

**ARCHAEOLOGICAL WATCHING BRIEF
ALONG LONG DROVE,
RIPPINGALE,
LINCOLNSHIRE
(RILD 07)**

**Work Undertaken For
Black Sluice Internal Drainage Board**

June 2007

Report Compiled by
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ARCHAEOLOGICAL PROJECT SERVICES



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1. SUMMARY

A watching brief was undertaken during groundworks at Long Drove, Rippingale, Lincolnshire. The watching brief monitored maintenance work, comprising the widening and deepening of an existing drain.

Long Drove traverses an area rich in prehistoric and later remains. Bronze Age (2250-800 BC) and Iron Age (800 BC-AD 43) pottery has been found in the vicinity, although the prehistoric land surface is likely to be buried beneath later alluvium. Romano-British (AD 43-410) settlement is known to the east and salterns have been identified to the south. The settlements were once connected to the uplands by the Rippingale Minor Canal whose cropmarks are crossed by Long Drove.

The watching brief revealed a sequence of undated, Late Iron Age/Romano-British and post-medieval deposits. A buried soil containing briquetage and pottery of Iron Age or Romano-British date was identified towards the east end of the groundworks. Undated deposits comprise creeks, ditches and alluvial layers. The monitoring also recorded and established the profile of the Rippingale Minor Canal. Though undated, the canal and some ditches are likely to be of Romano-British date due to their association with known settlements of the period. Two post-medieval ditches were also identified.

2. INTRODUCTION

2.1 Definition of a Watching Brief

An archaeological watching brief is defined as “a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons. This will be within a specified area or site on land, inter-tidal zone or underwater, where there is a possibility that archaeological

deposits may be disturbed or destroyed.” (IFA 1999).

2.2 Planning Background

Archaeological Project Services was commissioned by the Black Sluice Internal Drainage Board to undertake an archaeological watching brief during groundworks associated with drainage improvements along Long Drove, Rippingale, Lincolnshire. The watching brief was carried out between the 21st March and 23rd May 2007 in accordance with a specification prepared by Archaeological Project Services (Appendix 1) and approved by the Principal Archaeologist, Lincolnshire County Council.

2.3 Topography and Geology

Rippingale is located 20km southeast of Grantham and 16km west of Spalding in the administrative district of South Kesteven, Lincolnshire (Fig. 1).

The drainage improvements were undertaken some 4km east of the centre of Rippingale between National Grid References TF 1315 2821 and TF 1440 2814 (Fig. 2). The drain lies on the north side of Long Drove at heights of c. 2.8m OD.

Local soils are of the Wallsea 2 Association, typically stoneless calcareous clays and silts (Hodge *et al.* 1984). These soils are developed upon a drift geology of alluvium filled creeks which overlie older marine alluvium which in turn seals a solid geology of Jurassic Oxford Clay (BGS 1992).

2.4 Archaeological Setting

Long Drove is located in an area of known archaeological remains dating from the Bronze Age to the present day, largely identified during the Fenland Survey (Hayes and Lane 1992). This extensive

survey mapped all sites along the western fen edge, although in the vicinity of Long Drove, sites were masked by layers of later alluvium which were presumed to be associated with the Rippingale Canal (*ibid.* 80).

To the south of the groundworks Bronze Age pottery was identified adjacent to a dyke, suggesting the pottery came from a buried land surface (Hayes and Lane 1992, 76). Bronze Age and Iron Age pottery has also been identified to the east (*ibid.*).

The site lies close to three Romano-British waterways. The first of these, the Car Dyke, lies to the west and skirts the fens from Lincoln to Peterborough and may have been used for drainage (Simmons and Cope-Faulkner 2004, 1). The second two are referred to as the Rippingale minor canals (the more southerly of which is traversed by the drainage works). These may also have had a drainage function, although the southern canal is short in length and the route maintained by a droveway to a sizeable Romano-British settlement of late 2nd to 4th century date (Hallam 1970, 33), thereby suggesting a transport function. Romano-British salt-making sites (salterns) are known to the south of the site (Hayes and Lane 1992, 80).

Rippingale is almost certainly of Saxon or earlier origin. The place-name is likely to mean ‘the nook of land of the *Hrepingas*’ deriving from the Old English group-name *Hrepingas* meaning ‘the family or the dependants of *Hrepa*’ (Cameron 1998, 102). Early Saxon charters make reference to *Hrepingas*, which has been identified with Rippingale. However, it has been questioned if Rippingale is correctly identified with *Hrepingas* and Repton in Derbyshire has also been proposed (Rumble 1977).

Rippingale is also mentioned in the Domesday Survey of c. 1086, where land was held chiefly by Alfred of Lincoln and,

to a lesser extent, by Guy de Craon and Oger the Breton. A priest and church are also recorded in the survey (Foster and Longley 1976). During the medieval period, the site is likely to have lain in fenland.

3. AIMS

The requirements of the watching brief, as detailed in the specification (Appendix 1), were to locate and record archaeological deposits and, if present, to determine their date, function and origin.

4. METHODS

The monitored works involved the deepening and widening of an existing drain. This was undertaken by machine. Following excavation, the sides of the exposed drain were examined for archaeological features. Where recorded, these were cleaned and selected deposits were excavated further to retrieve artefactual material and to determine their function. A conscious decision was made not to record the entire exposed section, concentrating on areas of visible archaeology. Each deposit was allocated a unique reference number (context number) with an individual written description. A list of all contexts and their descriptions appears as Appendix 2. A photographic record was compiled and sections were drawn at scales of 1:10 to 1:50. Recording was undertaken according to standard Archaeological Project Services practice.

Following excavation finds were examined and a period date assigned where possible (Appendix 3). The records were also checked and a stratigraphic matrix produced. Phasing was assigned based on the nature of the deposits and recognisable relationships between them and supplemented by artefact dating.

5. RESULTS

Following post-excavation analysis four phases were identified;

Phase 1	Natural deposits
Phase 2	Undated deposits
Phase 3	Late Iron Age/Romano-British deposits
Phase 4	Recent deposits

Archaeological contexts are listed below and described. The numbers in brackets are the context numbers assigned in the field.

Phase 1 Natural deposits

Natural deposits were not recorded in detail at the far eastern end of the groundworks (in the areas around Sections 1 to 3), though brown clays and bluish grey clays are noted in this vicinity. Descriptions of the natural deposits are related to their relevant Section numbers (Figs. 4 to 6).

Section 4: Natural is described as a bluish grey clay (012) measuring over 0.53m thick.

Section 5: The earliest natural deposit is described as a layer of brown black silty peat (059) which is overlain by a 0.85m thick bluish grey clay (058). This is sealed by grey silt and clay (016) that is 0.78m thick.

Section 6: Natural comprised brownish grey clay (017) overlain by a 0.35m thick layer of yellowish brown silt (015).

Section 7: The earliest natural layer was a deposit of yellowish brown silt (030), followed by grey silt (027), then grey clay (026) and finally bluish grey clay (025).

Section 8: The earliest layer exposed was a deposit of yellowish brown silt (060) that was overlain by a 0.43m thick layer of grey silt (040). This was subsequently

sealed beneath a brown/black peat deposit (029) that was 0.1m thick. The final deposit in the sequence is a 0.42m thick layer of bluish grey clay (039).

Sections 9 and 10: Located at the base of this section was a layer of yellowish brown silt (047) which was also encountered in Section 11.

Section 11: Above (047) was a 0.42m thick layer of bluish grey clay (057) which was sealed by yellowish brown clayey silt (064). This was 0.7m thick.

Section 12: The earliest deposit encountered comprised a yellowish brown silt (064) that was in excess of 1m deep.

Phase 2 Undated deposits

Cut into natural at the eastern end of the works was a possible ditch (004). This was 2m wide by 0.63m deep (Fig. 4, Section 2). Two fills were recorded, a lower of grey silt (022) and an upper of greyish brown silt (003).

Situated 146m to the west was another possible ditch (008). This was 5.5m wide and 0.63m deep (Fig. 4, Section 3) and may be a continuation of a northeast-southwest aligned ditch visible as a cropmark (Fig. 3). Two fills were identified and comprise a black organic silt (007) basal fill and bluish grey clay (006).

Located 260m to the west of this ditch was a large cut feature (035). This was 56.2m wide by 2.48m deep (Fig. 4, Section 4 and Fig. 7) and contained three fills. The main fill comprised a yellowish brown silt (011). Within a slight hollow at the centre of the channel was a 0.21m thick layer of grey clay (010). This was subsequently sealed by black silty peat (009).

Some 50m west of this feature was a possible ditch (014) cut into the natural silt and clay (016). This measured 3.8m wide by 1.13m deep (Fig. 5, Section 5) and

contained a single fill of yellowish brown silt (013).

A large feature (024), possibly an infilled creek, and aligned northwest-southeast was identified approximately halfway along the drainage works. This was 7m wide and over 1.76m deep with a vertical side to the west and a more gradual slope to the east (Fig. 5, Section 7). A single fill of yellowish brown silt (023) was recorded.

A second possible creek was identified 70m to the west (041). This was over 12m wide and deeper than 1.83m (Fig. 5, Section 8) and also had a vertical sided cut to the west with a stepped profile to the east. This was also filled with yellowish brown silt (028).

Cut into the top of this creek towards the west was a V-shaped ditch (038). This was 1.6m wide and 0.84m deep and contained two fills, a lower of grey silt (037) and an upper fill of black organic silt with peat (036).

Cutting natural silts (047) was an indeterminate feature (061) measuring 1.8m wide and over 0.56m deep (Fig. 6, Section 9). Filling the cut and extending beyond the feature was a deposit of grey/black organic silt (046). This had subsequently been sealed by alluvial deposits comprising grey clay (045) and yellowish brown silty clay (044).

Cut into the silty clay were two features, both probably ditches. The westernmost (034) was 4.8m wide and 1.13m deep, and the eastern example (043) was 2.5m wide and 0.53m deep. Both were filled and partly sealed by a layer of brown silt (042) of probable alluvial origin.

Located 20m to the west was a further possible ditch (052) that was 4.4m wide and over 0.84m deep (Fig. 6, Section 10). This contained a single fill of black organic silt (051). Sealing this feature was

a sequence of alluvial deposits consisting of grey silty clay (050), yellow silty clay (049) and grey clay (048).

A probable northeast-southwest aligned ditch (055) was located a further 25m to the west, where it broadly coincided with a cropmark (Fig. 3). Measuring 2.5m wide and 1.06m deep (Fig. 6, Section 11) it contained a lower fill of grey clay (054) and an upper fill of brown silt (053).

Cut into the natural silt at the west end of the area of groundworks was a probable-north-south aligned ditch (063). This was over 3m wide and deeper than 1.06m (Fig. 6, Section 12) and contained a single fill of grey organic silt (062).

Phase 3 Late Iron Age/Romano-British deposits

Located towards the eastern end of the groundworks, above natural of brown silty clay was a layer of brownish grey silt (005) identified as a buried soil. This measured 0.46m thick (Fig. 4, Section 1). A small quantity of briquetage and a single pot sherd retrieved from this deposit are not particularly diagnostic apart from a general Late Iron Age to Romano-British date.

Phase 4 Post-medieval deposits

Cutting natural (015) was a possible north-south aligned ditch (021). This measured 3.6m wide and 1.13m deep (Fig. 5, Section 6). Three fills were recorded, a primary fill of brown silt (020), followed by red brick and gravel/stone (019) and finally brownish grey silty clay (018).

Cutting the undated channel (041) was a further ditch (033). This was 3.4m wide and 1.4m deep (Fig. 5, Section 8) with a single fill of red brick and greyish brown gravel (032). This had subsequently been sealed by a layer of brown silt (031).

Phase 5 Recent deposits

Sealing many of the deposits, apart from the eastern end of the drain, was a subsoil. This comprised a layer of greyish brown clayey silt (002) that was up to 0.7m thick.

Topsoil was identified as a deposit of brown to yellowish brown silt (001). This measured up to 0.56m thick.

6. DISCUSSION

Natural deposits (Phase 1) of clays, clayey silts and silts are derived from marine flooding of the area. All deposits referred to as 'natural' are all related to episodes of flooding and deposition in the Fen basin. There are no exposed geological deposits. Peat formation represents a change from saline to freshwater conditions. Within this area peat forms on the old land surface but changes between marine and freshwater conditions create intercalated peat layers within a generally marine sequence of deposits (eg. at Morton Fen, Shennan 1994, 272). The peat layers lie at approximately 1m and 0m OD. A number of the alluvial (clay and silt) layers may correspond to later alluvium which seal undated features (see below).

A number of deposits (Phase 2) remain undated due to a lack of artefactual material. The creeks recorded in the section are probably entirely natural in origin, although could have been open during the prehistoric and Romano-British periods. Some of the presumed ditches correspond with cropmarks and are possibly Romano-British in date as the field system of this period is in marked contrast to the present day layout of fields.

A significant watercourse, the Rippingale canal, was identified along the route. This feature has been dated by its association with a Romano-British site beyond its eastern terminus and fits in with the pattern of extensive Romano-British sites

and features in that part of the Fen. It has a similar profile to the Bourne-Morton canal (Fig. 8) which connected settlements in the fen with the Roman town at Bourne and was either used for transport or for a local drainage scheme, or most likely both (Wallis 2002, 7). It contrasts with the Car Dyke which, on the available evidence, may have served a drainage function.

A buried soil (Phase 3) contained non-diagnostic pot and briquetage fragments of Late Iron Age or Romano-British date. Salterns are relatively common in the immediate vicinity and this site adds to the known distribution.

Post-medieval features (Phase 4), comprising two ditches, were assigned to this phase due to the presence of brick within their fills. These are probable former field boundaries and are likely to parallel the existing arrangement of fields. The ditches are not depicted on late 19th century maps of the area, suggesting they had gone out of use by this time.

Many of the features are masked by a subsoil (Phase 4) of probable alluvial origin, the extent of which was mapped during the Fenland Survey. This does not seem to be associated with the Rippingale Canal and may have derived from a more extensive flooding episode.

Some of the cropmarks previously noted in the area are formed by features recorded in the present exercise and other cropmarks do not correlate with recognisable features. Also, many features that were recorded did not have cropmarks, perhaps due to the presence of the subsoil along the route of the works.

7. CONCLUSION

A watching brief was undertaken along Long Drove, Rippingale, as the drainage works lay within an area of known prehistoric and Romano-British activity.

The watching brief identified a number of undated features and deposits. Importantly, the profile was established of the Rippingale Minor Canal, which is probably Romano-British due to its association with settlements of the period. Other undated features comprise a number of ditches, probably also of a similar date.

Towards the eastern end of the route was a buried soil from which briquetage and pottery of Late Iron Age or Romano-British date was retrieved. Two post-medieval ditches were also recorded.

8. ACKNOWLEDGEMENTS

Archaeological Project Services wishes to acknowledge the assistance of Mr M Mitchell of the Black Sluice Internal Drainage Board for commissioning the fieldwork and post-excavation analysis. The work was coordinated by Gary Taylor who edited this report along with Tom Lane. Jenny Young, the South Kesteven Planning Archaeologist, kindly allowed access to the parish files and library maintained by Heritage Lincolnshire.

9. PERSONNEL

Project Coordinator: Gary Taylor
 Site Supervisors: Mary Nugent, Vicky Mellor, Fiona Walker
 Surveying: Jennifer Kitch
 Finds processing: Denise Buckley
 Photographic reproduction: Sue Unsworth
 Illustration: Paul Cope-Faulkner
 Post-excavation analysis: Paul Cope-Faulkner

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11. ABBREVIATIONS

APS Archaeological Project Services
 BGS British Geological Survey
 IFA Institute of Field Archaeologists



Figure 1 - General location plan

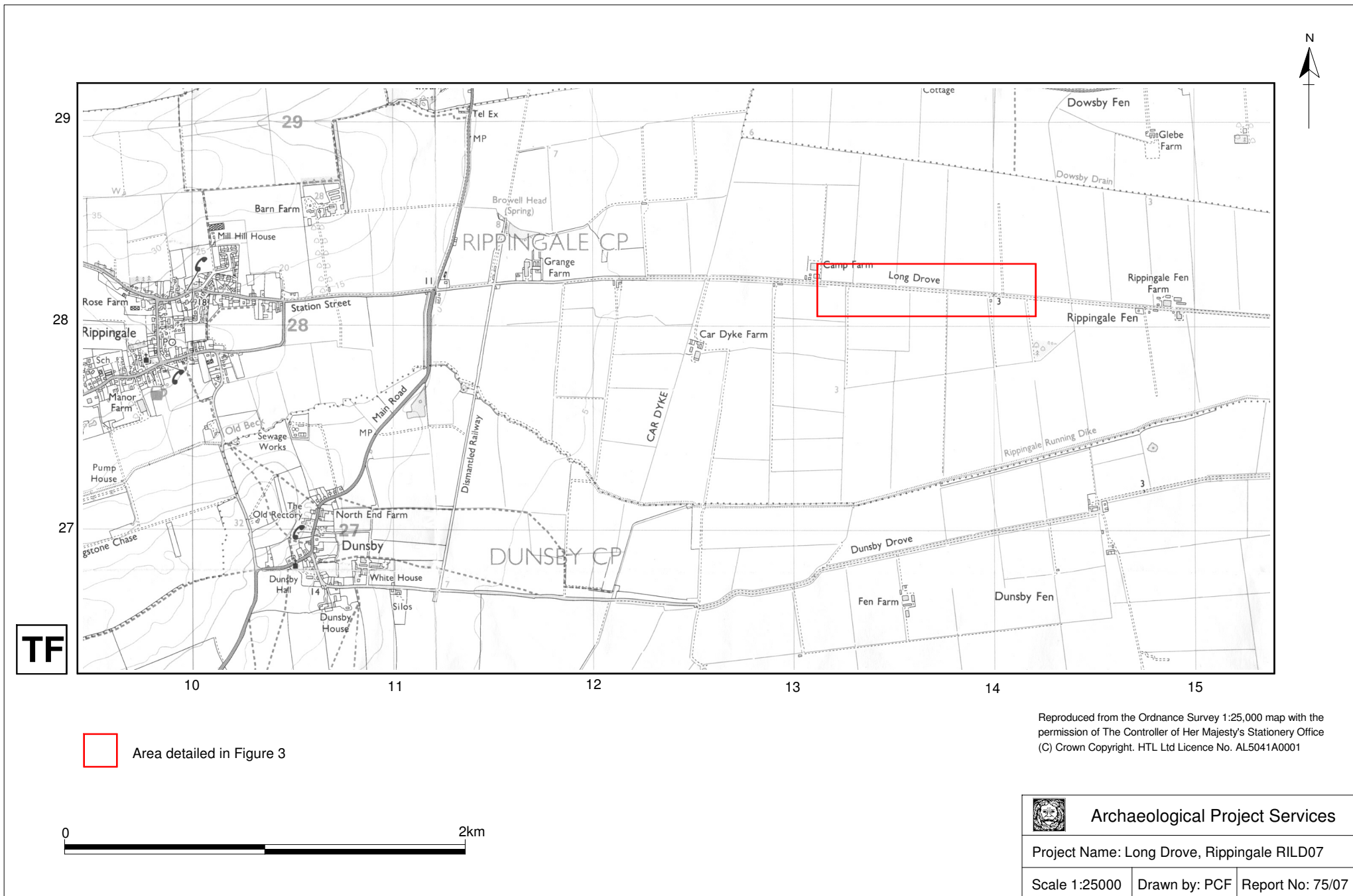
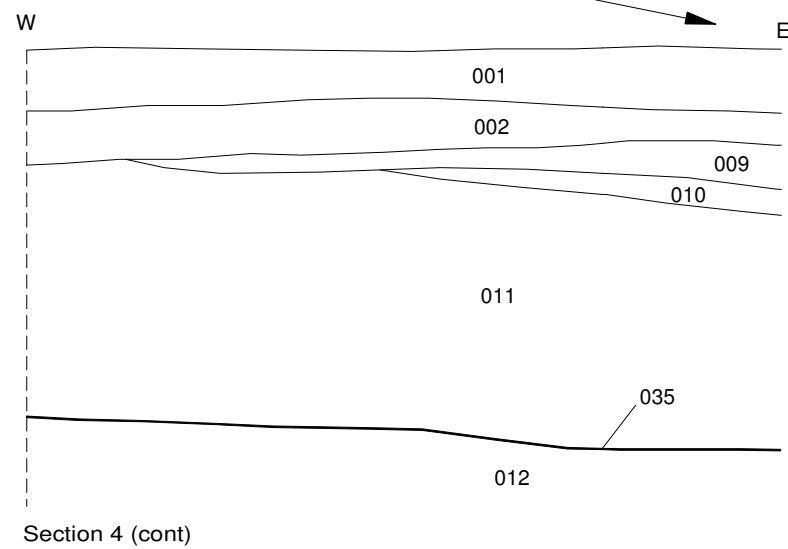
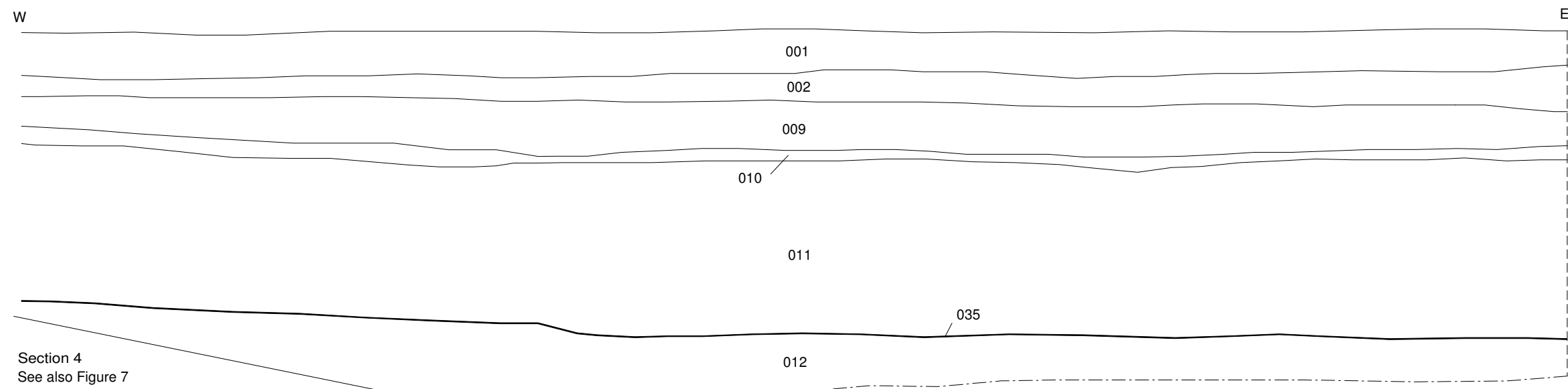
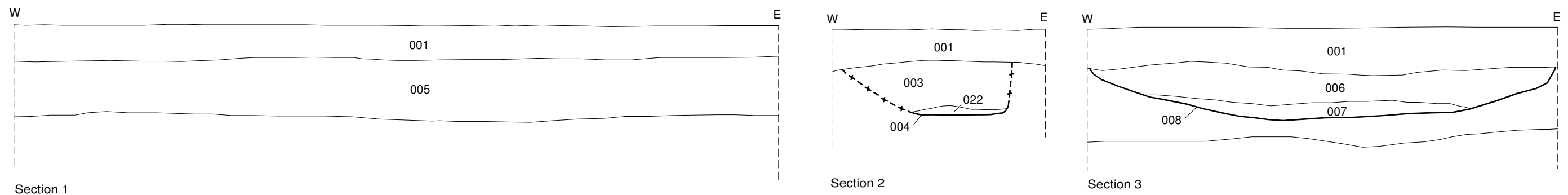


Figure 2 - Site location plan



Figure 3 - Plan showing the area of groundworks with section locations




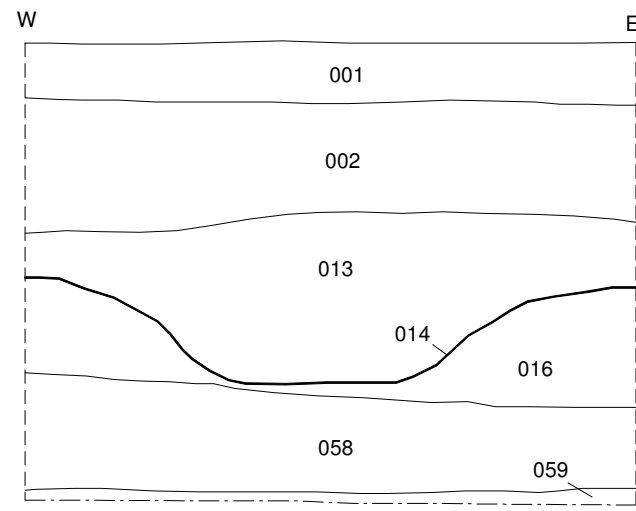
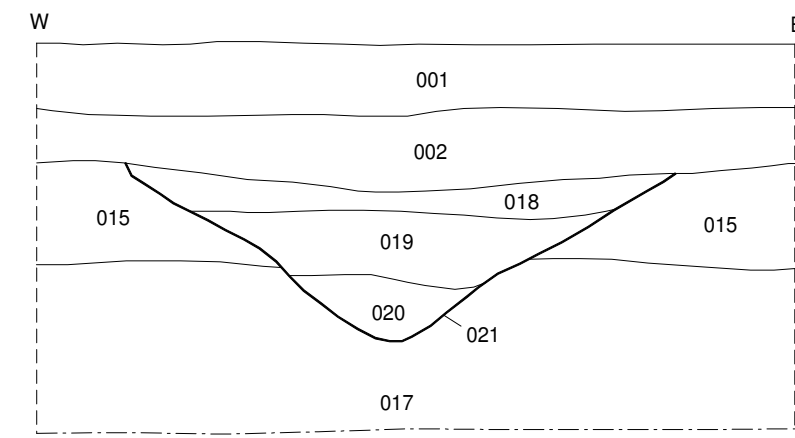
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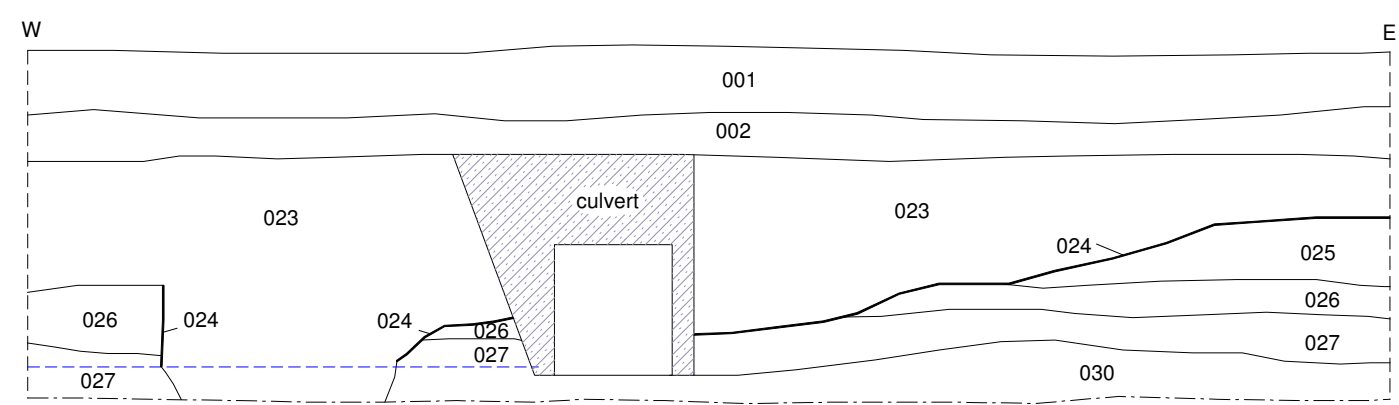
Figure 4 - Sections 1 to 4



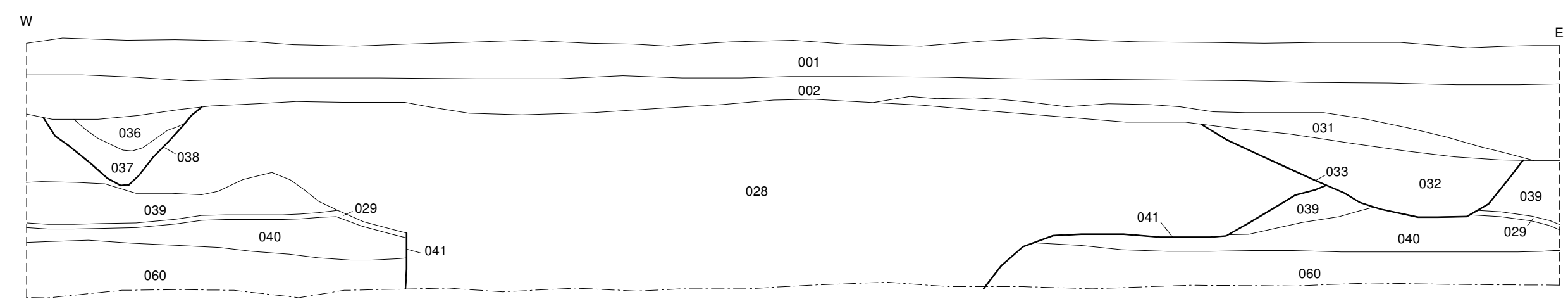
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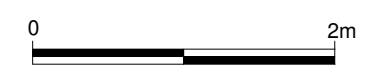
Section 6



Section 7



Section 8




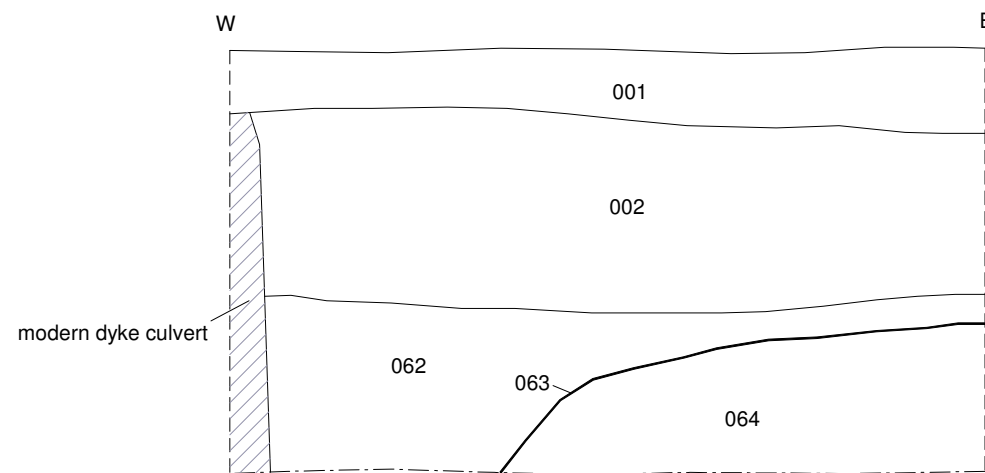
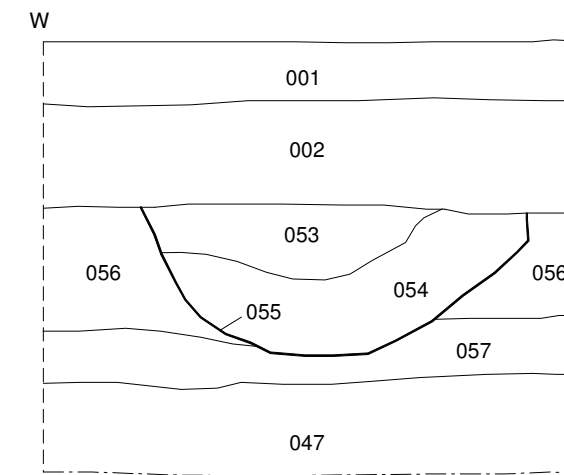
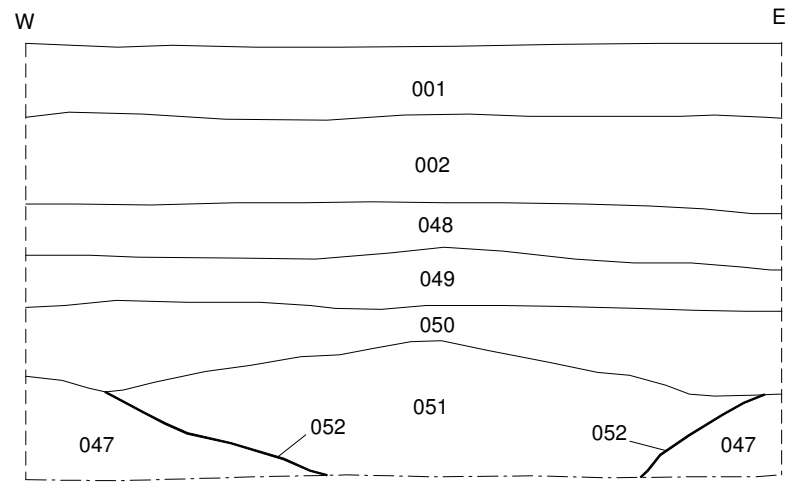
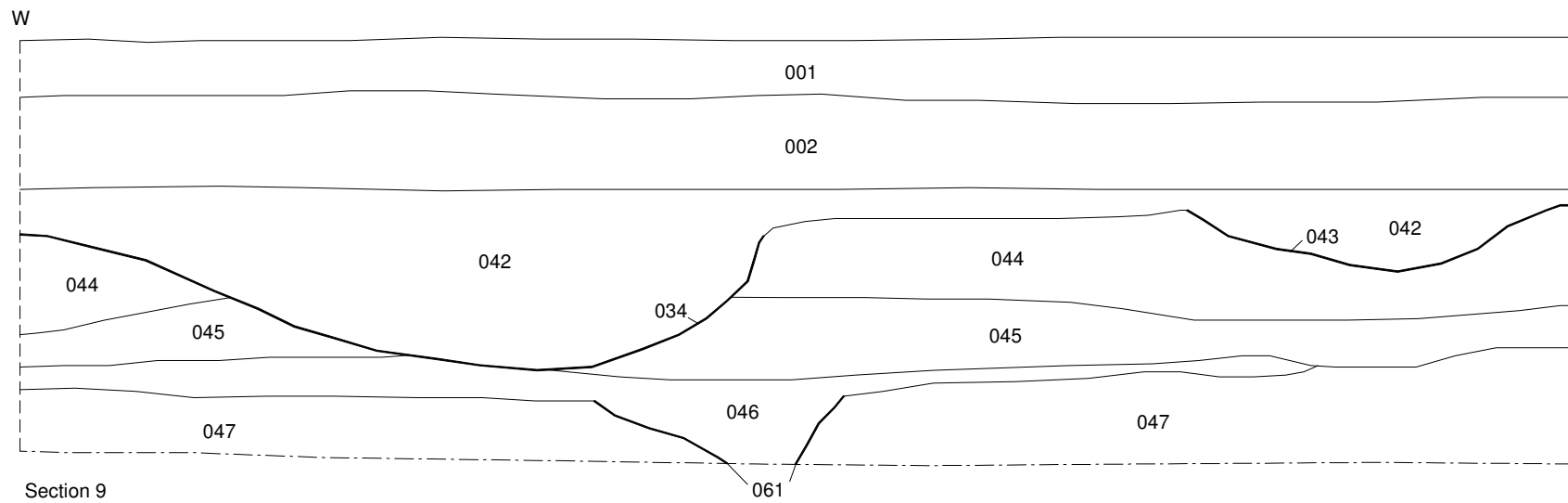
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Figure 5 - Sections 5 to 8




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Project Name: Long Drove, Rippingale RILD07		
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Figure 6 - Sections 9 to 12

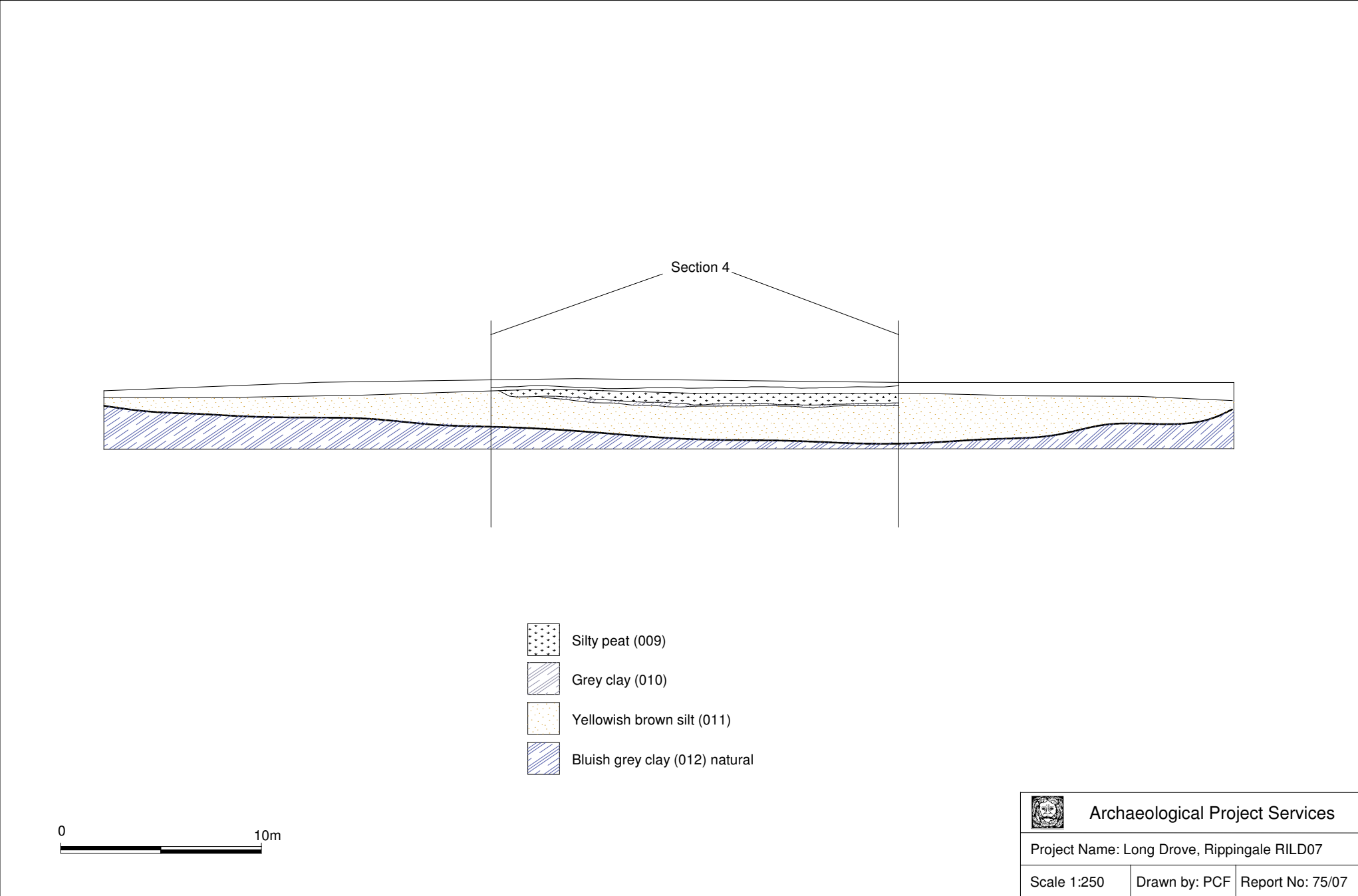


Figure 7 - Surveyed profile of the canal

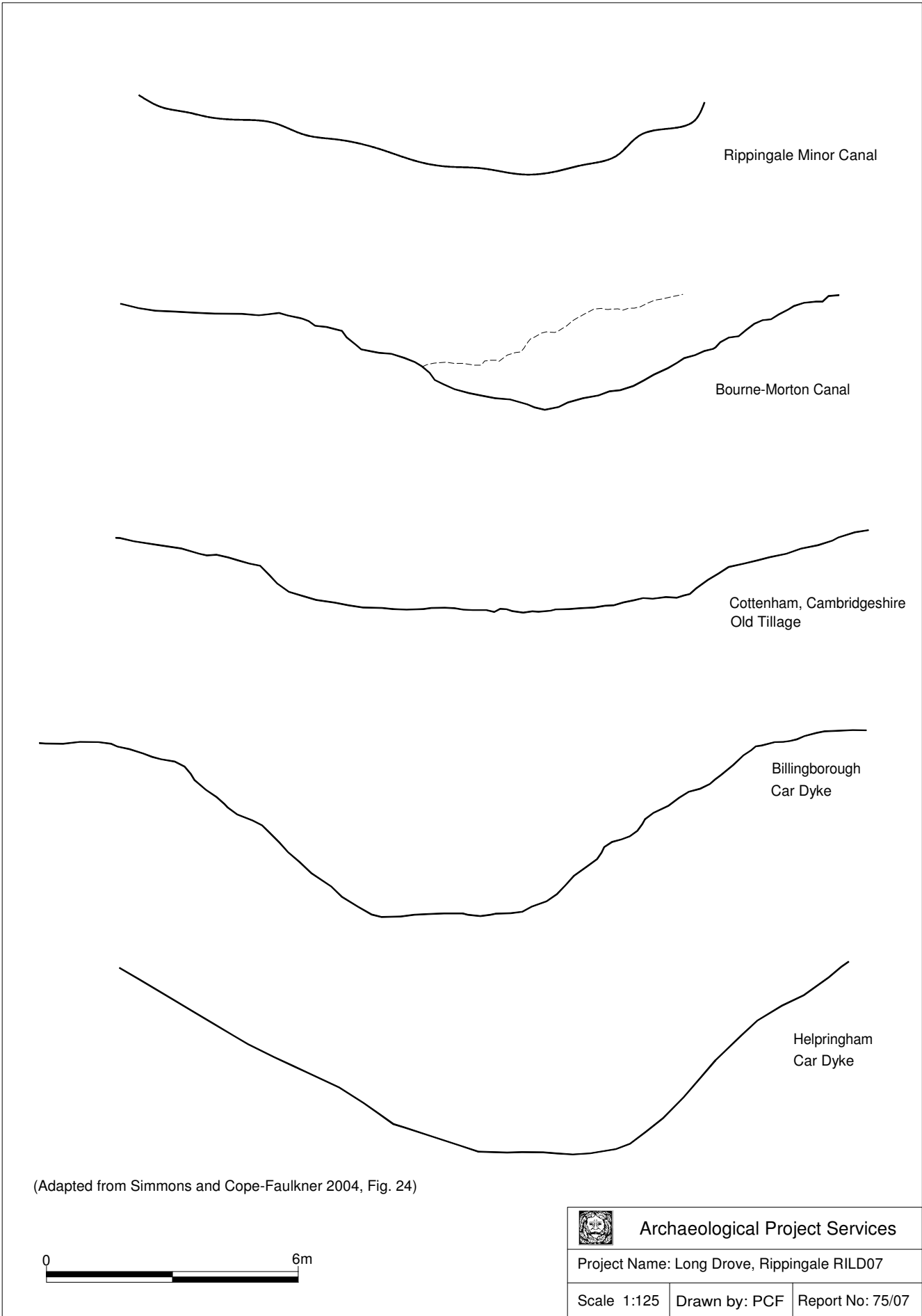


Figure 8 - Excavated profiles of Romano-British watercourses



Plate 1 - View of the drainage operations, looking west



Plate 2 - View of the drainage operations, looking east



Plate 3 - Section 3 showing the undated ditch (008), looking north



Plate 4 - View showing the profile of the Ripplingale Canal with Section 4 to left of centre, looking northwest



Plate 5 - Section 5 showing undated ditch (014), looking north



Plate 6 - Section 6 showing the post-medieval ditch (021), looking north



Plate 7 - Section 9 showing the undated ditches (034) and (043), looking northwest



Plate 8 - Section 11 showing the post-medieval ditch (055), looking north

Appendix 1

LAND ALONGSIDE LONG DROVE, RIPPINGALE FEN, RIPPINGALE, LINCOLNSHIRE - SPECIFICATION FOR ARCHAEOLOGICAL WATCHING BRIEF

1 SUMMARY

- 1.1 *A watching brief is required when a drainage dyke is recut alongside Long Drove, Rippingale Fen, Rippingale, Lincolnshire.*
- 1.2 *The site lies in an area of known archaeological significance. The Car Dyke Romano-British waterway lies a short distance away. Additionally, the drainage dyke crosses cropmarks that apparently define a settlement and road or driveway of probable Roman date.*
- 1.3 *The archaeological work will consist of a watching brief to record archaeological remains exposed by the groundwork.*
- 1.4 *On completion of the fieldwork a report will be prepared detailing the results of the watching brief. The report will consist of a narrative supported by illustrations and photographs.*

2 INTRODUCTION

- 2.1 This document comprises a specification for an archaeological watching brief during re-cutting of a drainage dyke alongside Long Drove, Rippingale Fen, Rippingale, Lincolnshire.
- 2.2 This document contains the following parts:
 - 2.2.1 Overview.
 - 2.2.2 Stages of work and methodologies.
 - 2.2.3 List of specialists.
 - 2.2.4 Programme of works and staffing structure of the project

3 SITE LOCATION

- 3.1 Rippingale is located approximately 4km from Grantham and of Sleaford, in the administrative district of South Kesteven, Lincolnshire. Rippingale Fen lies to the east of the village, and is crossed by Long Drove, which is aligned approximately east-west. The dyke to be re-cut is on the north side of the road between National Grid References TF 132 282 and TF 144 281.

4 PLANNING BACKGROUND

- 4.1 Black Sluice Internal Drainage Board intends to re-cut a drainage dyke. Lincolnshire County Council Archaeology Section have advised that, as the area is archaeologically-sensitive, a watching brief is undertaken to record any archaeological remains that might be exposed by the work.

5 SOILS AND TOPOGRAPHY

- 5.1 The site lies at approximately 4m OD on level ground. Local soils are the Wallasea 2 Association, stoneless calcareous clays and silts developed on marine alluvium (Hodge *et al.* 1984).

6 ARCHAEOLOGICAL OVERVIEW

- 6.1 Rippingale Fen contains archaeological remains of late prehistoric and Roman date. The Car Dyke Roman waterway bypasses the present investigation area about 600m to the west. Additionally, the

length of dyke to be examined crosses cropmarks of a road or driveway of probable Roman date. Further cropmarks of field systems branch from this road and immediately to the south, at the western end of the investigation area, are enclosures that probably define settlement areas.

7 AIMS AND OBJECTIVES

7.1 The aims of the watching brief will be:

7.1.1 To record and interpret the archaeological features exposed during the re-cutting of the drainage dyke.

7.1.2 The objectives of the watching brief will be to:

- Determine the form and function of the archaeological features encountered;
- Determine the spatial arrangement of the archaeological features encountered;
- As far as practicable, recover dating evidence from the archaeological features, and
- Establish the sequence of the archaeological remains present on the site.

8 SITE OPERATIONS

8.1 General considerations

8.1.1 All work will be undertaken following statutory Health and Safety requirements in operation at the time of the watching brief.

8.1.2 The work will be undertaken according to the relevant codes of practise issued by the Institute of Field Archaeologists (IFA), under the management of a Member of the institute (MIFA). Archaeological Project Services is IFA registered organisation no. 21.

8.1.3 Any and all 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 promptly reported to the appropriate coroner's office.

8.2 Methodology

8.2.1 The watching brief will be undertaken during the ground works phase of development, and includes the archaeological monitoring of all areas of soil movement.

8.2.2 Stripped areas and trench sections will be observed regularly to identify and record archaeological features that are exposed and to record changes in the geological conditions. The section drawings of the trenches will be recorded at a scale of 1:10. Should features be recorded in plan these will be drawn at a scale of 1:20. Written descriptions detailing the nature of the deposits, features and fills encountered will be compiled on Archaeological Project Services pro-forma record sheets.

8.2.3 Any finds recovered will be bagged and labelled for later analysis.

8.2.4 Throughout the watching brief a photographic record will be compiled. The photographic record will consist of:

- the site during work to show specific stages, and the layout of the archaeology within the trench.
- groups of features where their relationship is important

8.2.5 Should human remains be located the appropriate Home Office licence will be obtained

before their removal. In addition, the Local Environmental Health Department, coroner and police will be informed.

9 POST-EXCAVATION

9.1 Stage 1

9.1.1 On completion of site operations, the records and schedules produced during the watching brief will be checked and ordered to ensure that they form a uniform sequence forming 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 and labelled, the labelling referring to schedules identifying the subject/s photographed.

9.1.2 All finds recovered during the fieldwork will be washed, marked and packaged according to the deposit from which they were recovered. Any finds requiring specialist treatment and conservation will be sent to the Conservation Laboratory at the City and County Museum, Lincoln.

9.2 Stage 2

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

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

9.3 Stage 3

9.3.1 On completion of stage 2, a report detailing the findings of the watching brief will be prepared.

9.3.2 This will consist of:

- A non-technical summary of the results of the investigation.
- A description of the archaeological setting of the watching brief.
- Description of the topography of the site.
- Description of the methodologies used during the watching brief.
- A text describing the findings of the watching brief.
- A consideration of the local, regional and national context of the watching brief findings.
- Plans of the archaeological features exposed. If a sequence of archaeological deposits is encountered, separate plans for each phase will be produced.
- Sections of the trenches and archaeological features.
- Interpretation of the archaeological features exposed, and their chronology and setting within the surrounding landscape.
- Specialist reports on the finds from the site.
- Appropriate photographs of the site and specific archaeological features.

10 REPORT DEPOSITION

10.1 Copies of the report will be sent to the Client; the Lincolnshire County Council Archaeological Sites

and Monuments Record; and the South Kesteven Planning Archaeologist.

11 ARCHIVE

- 11.1 The documentation and records generated during the watching brief will be sorted and ordered into the format acceptable to The Collection, Lincoln. This will be undertaken following the requirements of the document titled Conditions for the Acceptance of Project Archives for long-term storage and curation.

12 PUBLICATION

- 12.1 Details of the investigation will be input to the Online Access to the Index of Archaeological Investigations (OASIS).
- 12.2 If appropriate, notes on the findings will be submitted to the appropriate national journals: *Britannia* for discoveries of Roman date, and *Medieval Archaeology* and the *Journal of the Medieval Settlement Research Group* for findings of medieval or later date.

13 CURATORIAL RESPONSIBILITY

- 13.1 Curatorial responsibility for the archaeological work undertaken on the site lies with Lincolnshire County Council Archaeology Section. They will be given written notice of the commencement of the project.

14 VARIATIONS AND CONTINGENCIES

- 14.1 Variations to the proposed scheme of works will only be made following written confirmation of acceptance from the archaeological curator.
- 14.2 In the event of the discovery of any unexpected remains of archaeological importance, or of any changed circumstances, it is the responsibility of the archaeological contractor to inform the archaeological curator (*Lincolnshire Archaeological Handbook* 1998, Sections 5.7 and 18).
- 14.3 Where important archaeological remains are discovered and deemed to merit further investigation additional resources may be required to provide an appropriate level of investigation, recording and analysis.
- 14.4 Any contingency requirement for additional fieldwork or post-excavation analysis outside the scope of the proposed scheme of works will only be activated following full consultation with the archaeological curator and the client.

15 PROGRAMME OF WORKS AND STAFFING LEVELS

- 15.1 The watching brief will be integrated with the programme of construction and is dependent on the developers' work programme. It is therefore not possible to specify the person-hours for the archaeological site work.
- 15.2 An archaeological supervisor with experience of watching briefs will undertake the work.
- 15.3 Post-excavation analysis and report production will be undertaken by the archaeological supervisor, or a post-excavation analyst as appropriate, with assistance from a finds supervisor, illustrator and external specialists. It is expected that each fieldwork day (equal to one person-day) will require a post-excavation day (equal to one-and-a-half person-days) for completion of the analysis and report. If the fieldwork lasts longer than about four days then there will be an economy of scale with the post-excavation analysis.

16 SPECIALISTS TO BE USED DURING THE PROJECT

- 16.1 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 - Trent & Peak Archaeological Trust Roman - B Precious, Independent Specialist Post-Roman - J Young, Independent Specialist/A Boyle, APS
Non-pottery Artefacts	J Cowgill, Independent Specialist, or G Taylor, APS
Animal Bones	J Kitch, APS
Environmental Analysis	J Rackham, Independent Specialist
Human Remains Analysis	J Kitch, APS

17 INSURANCES

- 17.1 Archaeological Project Services, as part of the Heritage Trust of Lincolnshire, maintains Employers Liability Insurance of £10,000,000, together with Public and Products Liability insurances, each with indemnity of £5,000,000. Copies of insurance documentation can be supplied on request.

18 COPYRIGHT

- 18.1 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.
- 18.2 Licence will also be given to the archaeological curators to use the documentary archive for educational, public and research purposes.
- 18.3 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.
- 18.4 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.

19 BIBLIOGRAPHY

Hodge, CAH, Burton, RGO, Corbett, WM, Evans, R, and Seale, RS, 1984 *Soils and their use in Eastern England*, Soil Survey of England and Wales **13**

Appendix 2

CONTEXT DESCRIPTIONS

No.	Description	Interpretation
001	Soft to friable mid brown to yellowish brown silt, 0.56m thick	Topsoil
002	Firm mid greyish brown clayey silt, 0.7m thick	Subsoil
003	Firm mid greyish brown silt	Fill of (004)
004	Feature, 2m wide by 0.63m thick, steep sides and flat base	Possible ditch
005	Friable mid to dark brownish grey silt, 0.64m thick	Buried soil
006	Firm mid bluish grey clay	Fill of (008)
007	Friable black organic silt	Fill of (008)
008	Feature, 5.5m wide by 0.63m deep, gradual sides and rounded base	Ditch
009	Friable black silty peat, 0.49m thick	Fill of (035)
010	Firm mid grey clay, 0.21m thick	Fill of (035)
011	Firm light yellowish brown silt, 1.76m thick	Fill of (035)
012	Firm mid to dark bluish grey clay, >0.53m thick	Natural deposit
013	Firm mid yellowish brown silt	Fill of (014)
014	Feature, 3.8m wide by 1.13m deep, steep sides and flat base	Ditch
015	Firm light to mid yellowish brown silt, 0.35m thick	Natural deposit
016	Firm mid grey silt and clay, 0.78m thick	Natural deposit
017	Firm mid brownish grey clay, >1.13m thick	Natural deposit
018	Firm light to mid brownish grey silty clay	Fill of (021)
019	Loose red brick and near white gravel/stone	Fill of (021)
020	Firm mid brown silt	Fill of (021)
021	Linear feature, possibly aligned north-south, 3.6m wide by 1.13m deep, steep sides and V-shaped base	Ditch
022	Friable mid grey silt	Fill of (004)
023	Firm light to mid yellowish brown silt	Fill of (024)
024	Linear feature, aligned northwest-southeast, 7m wide by >1.76m wide, vertical side to west, gradual to east, not fully excavated	Creek
025	Firm mid bluish grey clay, 0.45m thick	Natural deposit
026	Firm mid grey clay, 0.21m thick	Natural deposit
027	Firm light to mid grey silt, 0.28m thick	Natural deposit
028	Firm light yellowish brown silt	Fill of (041)
029	Soft dark brown/black silty peat, 0.1m thick	Buried soil
030	Firm light yellowish brown silt, >0.35m thick	Natural deposit
031	Firm mid brown silt, 0.28m thick	Deposit
032	Loose red bricks and mid greyish brown gravel	Fill of (033)
033	Linear feature, possibly aligned north-south, 3.4m wide by 1.4m deep, gradual sides and rounded base	Ditch
034	Feature, 4.8m wide by 1.13m deep, gradual sides and rounded base	Ditch
035	Linear feature, aligned northwest-southeast, 56.2m wide by 2.48m deep, gradual sides and rounded base	Canal
036	Soft to firm black organic silt with peat	Fill of (038)
037	Firm light grey silt	Fill of (038)
038	Feature, 1.6m wide by 0.84m deep, steep sides, V-shaped base	Ditch
039	Firm mid bluish grey clay, 0.42m thick	Natural deposit

No.	Description	Interpretation
040	Firm light grey silt, 0.43m thick	Natural deposit
041	Feature, >12m wide by >1.83m deep, stepped on east side and vertical side to west, not fully excavated	Creek
042	Soft mid brown silt	Fill of (043) and (034)
043	Feature, 2.5m wide by 0.53m deep, gradual sides and rounded base	Possible ditch
044	Firm light to mid yellowish brown silty clay, 0.7m thick	Alluvial deposit
045	Plastic mid grey clay, 0.56m thick	Alluvial deposit
046	Firm dark grey/black organic silt	Fill of (061)
047	Soft light yellowish brown silt, >1.4m thick	Natural deposit
048	Firm mid grey clay, 0.35m thick	Alluvial deposit
049	Firm mid yellow silty clay, 0.42m thick	Alluvial deposit
050	Firm light grey silty clay, 0.56m thick	Alluvial deposit
051	Firm black organic silt	Fill of (052)
052	Feature, 4.4m wide by >0.84m deep, gradual sides, not fully excavated	Possible ditch
053	Firm mid brown silt	Fill of (055)
054	Firm light to mid grey clay	Fill of (055)
055	Feature, 2.5m wide by 1.06m deep, steep sides and rounded base	Ditch
056	Firm mid yellowish brown clayey silt, 0.7m thick	Natural deposit
057	Firm mid bluish grey clay, 0.42m thick	Natural deposit
058	Firm to plastic mid bluish grey clay, 0.85m thick	Natural deposit
059	Firm dark brown/black silty peat, >0.14m thick	Natural deposit
060	Firm light yellowish brown silt, >0.42m thick	Natural deposit
061	Feature, 1.8m wide by >0.56m deep, steep sides, not fully excavated	Indeterminate feature
062	Firm dark grey organic silt	Fill of (063)
063	Linear feature, probably north-south aligned, >3m wide by >1.06m deep, steep sides, not fully excavated	Ditch
064	Firm mid yellowish brown silt, >1m thick	Natural deposit

Appendix 3

THE FINDS *by Tom Lane*

Provenance

The material was recovered from a buried soil (005).

Range

The range of material is detailed in the table.

Context	No	Description	Wt (g)
005	1	Pottery. Undecorated body sherd from thin straight-sided vessel. Buff exterior; black interior. Sandy fabric with very occasional shell. 38 x 26 x 3mm. Late Iron Age or early Roman	4
005	3	Briquetage. Container sherds. All sandy fabric, two with very sparse shell inclusions. One piece contains dense vegetation and has typical yellow salt coating on external surface.	11
005	8	Briquetage. Misc/structural pieces. One has thick external coating on smoothed side indicating contact with brine. All hard fired, generally sandy fabrics, some with voids indicating former organic temper.	54
005	2	Briquetage. Two fragments of probable supports. One small piece (4g) has smoothed surface and exhibits lavender salt colours.	32

Thirteen pieces of briquetage were found during the cleaning of a dyke side in Rippingale Fen. Although a small collection, contained within it were fragments of ceramic container, used for evaporation of brine, structural debris from the hearth or oven in which the evaporation took place and fragments of supports used to maintain the position of the containers. Together these indicate that salt was being processed at the location.

In the general vicinity of the site are a number of known saltmaking sites dating to both the Iron Age and Roman periods. Although difficult to date from such a small collection the limited forms suggest a date in the early Roman period.

Condition

All the material is in good condition and present no long-term storage problems. Archive storage of the collection is by material class.

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.
Briquetage	A term given to fragments of ceramic equipment and hearth/oven remains from the processing of salt.
Bronze Age	A period characterised by the introduction of bronze into the country for tools, between 2250 and 800 BC.
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).
Cropmark	A mark that is produced by the effect of underlying archaeological features influencing the growth of a particular crop.
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.
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).
Iron Age	A period characterised by the introduction of Iron into the country for tools, between 800 BC and AD 50.
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.
Prehistoric	The period of human history prior to the introduction of writing. In Britain the prehistoric period lasts from the first evidence of human occupation about 500,000 BC, until the Roman invasion in the middle of the 1 st century AD.
Romano-British	Pertaining to the period dating from AD 43-410 when the Romans occupied Britain.
Saltern	Salt producing site typified by ash, derived from fuel needed to evaporate sea water, and briquetage.

Appendix 5

THE ARCHIVE

The archive consists of:

64	Context records
1	Photographic record sheet
9	Sheets of scale drawings
1	Stratigraphic matrix
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:

The Collection
Art and Archaeology in Lincolnshire
Danes Terrace
Lincoln
LN2 1LP

Accession Number: 2007.50

Archaeological Project Services Site Code: RILD 07

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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