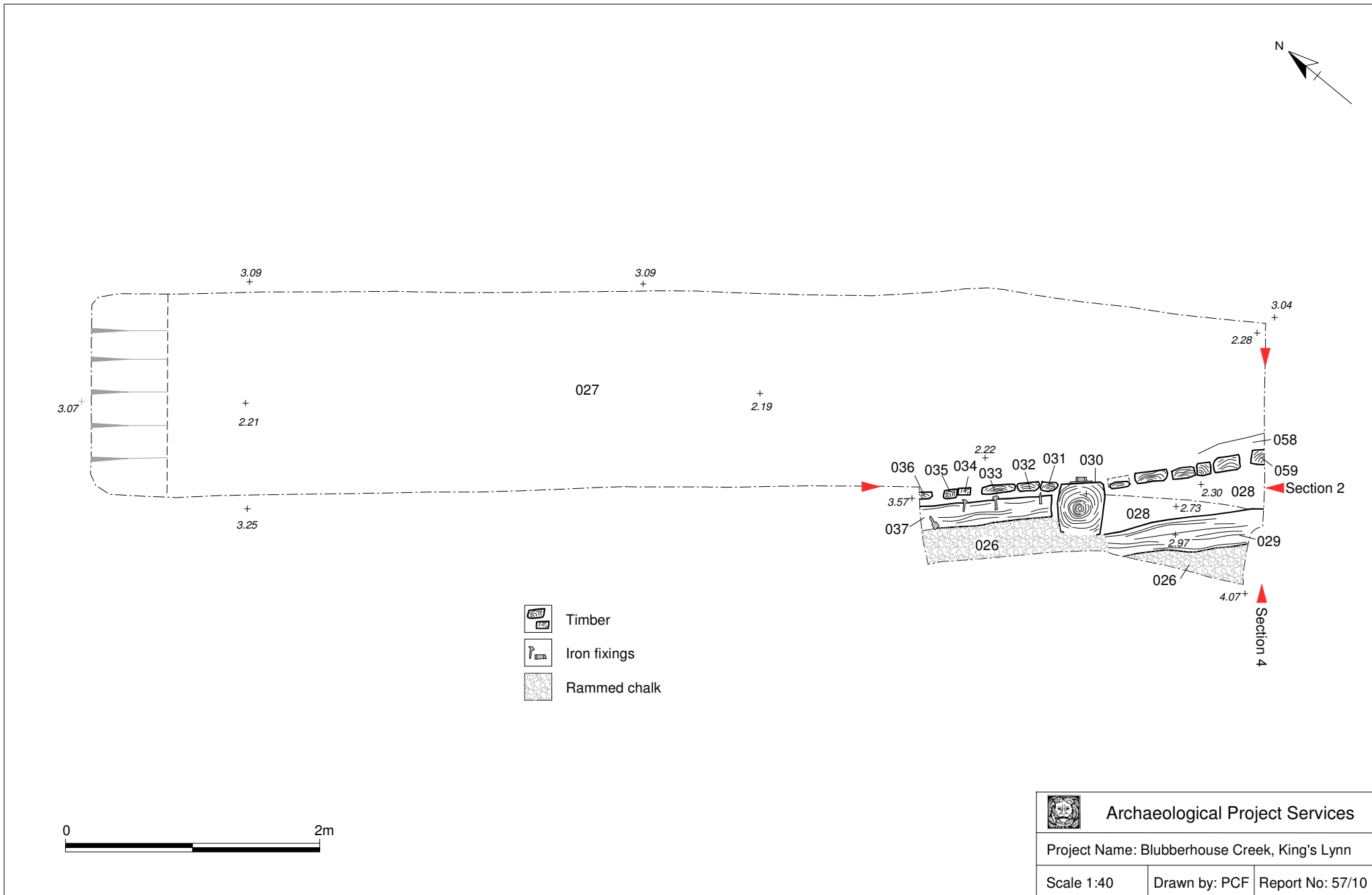



Figure 5 - Trench 1: Plan

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|  Archaeological Project Services | | |
| Project Name: Blubberhouse Creek, King's Lynn | | |
| Scale 1:40 | Drawn by: PCF | Report No: 57/10 |

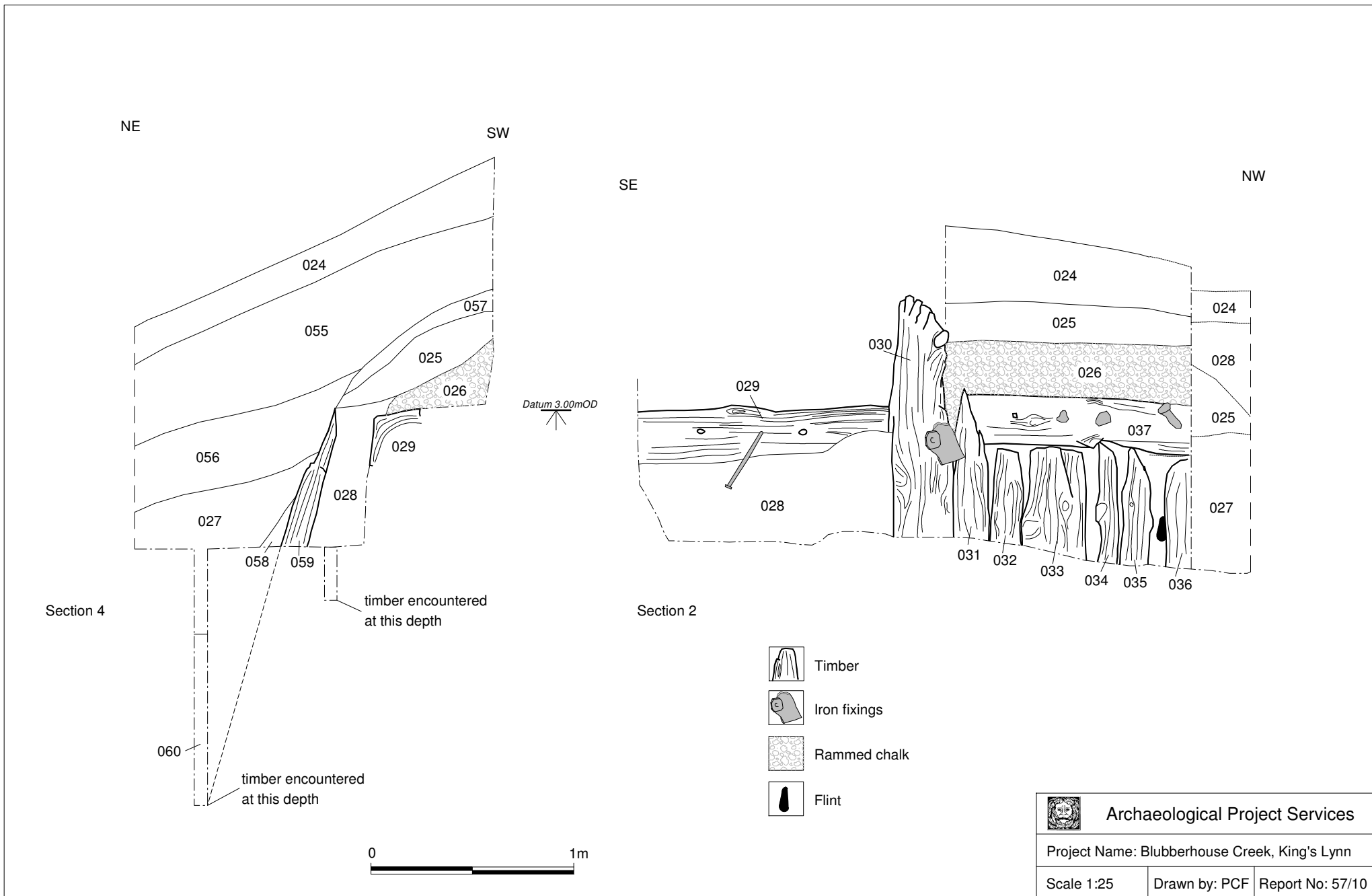
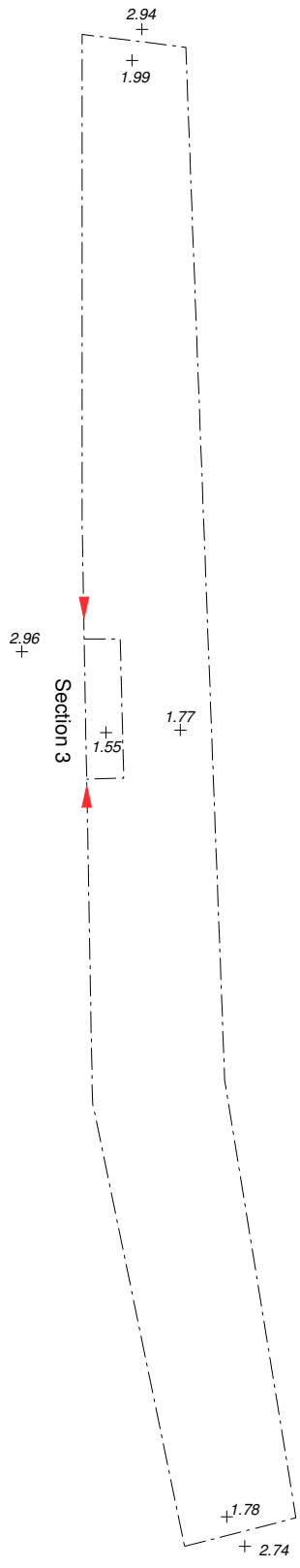
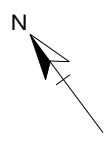


Figure 6 - Trench 1: Sections




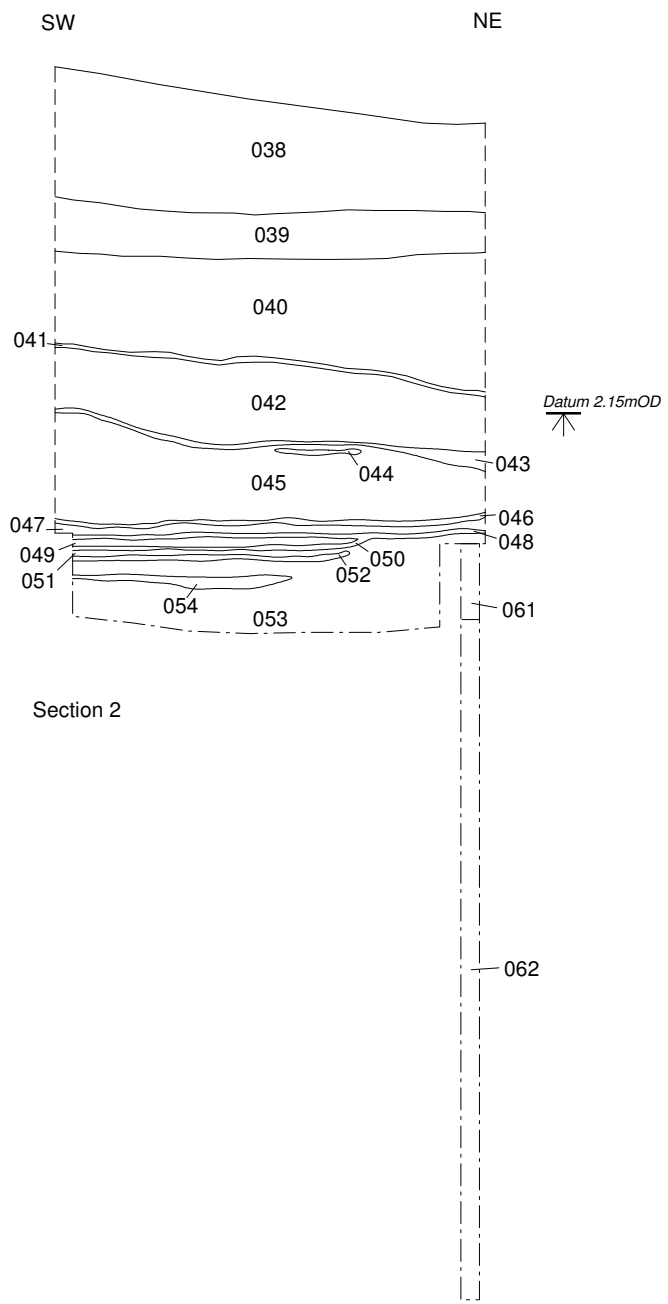
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|  | Archaeological Project Services | | |
| Project Name: Blubberhouse Creek, King's Lynn | | | |
| Scale 1:100 | Drawn by: PCF | Report No: 57/10 | |

Figure 7 - Trench 2: Plan




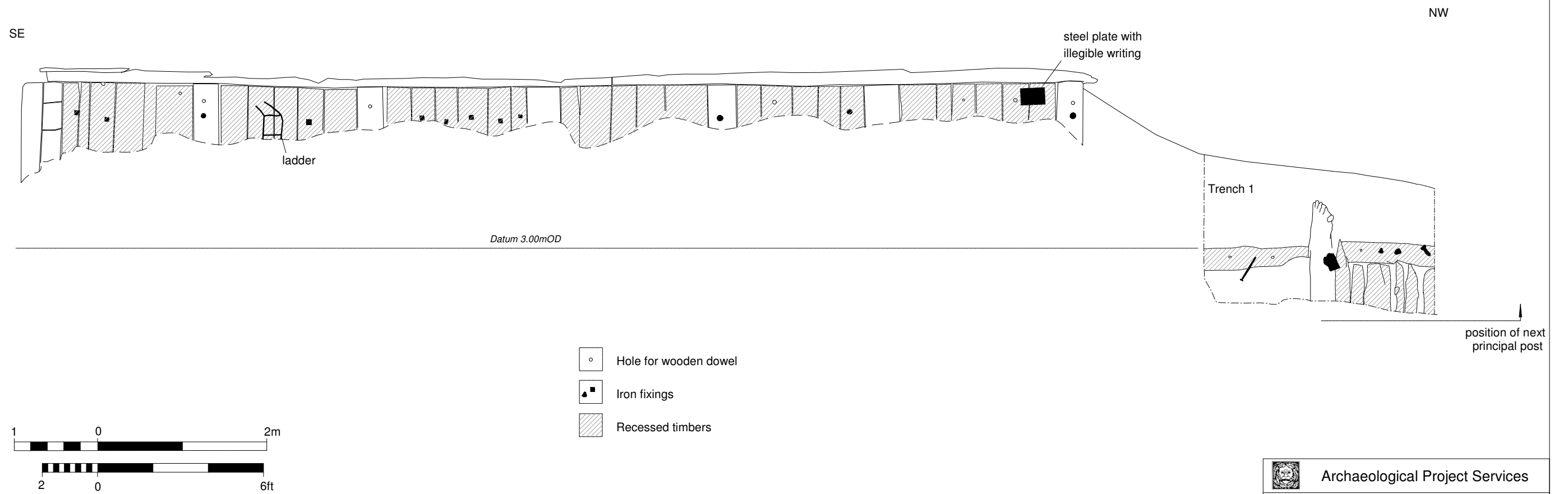
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|  Archaeological Project Services | | |
| Project Name: Blubberhouse Creek, King's Lynn | | |
| Scale 1:20 | Drawn by: PCF | Report No: 57/10 |

Figure 8 - Trench 2: Section




| | | |
|--|---------------|------------------|
|  Archaeological Project Services | | |
| Project Name: Blubberhouse Creek, King's Lynn | | |
| Scale: 1:50 | Drawn by: PCF | Report No: 57/10 |

Figure 9 - Elevation showing relationship of extant timber revetment and timbers in Trench 1



Plate 1 – View looking over Trench 1 along the River Nar, looking northwest



Plate 2 – View looking south over Blubberhouse Creek and Trench 2



Plate 3 – Section 1 showing the sequence of deposits recorded after removal of the revetment, looking west



Plate 4 – Trench 1 after cleaning, looking northwest



Plate 5 – Section 2 showing the excavated timber revetment, looking southwest (nb north arrow is wrongly placed)



Plate 6 – Section 4, looking southeast (nb north arrow is wrongly placed)



Plate 7 – Section 3 showing the sequence of deposits encountered in Trench 2, looking northwest

Appendix 1

BLUBBERHOUSE CREEK, KING'S LYNN, NORFOLK - SPECIFICATION FOR ARCHAEOLOGICAL EVALUATION

1 SUMMARY

- 1.1 This document comprises a specification for the archaeological field evaluation of land at Blubberhouse Creek, part of the Nar-Ouse Regeneration Area at King's Lynn, Norfolk.*
- 1.2 The area is archaeologically sensitive, containing remnants of structures associated with the whaling industry and timber revetments. Previous investigations on the bank of Blubberhouse Creek revealed dumped deposits that were contemporary, and perhaps associated, with the whale oil industry.*
- 1.3 A programme of archaeological evaluation by trial trenching is required at the site. Additionally, a section of revetment will be removed and the deposits behind recorded.*
- 1.4 On completion of the fieldwork a report will be prepared detailing the findings of the investigation. The report will consist of a text describing the nature of the archaeological deposits located and will be supported by illustrations and photographs.*

2 INTRODUCTION

- 2.1 This document comprises a specification for the archaeological field evaluation of land at Blubberhouse Creek, as part of the Nar-Ouse Regeneration Area, at King's Lynn, Norfolk.
- 2.2 The document contains the following parts:
 - 2.2.1 Overview
 - 2.2.2 The archaeological and natural setting
 - 2.2.3 Stages of work and methodologies to be used
 - 2.2.4 List of specialists
 - 2.2.5 Programme of works and staffing structure of the project

3 SITE LOCATION

- 3.1 King's Lynn is located at the western edge of Norfolk, at the southeastern corner of The Wash. The investigation site is located on the southwestern side of the town, by the Nar-Ouse confluence, at TF 6182 1915.

4 PLANNING BACKGROUND

- 4.1 The site is the subject of a planning application for regeneration of the area. Previous evaluation and research indicated the potential for quayside structures, revetments, and remains associated with the whale oil industry. As a result, Norfolk Landscape Archaeology has advised that an archaeological watching brief is required during development groundwork. However, to minimise the risk of unexpected remains delaying the development groundwork the client has requested further evaluation of the area.

5 SOILS AND TOPOGRAPHY

- 5.1 The site is on fairly flat and level land at c. 5m OD. Local soils have not been mapped as the area is urban. The town sits on deep marine and freshwater silts that overlie Kimmeridge Clay (GSGB 1978).

6 ARCHAEOLOGICAL OVERVIEW

- 6.1 The site is outside the medieval core of King's Lynn, whose southern defence was provided by the River Nar. During the Civil War the defences were extended south of the river in to the present investigation area. The defences in this area comprised banks, ditches and bastions. The defences were probably short-lived and seem to have been eradicated by 1744. In the 19th century quarry pits were excavated throughout the area and a rail track, part of the King's Lynn Harbour Railway, was constructed. Monitoring of trial pits and boreholes indicated that the quarrying was very widespread and may have removed all traces of the Civil War defences. The railway embankment was also identified and modern dumped waste occurred extensively (Archaeological Project Services 2003). Built in 1775 and demolished in 1960, the Old Blubber House, associated with the whaling industry, was located in the area. The timber revetment around the creek also survives (Roe 2005).
- 6.2 Previous investigations on the top of the bank at Blubberhouse Creek revealed deep dumped deposits, some contemporary and perhaps associated with the whale oil industry, but could not reach down to the level of the channel edge (Archaeological Project Services 2009).

7 AIMS AND OBJECTIVES

- 7.1 The aim of the work will be to gather sufficient information for the archaeological curator to be able to formulate a policy for the management of the archaeological resources present on the site, and advise the client of any potential archaeological constraints to the development.
- 7.2 The objectives of the work will be to:
- 7.2.1 Establish the type of archaeological activity that may be present within the site.
 - 7.2.2 Determine the likely extent of archaeological activity present within the site.
 - 7.2.3 Determine the date and function of the archaeological features present on the site.
 - 7.2.4 Determine the state of preservation of the archaeological features present on the site.
 - 7.2.5 Determine the spatial arrangement of the archaeological features present within the site.
 - 7.2.6 Determine the extent to which the surrounding archaeological features extend into the application area.
 - 7.2.7 Establish the way in which the archaeological features identified fit into the pattern of occupation and land-use in the surrounding landscape.

8 LIAISON WITH THE ARCHAEOLOGICAL CURATOR

- 8.1 Close contact will be maintained with the archaeological curator throughout the investigation to ensure that the scheme of works fulfils their requirements.

9 TRIAL TRENCHING

- 9.1 Reasoning for this technique
- 9.1.1 Trial trenching enables the *in situ* determination of the sequence, date, nature, depth, environmental potential and density of archaeological features present on the site.
 - 9.1.2 The trial trenching arrangement has been specified as two trenches, one at 20m x 1.6m alongside Blubberhouse Creek, the other 10m x 1.6m alongside the River Nar by its confluence with Blubberhouse Creek.
 - 9.1.3 In addition to the trenching, an area of about 2m width of timber revetment alongside Blubberhouse Creek will be removed to record the deposit sequence on the bank above the channel.

9.2 General Considerations

- 9.2.1 All work will be undertaken following statutory Health and Safety requirements in operation at the time of the investigation.
- 9.2.2 The work will be undertaken according to the relevant codes of practice issued by the Institute for Archaeologists (IfA). *Archaeological Project Services* is an IFA Registered Archaeological Organisation (No. 21) managed by a member (MifA) of the institute.
- 9.2.3 All work will be carried out in accordance with accordance with *Standards for Field Archaeology in the East of England* (Gurney 2003) and any revisions of such received up to the acceptance of this specification. Additionally, the work will be undertaken in consideration of, and with reference to, the regional research agenda (Glazebrook 1997; Brown and Glazebrook 2000).
- 9.2.4 Any artefacts found during the investigation and thought to be ‘treasure’, as defined by the Treasure Act 1996, will be removed from site to a secure store and the discovery promptly reported to the appropriate coroner's office.
- 9.2.5 A metal detector will be used to aid artefact recovery.
- 9.2.5 Excavation of the archaeological features exposed will only be undertaken as far as is required to determine their date, sequence, density and nature. Not all archaeological features exposed will necessarily be excavated. However, the investigation will, as far as is reasonably practicable, determine the level of the natural deposits to ensure that the depth of the archaeological sequence present on the site is established.
- 9.2.6 Open trenches will be enclosed with HERAS fencing. Subject to the consent of the archaeological curator, and following the appropriate recording, the trenches, particularly those of excessive depth, will be backfilled as soon as possible to minimise any health and safety risks.

9.3 Methodology

- 9.3.1 Removal of the topsoil and any other overburden will be undertaken by mechanical excavator using a toothless ditching bucket. To ensure that the correct amount of material is removed and that no archaeological deposits are damaged, this work will be supervised by Archaeological Project Services. The excavations will extend to a maximum depth of 1m below ground surface, this being the deepest the subsequent development ground work will reach. Additionally, a 2m-wide section of timber revetment on the bank side above Blubberhouse Creek will be pulled down by machine and the soil deposits behind will be cleaned and recorded in section.
- 9.3.2 On completion of the removal of the overburden, the nature of the underlying deposits will be assessed by hand excavation before any further mechanical excavation that may be required. Thereafter, the trenches will be cleaned by hand to enable the identification and analysis of the archaeological features exposed. Investigation of the features will be undertaken only as far as required to determine their date, form and function. The work will consist of half- or quarter-sectioning of features as required and, where appropriate, the removal of layers. Should features be located which may be worthy of preservation *in situ*, excavation will be limited to the absolute minimum, (*ie* the minimum disturbance) necessary to interpret the form, function and date of the features.
- 9.3.3 The archaeological features encountered will be recorded on Archaeological Project Services pro-forma context record sheets. The system used is the single context method by which individual archaeological units of stratigraphy are assigned a unique record number and are individually described and drawn.
- 9.3.4 Plans of features will be drawn at a scale of 1:20 and sections at a scale of 1:10. Should individual features merit it, they will be drawn at a larger scale.

- 9.3.5 Throughout the duration of the investigation a photographic record consisting of black and white prints (reproduced as contact sheets) and colour slides will be compiled. The photographic record will consist of:
- 9.3.5.1 the site before the commencement of field operations.
 - 9.3.5.2 the site during work to show specific stages of work, and the layout of the archaeology within individual trenches.
 - 9.3.5.3 individual features and, where appropriate, their sections.
 - 9.3.5.4 groups of features where their relationship is important.
 - 9.3.5.5 the site on completion of fieldwork
- 9.3.6 Should human remains be encountered, they will be left *in situ* with excavation being limited to the identification and recording of such remains. If removal of the remains is necessary the appropriate Home Office licences will be obtained and the local environmental health department informed. If relevant, the coroner and the police will be notified.
- 9.3.7 Finds collected during the fieldwork will be bagged and labelled according to the individual deposit from which they were recovered ready for later washing and analysis.
- 9.3.8 The spoil generated during the investigation will be mounded along the edges of the trial trenches with the topsoil being kept separate from the other material excavated for subsequent backfilling.
- 9.3.9 The precise location of the trenches within the site and the location of site recording grid will be established by a GPS and/or EDM survey.

10 ENVIRONMENTAL ASSESSMENT

- 10.1 If appropriate, during the investigation specialist advice will be obtained from an environmental archaeologist. The specialist will visit the site and will prepare a report detailing the nature of the environmental material present on the site and its potential for additional analysis should further stages of archaeological work be required. The results of the specialist's assessment will be incorporated into the final report

11 POST-EXCAVATION AND REPORT

11.1 Stage 1

- 11.1.1 On completion of site operations, the records and schedules produced during the trial trenching will be checked and ordered to ensure that they form a uniform sequence constituting a level II archive. A stratigraphic matrix of the archaeological deposits and features present on the site will be prepared. All photographic material will be catalogued: the colour slides will be labelled and mounted on appropriate hangers and the black and white contact prints will be labelled, in both cases the labelling will refer to schedules identifying the subject/s photographed.
- 11.1.2 All finds recovered during the trial trenching will be washed, marked, bagged and labelled according to the individual deposit from which they were recovered. Any finds requiring specialist treatment and conservation will be sent to the Conservation Laboratory at Lincoln.

11.2 Stage 2

- 11.2.1 Detailed examination of the stratigraphic matrix to enable the determination of the various phases of activity on the site.

11.2.2 Finds will be sent to specialists for identification and dating.

11.3 Stage 3

11.3.1 On completion of stage 2, a report detailing the findings of the investigation will be prepared. This will consist of:

11.3.1.1 A non-technical summary of the results of the investigation.

11.3.1.2 A description of the archaeological setting of the site.

11.3.1.3 Description of the topography and geology of the investigation area.

11.3.1.4 Description of the methodologies used during the investigation and discussion of their effectiveness in the light of the results.

11.3.1.5 A text describing the findings of the investigation.

11.3.1.6 Plans of the trenches showing the archaeological features exposed. If a sequence of archaeological deposits is encountered, separate plans for each phase will be produced.

11.3.1.7 Sections of the trenches and archaeological features.

11.3.1.8 Interpretation of the archaeological features exposed and their context within the surrounding landscape.

11.3.1.9 Specialist reports on the finds from the site.

11.3.1.10 Appropriate photographs of the site and specific archaeological features or groups of features.

11.3.1.11 A consideration of the significance of the remains found, in local, regional, national and international terms, using recognised evaluation criteria.

12 **ARCHIVE**

12.1 The documentation, finds, photographs and other records and materials generated during the evaluation will be sorted and ordered in accordance with the procedures in the Society of Museum Archaeologists' document *Transfer of Archaeological Archives to Museums* (1994), and any additional local requirements, for long-term storage and curation. This work will be undertaken by the Finds Supervisor, an Archaeological Assistant and the Conservator (if relevant). The archive will be deposited with the receiving museum as soon as possible after completion of the project, and within 12 months of that completion date.

12.2 The archive will be microfilmed. The silver master will be transferred to the RCHME and a diazo copy will be deposited with the Norfolk Historic Environment Record.

12.3 Prior to the project commencing, Norfolk Museums Service will be contacted to obtain their agreement to receipt of the project archive and to establish their requirements with regards to labelling, ordering, storage, conservation and organisation of the archive.

12.4 Upon completion and submission of the evaluation report, the landowner will be contacted to arrange legal transfer of title to the archaeological objects retained during the investigation from themselves to the receiving museum. The transfer of title will be effected by a standard letter supplied to the landowner for signature.

13 **REPORT DEPOSITION**

13.1 Copies of the evaluation report will be sent to: the client; to Norfolk Landscape Archaeology (3 hard copies and 1 digital on CD) - two copies for Norfolk Historic Environment Record and one

for the local planning authority; and the English Heritage Regional Advisor for Archaeological Science.

14 PUBLICATION

- 14.1 Details of the investigation will be input to the Online Access to the Index of Archaeological Investigations (OASIS).
- 14.2 A note will also be submitted for publication to the journal *Norfolk Archaeology*.
- 14.3 Notes or articles describing the results of the investigation will also be submitted for publication in the appropriate national journals: *Medieval Archaeology* for medieval and later remains, and *Britannia* for discoveries of Roman date.

15 CURATORIAL MONITORING

- 15.1 Curatorial responsibility for the archaeological work undertaken on the site lies with Norfolk Landscape Archaeology. They will be given written notice of the commencement of the project to enable them to make monitoring arrangements.

16 VARIATIONS TO THE PROPOSED SCHEME OF WORKS

- 16.1 Variations to the scheme of works will only be made following written confirmation from the archaeological curator, the client and their consultant.
- 16.2 Should the archaeological curator require any additional investigation beyond the scope of the brief for works, or this specification, then the cost and duration of those supplementary examinations will be negotiated between the client and the contractor.

17 STAFF TO BE USED DURING THE PROJECT

- 17.1 The work will be directed by Tom Lane MifA, Senior Archaeologist, Archaeological Project Services. The on-site works will be supervised by an Archaeological Supervisor with knowledge of archaeological evaluations of this type. Archaeological excavation will be carried out by Archaeological Technicians, experienced in projects of this type.
- 17.2 The following organisations/persons will, in principle and if necessary, be used as subcontractors to provide the relevant specialist work and reports in respect of any objects or material recovered during the investigation that require their expert knowledge and input. Engagement of any particular specialist subcontractor is also dependent on their availability and ability to meet programming requirements.

| <u>Task</u> | <u>Body to be undertaking the work</u> |
|-------------------------|---|
| Conservation | Conservation Laboratory, City and County Museum, Lincoln. |
| Pottery Analysis | Prehistoric: Dr D Knight/D Trimble, APS Roman: A Beeby,APS/B Precious, independent specialist Post-Roman: Dr A Boyle, APS |
| Other Artefacts | J Cowgill, independent specialist/G Taylor, APS |
| Human Remains Analysis | J Kitch, independent specialist |
| Animal Remains Analysis | J Kitch, independent specialist/P Cope-Faulkner APS |
| Environmental Analysis | Environmental Archaeology Consultancy/V Fryer, independent specialist |
| Radiocarbon dating | Beta Analytic Inc., Florida, USA |
| Dendrochronology dating | University of Sheffield Dendrochronology Laboratory |

18 PROGRAMME OF WORKS AND STAFFING LEVELS

- 18.1 Fieldwork will be undertaken by appropriate staff, including supervisors and assistants, and to take 5 days.
- 18.2 Post-excavation analysis and report production will take about 10 days. A project officer or supervisor will undertake most of the analysis, with assistance from the finds supervisor, CAD illustrator and external specialists.

19 INSURANCES

- 19.1 Archaeological Project Services, as part of the Heritage Trust of Lincolnshire, maintains Employers Liability insurance to £10,000,000. Additionally, the company maintains Public and Products Liability insurances, each with indemnity of £5,000,000. Copies of insurance documentation are enclosed.

20 COPYRIGHT

- 20.1 Archaeological Project Services shall retain full copyright of any commissioned reports under the *Copyright, Designs and Patents Act 1988* with all rights reserved; excepting that it hereby provides an exclusive licence to the client for the use of such documents by the client in all matters directly relating to the project as described in the Project Specification.
- 20.2 Licence will also be given to the archaeological curators to use the documentary archive for educational, public and research purposes.
- 20.3 In the case of non-satisfactory settlement of account then copyright will remain fully and exclusively with Archaeological Project Services. In these circumstances it will be an infringement under the *Copyright, Designs and Patents Act 1988* for the client to pass any report, partial report, or copy of same, to any third party. Reports submitted in good faith by Archaeological Project Services to any Planning Authority or archaeological curator will be removed from said Planning Authority and/or archaeological curator. The Planning Authority and/or archaeological curator will be notified by Archaeological Project Services that the use of any such information previously supplied constitutes an infringement under the *Copyright, Designs and Patents Act 1988* and may result in legal action.
- 20.4 The author of any report or specialist contribution to a report shall retain intellectual copyright of their work and may make use of their work for educational or research purposes or for further publication.

21 BIBLIOGRAPHY

- Archaeological Project Services, 2003 *Archaeological Watching Brief of Trial Pits at the Nar-Ouse Regeneration Area, King's Lynn, Norfolk (37297KLY)*, unpublished APS report no. 10/03
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- Glazebrook, J (ed), 1997 *Research and Archaeology: A Framework for the Eastern Counties, 1. resource assessment*, East Anglian Archaeology Occasional Papers **3**
- GSGB, 1978 *King's Lynn and The Wash, solid and drift edition*, 1:50000 map sheet 145 with parts of 129
- Gurney, D, 2003 *Standards for Field Archaeology in the East of England*, ALGAOEE
- Roe, A., 2005 *Nar Ouse Regeneration Area: Cultural Heritage Recommendations for Future Strategy and Works*, unpublished Scott Wilson report D104633

Appendix 2

CONTEXT DESCRIPTIONS

| No. | Trench | Description | Interpretation |
|-----|--------|--|-----------------------------|
| 001 | Sec 1 | Indurated light yellow concrete, 0.42m thick | Surface/capping |
| 002 | Sec 1 | Firm dark grey silty sand, 60mm thick | Former topsoil |
| 003 | Sec 1 | Indurated black bitumen, 80mm thick | Possible surface |
| 004 | Sec 1 | Firm dark brownish yellow sand, 80mm thick | Make-up for (003) |
| 005 | Sec 1 | Loose mid greyish brown silty sand, 0.17m thick | Disturbed area |
| 006 | Sec 1 | Friable dark grey sandy silt with bitumen fragments, 0.17m thick | Dumped deposit |
| 007 | Sec 1 | Loose dark greyish brown sand, 0.29m thick | Former topsoil |
| 008 | Sec 1 | Friable dark orange sand and gravel | Fill of (010) |
| 009 | Sec 1 | Loose dark brown sand | Fill of (010) |
| 010 | Sec 1 | Feature, >0.64m long by >0.3m wide by 0.39m deep, steep to vertical sides and rounded base | Indeterminate feature |
| 011 | Sec 1 | Friable to firm dark brown sand | Fill of (014) |
| 012 | Sec 1 | Firm dark brown silty sand | Fill of (014) |
| 013 | Sec 1 | Compacted white chalk fragments and mid grey silt | Fill of (014) |
| 014 | Sec 1 | Feature, >0.9m wide by >0.9m deep, steep to vertical sides, not fully exposed | Indeterminate feature |
| 015 | Sec 1 | Firm mid to dark grey silt with frequent green stained chalk fragments, >0.55m thick | Made ground |
| 016 | Sec 1 | Timber (482mm x 200mm x 160mm) post, set vertically | Timber upright of revetment |
| 017 | Sec 1 | Timber (385mm x 300mm x 270mm) post, set vertically with metal fixing bolt and plate | Timber upright of revetment |
| 018 | Sec 1 | Timber (150mm x 120mm) post, set vertically | Timber upright of revetment |
| 019 | Sec 1 | Timber (380mm x 160mm) post, set vertically | Timber upright of revetment |
| 020 | Sec 1 | Timber (370mm x 150mm) post, set vertically | Timber upright of revetment |
| 021 | Sec 1 | Timber (>200mm x 160mm) post, set horizontally, affixed by iron nail to (022) | Timber brace of revetment |
| 022 | Sec 1 | Timber (1530mm x 150mm x 130mm) post, set vertically, iron nail and wooden dowel | Timber upright of revetment |
| 023 | Sec 1 | Timber (>170mm x 120mm) post, set horizontally, affixed to (022) by wooden dowel | Timber brace of revetment |
| 024 | 1 | Friable dark brownish grey sandy silt, 0.37m thick | Topsoil |
| 025 | 1 | Firm dark brown sandy silt, 0.2m thick | Dumped deposit |
| 026 | 1 | Compacted white chalk, >0.25m thick | Made ground |
| 027 | 1 | Firm very dark grey silt | Dumped deposit |
| 028 | 1 | Soft dark brownish grey silt, >0.5m thick | Dumped deposit |
| 029 | 1 | Timber (>1260mm x 280mm x 200mm) post, set horizontally, four iron spikes (>0.4m long) | Timber brace of revetment |
| 030 | 1 | Timber (>1170mm x 300mm x 300mm) post, set vertically, with iron hexagonal fixing bolt and plate | Timber upright of revetment |
| 031 | 1 | Timber (>770mm x 152mm x 130mm) post, set at 77° | Timber upright of revetment |
| 032 | 1 | Timber (>492mm x 160mm x 70mm) post, set at 77° | Timber upright of revetment |

| No. | Trench | Description | Interpretation |
|-----|--------|---|-----------------------------|
| 033 | 1 | Timber (>520mm x 302mm x 70mm) post, set at 77° | Timber upright of revetment |
| 034 | 1 | Timber (>557mm x 95mm x 50mm) post, set at 77° | Timber upright of revetment |
| 035 | 1 | Timber (>560mm x 117mm x 75mm) post, set at 77° | Timber upright of revetment |
| 036 | 1 | Timber (>472mm x >105mm x 65mm) post, set at 77° | Timber upright of revetment |
| 037 | 1 | Timber (>1060mm x 245mm x >100mm) post, set horizontally, with four iron spikes | Timber brace of revetment |
| 038 | 2 | Firm mid to dark brown clayey silt, 0.3m thick | Topsoil |
| 039 | 2 | Loose light grey powdery concrete, 0.13m thick | Concrete capping |
| 040 | 2 | Firm dark brown silty clay, 30mm thick | Dumped deposit |
| 041 | 2 | Friable mid orange brown sand, 10mm thick | Alluvial accretion |
| 042 | 2 | Firm dark brown silty clay, 30mm thick | Alluvial accretion |
| 043 | 2 | Friable mid orange brown sand, 10mm thick | Alluvial accretion |
| 044 | 2 | Friable mid orange brown sand, 10mm thick | Alluvial accretion |
| 045 | 2 | Firm dark brown silty clay, 30mm thick | Alluvial accretion |
| 046 | 2 | Friable mid orange brown sand, 10mm thick | Alluvial accretion |
| 047 | 2 | Firm dark brown silty clay, 10mm thick | Alluvial accretion |
| 048 | 2 | Friable mid orange brown sand, 10mm thick | Alluvial accretion |
| 049 | 2 | Firm dark brown silty clay, 10mm thick | Alluvial accretion |
| 050 | 2 | Friable mid orange brown sand, 10mm thick | Alluvial accretion |
| 051 | 2 | Firm dark brown silty clay, 10mm thick | Alluvial accretion |
| 052 | 2 | Friable mid orange brown sand, 10mm thick | Alluvial accretion |
| 053 | 2 | Plastic black clayey silt, >0.25m thick | Alluvial accretion |
| 054 | 2 | Loose mid to light brown sandy silt, 20mm thick | Alluvial accretion |
| 055 | 1 | Firm mid grey and mid brown silt, 0.48m thick | Dumped deposit |
| 056 | 1 | Firm dark brown silt, 0.34m thick | Dumped deposit |
| 057 | 1 | Firm dark orange sand, 80mm thick | Dumped deposit |
| 058 | 1 | Firm mid to dark brown silt | Alluvial accretion |
| 059 | 1 | Timber (>745mm x 115mm) post, set at 77° | Timber upright of revetment |
| 060 | 1 | Soft dark grey/black organic silt, 0.84m thick | Alluvial accretion |
| 061 | 2 | Soft and friable mixed orange sand and gravel and dark grey silt, 0.2m thick | Alluvial accretion |
| 062 | 2 | Plastic dark brown silt with black organic staining, >1.8m thick | Alluvial accretion |

Appendix 3

THE FINDS

CERAMIC BUILDING MATERIAL

By Alex Beeby and Anne Boyle

Introduction

All the material was recorded at archive level in accordance with the guidelines laid out by the ACBMG (2001). A total of 3 fragments of ceramic building material, weighing 687 grams was recovered from the site.

Methodology

The material was laid out and viewed in context order. Fragments were counted and weighed within each context. The ceramic building material was examined visually and using x20 magnification. This information was then added to an Access database. An archive list of the ceramic building material is included in Table 1.

Condition

The fragments are in a large and relatively fresh condition. The material was unwashed at the time of recording.

Results

Table 1, Ceramic Building Material Archive

| Cxt | Cname | Full Name | Description | Date | NoF | W (g) |
|--------------|-------|-----------|--------------------|-----------|----------|------------|
| 011 | PANT | Pantile | Unwashed | 19th-20th | 2 | 464 |
| 025 | PANT | Pantile | Unwashed; V modern | 19th-20th | 1 | 223 |
| Total | | | | | 3 | 687 |

Provenance

Two fragments of CBM were recovered from fill (011) within indeterminate feature [014], whilst a third came from dump deposit (025).

Potential

There is limited potential for further work. The material is suitable to be discarded

Summary

Three pieces of modern Pantile were recovered during the evaluation

SPOT DATING

The dating in Table 2 is based on the evidence provided by the finds detailed above.

Table 2, Spot dates

| Cxt | Date | Comments |
|-----|-----------|------------------------------|
| 011 | 19th-20th | Dated on CBM |
| 025 | 19th-20th | Dated on single piece of CBM |

ABBREVIATIONS

| | |
|-------|---|
| ACBMG | Archaeological Ceramic Building Materials Group |
| CBM | Ceramic Building Material |
| CXT | Context |
| NoF | Number of Fragments |
| TR | Trench |
| W (g) | Weight (grams) |

REFERENCES

~ 2001, *Draft Minimum Standards for the Recovery, Analysis and Publication of Ceramic Building Material*, third version [internet]. Available from <<http://www.geocities.com/acbmgl/CBMGDE3.htm>>

Appendix 4

GLOSSARY

| | |
|------------------------|---|
| Alluvium | A deposit (usually clay, silts or sands) laid down in water. Marine alluvium is deposited by the sea and freshwater alluvium by streams, rivers or within lakes. |
| Context | An archaeological context represents a distinct archaeological event or process. For example, the action of digging a pit creates a context (the cut) as does the process of its subsequent backfill (the fill). Each context encountered during an archaeological investigation is allocated a unique number by the archaeologist and a record sheet detailing the description and interpretations of the context (the context sheet) is created and placed in the site archive. Context numbers are identified within the report text by brackets, <i>e.g.</i> (004). |
| Cut | A cut refers to the physical action of digging a posthole, pit, ditch, foundation trench, <i>etc.</i> Once the fills of these features are removed during an archaeological investigation the original 'cut' is therefore exposed and subsequently recorded. |
| Dumped deposits | These are deposits, often laid down intentionally, that raise a land surface. They may be the result of casual waste disposal or may be deliberate attempts to raise the ground surface. |
| Fill | Once a feature has been dug it begins to silt up (either slowly or rapidly) or it can be back-filled manually. The soil(s) which become contained by the 'cut' are referred to as its fill(s). |
| Layer | A layer is a term to describe an accumulation of soil or other material that is not contained within a cut. |
| Medieval | The Middle Ages, dating from approximately AD 1066-1500. |
| Natural | Undisturbed deposit(s) of soil or rock which have accumulated without the influence of human activity. |
| Post-medieval | The period following the Middle Ages, dating from approximately AD 1500-1800. |

Appendix 5

THE ARCHIVE

The archive consists of:

| | |
|----|---------------------------|
| 62 | Context sheets |
| 1 | Photographic record sheet |
| 1 | Section record sheet |
| 1 | Plan record sheet |
| 5 | Daily record sheets |
| 6 | Sheets of scale drawings |
| 1 | Bag of finds |

All primary records and finds are currently kept at:

Archaeological Project Services
The Old School
Cameron Street
Heckington
Sleaford
Lincolnshire
NG34 9RW

The ultimate destination of the project archive is:

Norfolk Museums Service
Union House
Gressenhall
Dereham
Norfolk
NR20 4DR

The archive will be deposited in accordance with the document titled *County Standards for Field Archaeology in Norfolk*, produced by Norfolk Landscape Archaeology.

Norfolk Museums Service Number: ENF 124816

The discussion and comments provided in this report are based on the archaeology revealed during the site investigations. Other archaeological finds and features may exist on the development site but away from the areas exposed during the course of this fieldwork. *Archaeological Project Services* cannot confirm that those areas unexposed are free from archaeology nor that any archaeology present there is of a similar character to that revealed during the current investigation.

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