



nps archaeology

Report 2015/1125

**Postwick Park and Ride, Norwich,
Norfolk, NR13 5AX**

**Archaeological Excavation
Assessment and Updated Project Design**

**Prepared for: Mott MacDonald
on behalf of
Norfolk County Council**

Planning Ref: Y/5/2009/5019

**HER: ENF 131412
ENF 134155
ENF 134156**

September 2015

nps archaeology

QUALITY ASSURANCE		
Job Number	01-04-14-2-1125	
Overview	David Adams	
Draft	Pete Crawley	05-08-2015
Graphics	David Dobson	10-09-2015
Edit	Victoria Mellor	13-08-2015
Review	Andrew Crowson	18-09-2015
<i>Issue 1</i>		
Revised	Pete Crawley	08-10-15
<i>Issue 2</i>		

Peter Eric Crawley, BA, ACIfA

Sue Anderson BA, MPhil, MCIfA, FSA Scot

Julie Curl HND, ACIfA

Andrew Peachey BA MCIfA

Rebecca Sillwood BA, ACIfA

Louise Weetman BA

Author

Post-Roman pottery, brick, tile and fired clay

Animal bone

Worked flint

Glass, clay pipe, burnt flint and metal finds; report compilation

Finds processing

Disclaimer

This document has been prepared in good faith on the basis of information available at the date of publication without any independent verification for the exclusive use and benefit of the named client and for the sole purpose for which it is provided. NPS Archaeology does not guarantee the accuracy, reliability, completeness, or currency of the content of this document nor its usefulness in achieving any purpose. This document is not intended to nor should it be relied upon by any third party. NPS Archaeology accepts no responsibility nor liability should this document be used for any alternative purpose other than for which it is intended nor to any third party. NPS Archaeology will not be liable for any loss, damage, cost, or expense incurred or arising by reason of any person using or relying on information in this document.

nps archaeology

Scandic House

85 Mountergate

Norwich

NR1 1PY

T 01603 756150

F 01603 756190

E nau.mail@nps.co.uk

W nau.nps.co.uk

Contents

Summary 1

A ASSESSMENT 2

1. Introduction..... 2

 Project Background..... 2

 Structure of the Report..... 2

2. Geology and Topography 4

 Geology 4

 Topography..... 4

3. Archaeological and Historical Background 5

 Sources..... 5

 HER data 5

 Previous archaeological investigations 8

 Cartographic evidence 8

4. Original Research Aims..... 10

5. Methodology..... 11

 General 11

 Methods..... 11

 Archive..... 12

6. Summary of Excavation Results..... 13

 Structure 13

 Phasing..... 13

 Excavation Results 14

7. Factual Data Summaries and Statements of Potential 25

 Assessment of Stratigraphic and Structural Data..... 25

 Assessment of Archaeological Finds 26

 Assessment of Environmental Evidence 41

B UPDATED PROJECT DESIGN 43

8. Updated Research Aims and Objectives 43

 Introduction 43

 General Aims 43

 Research Objectives..... 43

9. Method Statements for Analysis..... 45

 Context and Stratigraphic Analysis 45

 Artefact Analysis 45

Environmental Analysis	46
10. Publication Proposal	47
Storage, Curation and Conservation	47
Resources and Programming	47
<i>Acknowledgements</i>	49
<i>Bibliography and Sources</i>	50
Figures.....	52
Plates	59
Appendix 1a: Context Summary.....	68
Appendix 1b: Feature Summary.....	85
Appendix 2a: Finds by Context	86
Appendix 2b: Finds Summary	90
Appendix 3: Pottery Catalogue.....	91
Appendix 4: Brick and Tile Catalogue	92
Appendix 5: Fired Clay Catalogue.....	93
Appendix 6: Small Finds Catalogue	94
Appendix 7: Flint Catalogue	95
Appendix 8: Animal Bone Catalogue.....	115
Appendix 9: Charred plant macrofossils and other remains	116
Appendix 10: Historical Periods	117
Appendix 11: OASIS Report Summary	118
Appendix 12: Archaeological Specification	122
Appendix 13: Trial Trench Evaluation Report.....	147

Figures

Figure 1	Site location
Figure 2	NHER and NMP crop-mark data
Figure 3	Location of evaluation trenches with cropmarks
Figure 4	The site
Figure 5	Plan of Areas A and B
Figure 6	Plan of Areas C and F

Plates

Plate 1	Area A, looking southwest
Plate 2	Machining Area B (south), looking west
Plate 3	Area B (north), looking south
Plate 4	Area B (north), looking east
Plate 5	Area B (south), looking southeast
Plate 6	Ditches M.10, M.11, looking south
Plate 7	Ditch M.13, looking south
Plate 8	Ditch M.9, looking east
Plate 9	Area C, looking north
Plate 10	Excavating pit 419 , looking south
Plate 11	Large pit 187 , looking south
Plate 12	Pits 256 and 258 , looking west
Plate 13	Irregular pit 440 , looking north
Plate 14	Ditch M.21, looking north
Plate 15	Ring-ditch M.19, looking north
Plate 16	Ditch M.22, looking southeast

Tables

Table 1	Archive quantification
Table 2	Quantification of artefacts and ecofacts
Table 3	Pottery quantities by fabric
Table 4	Pottery distribution and spot dates
Table 5	Brick and tile quantities by form
Table 6	Quantification of worked flint implement and flake types
Table 7	Quantification of the faunal assemblage by context number, feature type, weight in grams and fragment count
Table 8	Quantification of the faunal assemblage by context, feature type, species and NISP
Table 9	Project team
Table 10	Project tasks, duration and personnel

This page has been intentionally left blank

Client:	Mott MacDonald (on behalf of Norfolk County Council)
Location:	Postwick Park and Ride, Norwich, Norfolk
District:	Broadland
Planning Ref.:	Y/5/2009/5019
Grid Ref.:	TG 2912 0828
HER Nos:	ENF 134156 (Areas A, B, C), ENF 131412 (Area D monitoring), ENF 134155 (Area F monitoring)
OASIS ID:	norfolka1-224238
Dates of Fieldwork:	23 April 2013, 9 June–21 July 2014, 15–31 October 2014, 1–15 June 2015

Summary

NPS Archaeology was commissioned by Norfolk County Council, to carry out a programme of archaeological works ahead of construction of a park and ride terminal close to the village of Postwick, near Norwich, Norfolk (TG 2912 0829) Norfolk County Council were advised by Mott MacDonald.

The development site encompassed an area of 8.15 hectares and was subject to planning requirements set by Norfolk County Council (Y/5/2009/5019).

A trial trench evaluation, an excavation and a watching brief were carried out at intervals between April 2013 and June 2015.

A sequence of past activity was represented by ditches, enclosures, pits and a ring-ditch. Although the majority of these were undated, they were thought to be of Neolithic–Bronze Age date, and many were identifiable as crop-mark features on aerial photographs.

Small quantities of archaeological finds were recovered, including an assemblage of Mesolithic worked flint, and a few sherds of Anglo-Saxon, medieval and later pottery; in some cases the later finds dated excavated features.

This report forms an assessment of the excavated data and reviews the potential of the stratigraphic sequence and the archaeological finds recovered in relation to the original written scheme of investigation. The methodology and resource requirements needed to bring the project to completion are summarised.

Proposals for a programme of post-excavation analysis and publication are presented based on a series of revised research objectives formulated from the original project aims, combined with the assessment of the potential of the recovered data.

A ASSESSMENT

1. INTRODUCTION

Figure 1

Project Background

- 1 A proposal to create a new park and ride terminal close to the village of Postwick, on the east side of Norwich, Norfolk, necessitated a programme of archaeological work. The development was located in a c. 8.15ha field, centred at TG 2912 0829. The proposed works included creating an access road, 500 car parking spaces, 20 bus spaces, landscaping, habitat creation (tree and shrub planting, grass and wildflower seeding, and bund building), a new lagoon and cycleway/pedestrian facilities.
- 2 In November 2012, NPS Archaeology undertook an evaluation by trial trenching at the development site (ENF 130132). Several undated ditches and possible pits were recorded by the evaluation (Hodges 2013, Appendix 13), some of which corresponded to marks of sub-surface features identified on aerial photography by the National Mapping Programme (NMP). Small quantities of prehistoric finds suggested that some of the features might be of early date. Two main groups of features were identified, one across the north part of the site and the second on the east side.
- 3 The current work was undertaken to fulfil planning requirements set by Norfolk County Council (Y/5/2009/5019) and a Written Scheme of Investigation for Archaeological Mitigation issued by Mott MacDonald on behalf of Norfolk County Council (Adams, P. 2013, Appendix 12). The project was implemented in line with guidance and monitoring provided by Norfolk County Council Historic Environment Service (NCCHEs). The Written Scheme of Investigation specified archaeological excavation, post-excavation assessment and the production of an Updated Project Design to outline analysis, publication and archiving.
- 4 The work was conducted in accordance with a Project Design prepared by NPS Archaeology (01-04-14-2-1125/Page 2013). The work was designed to assist in defining the character and extent of any archaeological remains within the proposed development area, following principles contained in *National Planning Policy Framework* (Department for Communities and Local Government 2012).

Structure of the Report

- 5 This assessment has been conducted in line with English Heritage guidance documents *Management of Research Projects in the Historic Environment*, *The MoRPHE Project Managers Guide* (2009) and *PPN3 Archaeological Excavation* (2008).
- 6 This document comprises two principal parts: A. Assessment, and B. Updated Project Design. Each part is expanded in a series of numbered Sections, of which Part A: Section 1 comprises an introduction to the project. Part A: Sections 2-7 concern the assessment of the excavations, and Part B: Sections 8 & 9 detail the updated post-excavation project design. Parts A and B are supported by illustrative figures and plates, and by tabulated appendices at the rear of the report.

- 7 The results of the 2012 evaluation are not considered in detail in this document, but the report on that work (Hodges 2013) is included as Appendix 13. The evaluation results are, however, referenced by this document and it is intended that they will comprise part of the analysis to bring the project as a whole to publication.
- 8 The document begins by summarising the background to the archaeological project in Section 1, the site location, and the initial aims of the work.
- 9 The introductory section is followed by a description of the geology and landscape topography at the site in Section 2.
- 10 Section 3 draws on research data assembled from the Norfolk Historic Environment Record and cartographic evidence to present a brief summary of the known archaeology and recent landscape history of the vicinity of the development site.
- 11 Section 4 outlines the initial research aims of the archaeological project in respect to the local research framework (Medlycott 2011).
- 12 Section 5 contains the practical methodologies employed during the excavation at the development site.
- 13 A summary of the results of the excavation is presented in Section 6. The results are broken down by excavation area and feature groups.
- 14 Section 7 quantifies the stratigraphic and finds data and includes summaries and statements of potential for the stratigraphic records. The archaeological materials are assessed by category and statements of potential and requirements for further work are detailed.
- 15 In Part B, Section 8 sets out the updated research aims and objectives of the post-excavation work programme. These are discussed in relation to the current local archaeological research framework (Medlycott 2011), and state how the results of the excavations might address specific research questions.
- 16 Section 9 contains method statements for the analysis tasks required to bring the results of the archaeological project to publication.
- 17 Section 10 comprises a proposal to compile an archive report and a published report. The proposed tasks and personnel are summarised in tables.
- 18 Appendices are grouped as a series of tables at the end of this document. All of the individual context numbers assigned during the excavations are described and catalogues for each archaeological material type are presented in separate appendices. Copies of the OASIS database form and the archaeological specification for the project are included.

2. GEOLOGY AND TOPOGRAPHY

Geology

- 19 Borehole information available in the vicinity of the site indicates a ridge of Upper Chalk bedrock at the south boundary of the site close to the position of the railway line. Here the depth is recorded at 2.75m from the ground surface, whereas a borehole towards the centre of the east boundary of the site records the depth of the Upper Chalk as 9.00m (British Geological Survey 2015)
- 20 Above the Upper Chalk are Crag Group sand and gravel formed up to 5 million years ago in the Quarternary and Neogene periods in a local environment previously dominated by shallow seas. (British Geological Survey 2015)
- 21 The drift geology is recorded as Happisburgh Glaciogenic Formation and Lowestoft Formation (Undifferentiated) sand and gravel formed up to 2 million years ago in the Quarternary period in an area dominated by Ice Age conditions.
- 22 The natural geology exposed by the excavation consisted of white, pale orange and bright yellow and orange, sand and gravel with occasional patches of clay.
- 23 The composition of subsoil at the development area was relatively homogeneous across the site, comprising silty sand of varying hues from greyish brown to orangey brown. The incidence and depth of subsoil varied from a maximum of 0.15m deep in the north to 0.30m deep in the south. Where there were hollows or dips in the landscape the subsoil was deeper. The north half of Area C in particular contained some deeper pockets of subsoil, the edges of which were plotted.
- 24 Topsoil consisted of mid-greyish brown sandy silt with moderate amounts of flint and stone and occasional clay inclusions. It measured typically 0.50m deep.

Topography

- 25 The site is located on the east side of Norwich, with the existing park and ride terminal located to the west. The site is bounded on its north edge by the A1042 Yarmouth Road, on its east side by Oaks Lane, which leads to Postwick, and to the south by a railway line carrying trains from Norwich to the east.
- 26 The site consisted of a large arable field, which was under crop during the initial period of the excavation in 2014. During the final part of the project in 2015 the field had no crop and had been subjected to preparatory landscaping by bulldozer.
- 27 The entire site measured 8.15ha and is situated in an area of gently rolling hills, generally sloping down from north–south, with a secondary incline down from the centre towards the east. Heights ranged from 14.20m OD in the north to 5.30m OD in the south. The lowest point of the excavation was in the southeast corner of the field in Area C. Beyond the site, steeper slopes lay beyond Oaks Lane to the east and the railway to the south. The land also slopes up beyond Yarmouth Road to the north but is relatively flat to the west, around the existing park and ride.
- 28 The site is situated to the north of the floodplain of the Yare River. The river flows from west–east c. 400m to the southwest of the site.

3. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Sources

- 29 The primary source for archaeological evidence in the county of Norfolk is the Norfolk Historic Environment Record (NHER), which details archaeological discoveries and sites of historical interest. In order to characterise the likely archaeological potential of the development site, NHER data centred on TG 2912 0829 was consulted.
- 30 *An Historical Atlas of Norfolk* (Ashwin and Davison 2005) was consulted to provide period-specific background details. Local crop-mark data compiled by the NMP was drawn from Crawley (2014).
- 31 The archaeological and historical data is supplemented by an appraisal of available historical cartographic evidence sourced online from *Historic Map Explorer* (Norfolk County Council 2015).
- 32 A reference table listing dates for historical periods described in this report is provided in Appendix 10.

HER data

Figure 2

- 33 The NHER records that are most relevant to the current work are referenced and summarised below in broad chronological order, along with details of previous archaeological work in the vicinity. The records that are located in closest proximity to the development site are shown in Figure 2. The information presented that is sourced from NHER remains copyright of NCCHEs.

Prehistoric

- 34 There are no Palaeolithic finds or sites noted for the parish of Postwick. In the wider area, however, excavations at Laurel Farm to the west (Bishop and Proctor 2011) recorded occupation dating from the Lower Palaeolithic. Evidence was recovered that showed that the site had also been visited during the Upper Palaeolithic by hunter-gatherer communities.
- 35 Two Mesolithic flint axes are recorded nearby, NHER 10216 and NHER 11644.
- 36 A Neolithic polished axe was recovered close to the current site NHER 21639.
- 37 Although there is tentative evidence for field systems of Bronze Age to Iron Age date, there is very little evidence for associated settlements (Ashwin 2005a, 21). Evidence of Neolithic settlement has been found, but only at a distance from the current site. Examples include Eaton Heath approximately 4.0m to the west (NHER 9544) and approximately 14 miles to the south, Broome Heath at Ditchingham (NHER 10602). The Norwich Southern Bypass excavations noted a focus of prehistoric activity around 1km to the southwest, in the vicinity of Arminghall, close to the confluence of the rivers Yare and Tas (Ashwin and Bates 2000).
- 38 There are many Bronze Age barrows in this part of Norfolk. Several ring-ditches, which may represent Bronze Age barrows, are recorded in the local area. These include NHER 52041, NHER 52049, NHER 36340 and NHER 49556. The ring-ditches are known from crop-marks plotted by the NMP.

- 39 Several assemblages of worked flint have been found in Postwick parish. Postwick Grove produced 80 flakes not closely recorded at for reasons of security at TG 29 07 (NHER 12624) and 200 flints were found near to the current site (NHER 22030). The tip of a Late Bronze Age spearhead was recovered west of Postwick village (NHER 9649), as was as a copper-alloy palstave (NHER 17945).
- 40 The NMP records what appear to be portions of field systems, evident as crop-marks, which may include Neolithic–Bronze Age and later examples.
- 41 Crop-mark site NHER 52042 is located just to the south of Yarmouth Road in the area of the park and ride site extension. Several east–west ditches overlie possible prehistoric pit alignments along an ancient palaeochannel. Two further collections of crop-mark pits are situated to the north NHER 52047 and east NHER 52048 of the site.
- 42 There are several groups of crop-marks in the area thought to date from the later prehistoric–Roman period, although they are often inconclusively dated. NHER 52039, to the north of the site, records the presence of linear crop-marks and evidence for a large rectangular enclosure that is thought to be linked to wider-spread field systems NHER 52038, and date to the later prehistoric–Roman periods.

Roman

- 43 The Roman town *Venta Icenorum* at Caistor St Edmund, around 3km to the southwest of the site, became the administrative and economic centre for the region. It was laid out in c. AD 70, perhaps replacing an Iceni settlement or early fort, and soon covered an area of 28ha (Gurney 2005, 28). The settlement was a focus of Roman-period activity on the south and east sides of Norwich, and it is postulated that a Roman road ran northeast–southwest towards Postwick (Gurney 2005, 29).
- 44 In the area of the site, however, there is only little evidence of activity in the Roman period, a discovery that is in-keeping with the results recorded for this period by the Norwich Southern Bypass excavations (Ashwin and Bates 2000, 241).
- 45 There are some areas of crop-mark evidence for which a Roman date has been suggested. South of the railway line site NHER 49560 records the presence of undated enclosure ditches and field boundaries that possess Roman-period characteristics.

Anglo-Saxon–Medieval

- 46 Caistor St Edmund continued to be a major focus for activity in the Anglo-Saxon period, and several settlements were located at the core of what would become the city of Norwich, 6km to its north. The settlement of Postwick was probably also founded by at least later Saxon times, as it is recorded in the Domesday Survey of 1086 as possessing a mill and a church (Gurney 2005, 28).
- 47 The village centre of Postwick has yielded some notable finds, including a gold seal of the Anglo-Saxon Lady Bathilda, found by metal detecting (NHER 13603). The find's location has not been closely logged due to the need for extra security. Other high quality finds hint at the prosperity of the area and maybe at some continuity from the Roman period. It could be tentatively suggested that there may have been a wealthy estate in the vicinity of Postwick, based on an earlier, Roman estate and exploiting the resources of the marsh close to Postwick.

- 48 The NHER parish summary for Postwick records that there is no clear evidence for the site of a medieval manor house, although possible sites are postulated such as the present Postwick Hall, which was named as the residence of 'a gent' in 1576 (NHER 17844). Another possibility is Postwick House Rectory in the centre of the village (NHER 17846). Re-used building material in Cherry Cottage, approximately 700m south of the site, (NHER 17847) may suggest that the former manor house was close-by.
- 49 Finds of medieval date from across the parish reflect its continued prosperity through the medieval period, almost certainly on account of the village's proximity to the main road from Norwich to Yarmouth on the east coast, as both towns had become important commercial centres by the medieval period. Some of the most prestigious finds include a spoon handle with a copper-alloy virgin and child motif (NHER 16269), and a silver-wire ring brooch (NHER 20331). These were located within grid squares TG 30 07 and TG 30 08 respectively.
- 50 In the north part of the parish, closer to the present investigation site, there are fewer finds of medieval date. This area was known to lie at the south end of a swathe of heathland that once circled Norwich. It is known that from the Late Anglo-Saxon period into the early medieval period the Norwich heathland was used for iron extraction and production. There is evidence that ore was quarried, washed and roasted to remove impurities. Mousehold Heath continued to be visited for its natural resources, with gravel quarries and brick kilns exploiting the natural clays, until pressures on agricultural production towards the end of the 18th century resulted in the enclosure of the land (Adams, D. 2013).
- 51 The NHER data shows segments of medieval field systems as cropmarks in the local area, which indicate that the land was at least in part given over to agriculture. Where medieval fields have been noted within the search area, these are generally at some distance north of the site, the nearest being over 400m north.
- 52 Around 200m north of the site, NHER 52037 records an enclosure thought to be similar to medieval–post-medieval field systems identified further north (NHER 51971). To the east of the current investigation site, a group of undated ditches NHER 52004 are thought to represent several phases of activity from Roman through to medieval times.

Post-medieval–Modern

- 53 Post-medieval find spots in the parish recorded by NHER are more numerous closer to the village centre. The area to the north of the village appears to have been largely used as agricultural land at this time.

Undated and Multi-period

- 54 There are several groups of crop-marks for which there is currently no indication or suggestion of date in NMP records. These include three parallel ditches adjacent to Postwick village (NHER 52115).
- 55 Immediately south of the current site and the railway line, a double-ditched enclosure and adjacent linear features may be the remains of multi-period occupation, although currently the periods represented are not known (NHER 21767).

- 56 Several features of possible Anglo-Saxon date have been recorded close to the site. Immediately south of the A47, cropmarks NHER 52046 consist of a cluster of three pit-like features that could be the remains of sunken featured buildings. Alternatively, they may have a geological or natural origin, or be the result of gravel extraction. Due to their lack of secure date they are considered as undated.

Previous archaeological investigations

Figure 3

- 57 The archaeological potential of the development site was suggested by the presence of several crop-marks recorded by the NMP. Subsequent trial trench evaluation by NPS Archaeology in November 2012 (ENF 130132) targeted potential archaeological features. Various features were observed and recorded across 20 x 30.00m-long trenches (Hodges 2013).
- 58 Trenches 10, 16 and possibly 13 in the east of the site confirmed the presence of a large linear feature recorded as a northeast–southwest aligned crop-mark. The trenches also contained pits and part of a flint wall (Trench 10), large ditches and pits/post-holes (Trench 13), and a ditch and a tree-hole (Trench 16).
- 59 Trenches 03 and 08 in the west of the site confirmed a northwest–southeast crop-mark as a large ditch. A circular crop-mark in Trench 08 appeared to be a quarry pit.
- 60 The crop-mark of a curved ditch was tested in Trench 09 in the north of the site. Trenches 05 and 07 in the west side of the site contained ditches that did not show as crop-marks.
- 61 Five trenches (01, 06, 19, 20 and 21) contained no archaeological evidence.
- 62 An archaeological excavation (ENF 134151) immediately to the north of the Postwick Hub road interchange site (Crawley 2014), was undertaken concurrent with the excavation at the Postwick Park and Ride.
- 63 The Postwick Hub excavation recorded a number of archaeological features, including 27 ditches and 201 pits across six areas. Datable features were principally of Neolithic–Bronze Age date, and it is possible that other, undated features also date to these periods.
- 64 The results of the Hub and the Park and Ride excavations are mutually informative and it is proposed in this assessment that data from the two sites should be published together.

Cartographic evidence

- 65 The Tithe map of 1838 for the area shows an approximately north–south field boundary ditch at the centre of what was, until the start of the recent works, a single large field. This map pre-dates the railway to the south and indicates that, prior to the creation of the rail line, fields extended uninterrupted to the south (Norfolk County Council 2015).
- 66 The First Edition Ordnance Survey map (c. 1885) adds little extra detail to this picture, except that by this date the railway line had been established. There are no obvious features other than the central field division marked in the field containing the excavation site. (Norfolk County Council 2015)

- 67** Aerial photographs of 1946 and 1988 provide no further relevant information for the area of the site, simply confirming the railway and central field division. (Norfolk County Council 2015)

4. ORIGINAL RESEARCH AIMS

- 68 Regional resource assessments by period are set out in the document *Research and Archaeology Revisited: A Revised Framework for the Eastern Counties* (Medlycott 2011). This document states specific research questions for periods ranging from the Palaeolithic to the modern. The general aims of the archaeological work carried out by the excavation at Postwick Park and Ride were set out in the Written Scheme of Investigation by Mott MacDonald (Adams, P. 2013, Appendix 12):
- I. The objective of this archaeological investigation is to determine the character (nature, date, complexity and extent) of the ditches and pits recorded at the site.
 - II. The archaeological investigation will seek to achieve the following aims: Identify the date, approximate form and purpose of any archaeological deposit, together with its likely extent, localised depth and quality of preservation;
 - III. Establish whether the features identified at the site could be associated with those revealed to the north of the A47.
- 69 Updated research aims and objectives are presented in Section 8 of this report.

5. METHODOLOGY

General

- 70 Methodology for the excavation followed an agreed Project Design produced by NPS Archaeology (01-04-14-2-1125/Page 2013). Archaeological procedures conformed to guidelines issued by the Chartered Institute for Archaeologists (CIfA 2014a), and the excavation was conducted in the context of the relevant regional archaeological framework (Medlycott 2011).

Methods

- 71 Six areas for archaeological investigation were identified by Mott MacDonald and approved by NCCHEs. The areas were allocated identification letters:
- Area A – access road and roundabout (strip, map and sample)
 - Area B – car park (strip, map and sample)
 - Area C – lagoon (strip, map and sample)
 - Area D – tree planting west of proposed car park (archaeological monitoring)
 - Area E – tree planting east of proposed car park (no archaeological work needed)
 - Area F – tree planting and cycle way/footpath south of lagoon (archaeological monitoring)
- 72 It was considered that the tree planting in Area E would have little impact on any sub-surface archaeology present here, and it was agreed by Mott MacDonald and NCCHEs that the nature of the operations negated any need to fully strip or monitor the area archaeologically.
- 73 Area F, situated either side of a cycle path at the south boundary of the field, was initially considered as an area of strip map and sample mitigation, but due to the minimal disruption from planting and landscaping only the specific line of the cycle way was archaeologically monitored under consent of Mott MacDonald and NCCHEs.
- 74 The civils company Birse were the principal contractor undertaking the development at Postwick Park and Ride. Birse were responsible for overall Health and Safety and supplying and organising plant. All staff were inducted by Birse.
- 75 A range of machines were employed by Birse from various local suppliers, including Lancasters, PJ Crane and Aylsham Plant Hire. Machine excavation was carried out by a variety of 360° tracked 13- to 18-tonne machines. The stripping of Area A and B was undertaken by Lancasters, who were responsible for much of the larger scale machining, held their contract directly from Norfolk County Council and operated largely independently of Birse. Area C was stripped by PJ Crane. All of the machining was undertaken under constant archaeological supervision and direction.
- 76 Machining initially took place to remove areas of topsoil, which was followed by an examination of the subsoil for archaeological features. Once the subsoil was examined and deemed to be clear of features the machine removed it down to the natural geological horizons. Large wheeled dump trucks were able to run on the topsoil, but only smaller, tracked dumpers were used on the subsoil. This strategy was used successfully all the archaeological areas. The dumpers re-located topsoil

and subsoil to areas designated by Birse. The plant and dumpers followed clear directions of travel to keep members of staff safe.

- 77 Archaeological features that were observed cutting the geological soils were marked using blue line paint to assist future identification during the excavation. Fencing was used to demarcate deeper areas of excavation for site and public safety. This was often undertaken by Birse and frequently took the form of Heras fencing. High visibility Netlon fencing was erected by NPS Archaeology at certain places to demarcate deeper excavated features.
- 78 Spoil, exposed surfaces and features were scanned with a metal detector. All metal-detected and hand-collected finds other than those that were obviously modern were retained for inspection.
- 79 A total of 33 environmental soil samples was taken. These were all bulk samples taken to retrieve plant macrofossil evidence. Four samples were processed for this assessment in order to present the potential of the site.
- 80 All archaeological features and deposits were recorded using NPS Archaeology pro forma sheets. Plans and sections were recorded at appropriate scales. Monochrome and high resolution digital photographs were taken of all relevant features and deposits where appropriate.
- 81 The archaeological areas were surveyed by NPS Land Survey using a GPS RTK Rover. This provided accurate heights and survey points across the site that were used during the course of the project. Single archaeological features and groups of features were planned using planning points that were subsequently surveyed by NPS Land Survey. In order to expedite rapid excavation of the site, a programme of rolling consultation with Mott MacDonald and NCHES was employed. Information regarding the archaeology was relayed and considered promptly. This allowed for hand excavation to take place whilst machine stripping was still being undertaken.
- 82 Site conditions were generally good, with the work taking place in often fine and sunny weather. Extreme downpours of rain on occasion made recording very difficult, and impacted on the potential safety of the site. These risks were mitigated by site systems of safe working. Areas that became flooded were initially left until they dried with work continuing elsewhere.
- 83 All site work was undertaken with respect to Health and Safety provision. Hard hats, high-visibility long-sleeved jackets, high visibility trousers and steel toe-capped boots were worn by all staff at all times.

Archive

- 84 The site archive is currently held at the offices of NPS Archaeology. Upon completion of the project, the documentary archive will be prepared and indexed following guidelines obtained from the relevant Museum and relevant national guidelines (ClfA 2014b). The archive, consisting of all paper elements created during recording of the archaeological site, including digital material, will be deposited with Norfolk Museums Service.
- 85 A summary form of the results of this project has been completed for Online Access to the Index of archaeological investigations (OASIS) under the reference norfolka1-224238 (Appendix 11), and this report will be uploaded to the OASIS database.

6. SUMMARY OF EXCAVATION RESULTS

Structure

- 86 Section 6 is concerned with the results of the 2014–15 excavation only: the results of the 2012 evaluation are documented elsewhere (Hodges 2013) and are reproduced in Appendix 13 for reference. In Section 9, it is proposed that the results of the preceding evaluation will be integrated with those of the excavation in the analysis programme.
- 87 The mitigation works were located in six designated Areas (A–F) across the development.
- 88 Area A was excavated in order to facilitate a new access road and roundabout. It was situated on the north side of the development, adjacent to Yarmouth Road, and measured approximately 2848m².
- 89 Area B comprised a new car park in the west part of the site. It was the largest of the areas, measuring 15,482m².
- 90 Area C, which was excavated in order to construct a new lagoon in the lowest part of the field, was situated to the southeast and measured approximately 4535m².
- 91 Area D was an area of tree planting to the west of the car park and was subject to archaeological monitoring. It measured approximately 1562m².
- 92 Area E, an area of tree planting east of the car park, measured approximately 1292m². Following discussion between Mott MacDonald and NCCHEs it was not considered necessary to undertake archaeological work at this location.
- 93 Area F was excavated along the southern boundary of the field along a new cycle route, and was subject to archaeological monitoring. Area F covered approximately 4066m² in total, although the monitoring concerned only the narrow strip reduced to geological horizons where the cycle path would be constructed, which measured approximately 220m². The remainder of Area F was designated for planting and minor landscaping, which would have less impact on the geological levels and any archaeology.
- 94 The preliminary phasing of the excavated archaeological features is considered below, presented within an overview of the broad date range of finds from the site. Artefactual and environmental data is noted where appropriate to support the initial phasing, and interpretations are offered for the cut features. Other categories of data are considered separately in Section 7.
- 95 The excavation results are structured by Area and period and summaries of features and groups of features are presented for each area.

Phasing

- 96 Working context matrices have been prepared for each Area and the plans and other drawings have been digitised into AutoCAD 2014 LT to allow the production of preliminary plans of the archaeological periods represented. For the purposes of this assessment, the dating and preliminary phasing of the features is presented on the site plans included in this report. It is intended that separate phased plans will be included in the final archive report and published article.

- 97 Initial phasing of the site has been achieved from examination of the worked flint and other finds from feature fills and deposits (but see following paras for caveat). Relative stratigraphy and spatial distribution have been used to support the phasing of some archaeological features.
- 98 It is emphasised that the phasing presented here is strictly provisional: final interpretation is dependent upon further analysis of the stratigraphic record in conjunction with the finds assemblages, when it may be possible to refine the current phasing.
- 99 Two very broad periods of archaeological activity are evident from the excavation:
- Period 1: Prehistoric activity represented by archaeological features that appear to be generally of Neolithic–Bronze Age date. Some of the flint *could* be Mesolithic in date and may represent earlier activity. A little Iron Age pottery is present in two pits. The degree to which worked flints found in features are residual is somewhat uncertain. Several sherds of early medieval pottery are likely to be intrusive.
 - Period 2: Medieval–post-medieval activity.
- 100 A number of features, including ditches, pits and post-holes, could not be dated due to absence of archaeological materials.

Excavation Results

Figures 4–6

Introduction

- 101 This Section sets out the results of the excavation carried out from 9 June–21 July 2014, 15–31 October 2014, and 1–15 June 2015.
- 102 The excavation revealed a sequence of archaeological features thought to be largely of Neolithic–Bronze Age date, essentially a continuation of activity seen during the Postwick Hub excavation (Crawley 2014). Some of the worked flint may be of Mesolithic date and could be residual in later prehistoric features. The majority (c. 90%) of the features on the site were undated, but as they were sealed by the subsoil it is possible they were also of Neolithic–Bronze Age date. The subsoil was not dated, although where such deposits were recorded at the Postwick Hub excavation to the north the subsoil appeared to seal dated prehistoric features (Crawley 2014). It is noted further that there is similarity in orientation with the prehistoric features found by the Postwick Hub excavation.
- 103 It was considered useful in post-excavation to group larger and more complex features to facilitate their description and later analysis. This was undertaken for features that were investigated at more than one point or where more than one context (cut) number was allocated, by allocating Master numbers. Master numbers are identified by the prefix M., thus M.1, M.2, etc.
- 104 There was a total number of 26 ditches, 185 pits, 10 natural features (and others that were not recorded), and 9 post-holes recorded in the three areas of strip, map and sample excavation. Some of these definitions will be examined in post-excavation and may change prior to the final archive report. Where the Master numbered features could be grouped together this is denoted by a Group number. Group numbers are identified by the prefix G., thus G.1, G.2, etc. The majority of

the features currently grouped are ditches. Some 'loose' concentrations of pits have not been grouped due to the lack of dating or other evidence.

- 105 The archaeological features are discussed by phase (and possible phase) under Area sub-division. They are presented under general headings and by Group, where grouping has been possible.

Area A

Figure 5. Plate 1

- 106 Area A was a narrow, 6.00m-wide 285m east–west strip at the north edge of the site with a short north–south extension on the south side.

Natural features

- 107 A large sand-filled linear feature located towards the north of the south extension to Area A was identified as probably of glacial origin. It was not allocated a master or group number.

Undated features

Group 1

- 108 Group 1 consisted of an area of undated pits. The pits were denser in the central parts of Area A. The pits totalled 29 in all, though this number included some features that may be of natural origin. The pits ranged in size from 0.48m to 10.00m wide. Depths varied between 0.20m and 3.15m, but typically the pits had concave sides and bases. Pit fills consisted of various shades of brown silty sand, which had most likely accumulated naturally, although at least two large pits may have been backfilled. It is suspected from their character that many of the undated pits may be of prehistoric date.

Group 2

- 109 Group 2 comprises two undated ditches without Master numbers (**79, 99**) at the south end of Area A, and Ditch M. 1 at the east side of the Area.
- 110 Ditch M.1 was situated in the east of Area A. It ran parallel to a further short section of ditch, immediately to the east, with which it may have formed a 'double-ditch' feature. It extended beyond the south edge of the excavation and was 0.72m wide. Two sections were excavated revealing a consistent depth of 0.20m–0.22m and concave sides and base. The fill was mid-orangey brown silty sand. As the feature appeared to be truncated by ploughing, it is not clear if the apparent terminus at the north end was real, or simply marked the end of a deeper segment of the original ditch. No dating evidence was recovered from the fill, although the feature could be the same as a double-ditch feature recorded to the north by the Postwick Hub excavation, which was dated by pottery to the Bronze Age–Early Iron Age (Crawley 2014). Each of the double linear features corresponded to matching crop-marks recorded on aerial photographs.

Dated prehistoric features

Group 3

- 111 Group 3 consists of four pits dated by worked flints to the prehistoric period in the south and centre of Area A. The two pits in the south measured 0.80m x 0.60m whereas the others were 1.60m x 2.00m, and 1.60m x 1.00m.

Group 4

- 112 Ditches M.3, M.4 and M.6 probably formed a small enclosure described by Group 4. A mixture of dating evidence was recovered from the excavated sections, however the feature is possibly prehistoric in date and the post-medieval material is currently considered to be intrusive.
- 113 Two sections were excavated through the north-most feature M.3. The ditch was orientated broadly east–west and was 0.97m wide. It was slightly deeper in the east at 0.32m and was 0.25m deep in the west. The fill was of brown silty sand in the west and light greyish brown sandy silt in the east, possibly the result of gradual, natural silting. Worked prehistoric flint (not closely datable) was recovered from the fill.
- 114 Ditch M.4 was situated immediately south and perpendicular to the west end of ditch M.3. Ditch M.4 was a short segment of ditch 1.03m wide with gradually sloping sides and a concave base. It is unclear how far the feature extended to the north, as its shape in plan suggested that it terminated. Ditch M.4 appeared to terminate only a short distance to the south (4.30m length), however it is likely to have continued further south as M.6. Its depth was consistently 0.26m and its fill was greyish brown sandy silt, which contained worked prehistoric flints (not closely datable).
- 115 Ditch M.6 was orientated north–south, measured at least 9.70m long and was 1.19m wide. The ditch was truncated at either end, to the north by Ditch M.5 and to the south by ditch M.7. Ditch M.6 did not extend beyond Ditch M.7. Ditch M.6 was 0.32m–0.34m deep and had gradual sloping sides and a concave base. The fill was pale grey sandy silt at the south end and yellowish brown sandy silt at the north end. The ditch was truncated by a smaller east–west undated ditch towards its centre. No dating evidence was recovered from the fill, although as the ditch appeared to be a continuation of ditch M.4 it is included as part of G.4.

*Dated post-medieval features**Group 5*

- 116 Group 5 refers to a number of post-medieval ditches: **111**, **109** (which were not allocated master numbers), and Ditches M.5 and M.7. Ditch M.7 was not dated by excavations in Area A, but was confidently dated to the post-medieval period by work in Area B.
- 117 Ditch M.5 was an east–west ditch located towards the centre of the extension to Area A. It was almost certainly a continuation of Ditch M.8 in Area B. The ditch extended beyond the east and west limits of excavation and measured 0.10m deep x 1.00m wide. The ditch had almost vertical sides and a flat base. Its fill was dark brown sand, which had probably built up through natural deposition and which contained a sherd of 18th- or 19th-century pottery. The ditch appeared to truncate M.6 at its north end.
- 118 Ditch M.7 cut the south end of Ditch M.6. It was orientated broadly east–west, extended beyond the limits of the excavation and was probably the same feature as Ditch M.9 in Area B. The ditch measured a maximum of 2.10m wide, 0.45m–0.72m deep and had a concave base and generally shallowly sloping sides. Its fill was characteristically of pale grey sandy silt, which had built up through natural processes.

Group 6

- 119 Group 6 describes large areas of modern disturbance which were evident at the west end of Area A. Currently it is thought that they are a consequence of the construction of Yarmouth Road in the 1960s. These features measured up to 60m maximum width and were tested by machine under consent of Mott MacDonald and NCCHEs. This showed that they were essentially large pits, with depths of 1.50m–2.00m. Fills were recorded as generally mixed sands and silts.

Area B

Figure 5. Plates 2, 3, 4, 5

- 120 Area B was the largest stripped area and was situated in the west half of the site. It was approximately rectangular in shape and covered an area of 15,482 m².

Natural features

- 121 In the north half of Area B there were extensive patches of slightly siltier sand. These were examined at certain locations and proved to be wide natural hollows of geological origin which were filled with light, slightly discoloured-orange, slightly silty sand. The geological deposits within the large hollows contained no artefacts. Two large machine excavated slots were excavated through the deposits by machine, with consent of Mott MacDonald and NCCHEs. The machined slots indicated that the average depth of the hollows was 0.40m–0.50m. The hollow areas were irregular in plan and had irregular edges. The natural hollows were only allocated context numbers at locations where they were intersected by archaeological features (508, 564).

Undated features

Group 7

- 122 Group 7 was allocated to undated pits in Area B, which were generally concentrated inside the space defined by the Group 9 Ditches M.10, M.15 and M.13. None were observed to the east of ditch M.13. At the north end of Area B the pits seemed to be more widely distributed. The 45 undated pits in Area B may include some features of possible natural origin. The pits measured characteristically 0.60m–3.00m long x 0.20m–0.50m deep. Although undated, many of the pit features are currently thought to likely be prehistoric in date.
- 123 A single ditch M.17 on the east side of Area B was undated, though its alignment with other features of suspected prehistoric date may constitute evidence of a prehistoric date. Ditch M.17 was orientated north–south and was truncated by post-medieval ditch M.9 at its north end. A spread of discoloured geological soil, which aligned with ditch M.17 to the north but appeared at first to be of natural origin, may have been vestigial remains of the same feature. Three sections were excavated through M.17. The ditch possibly truncated a natural hollow at its south end. Ditch M.17 was 0.30m deep at the north end and became 0.43m to the south. The sides were steep and the base was concave. The ditch fill was mid-orangey brown silty sand, which was considered to have built up through natural silting.

Dated prehistoric features

Group 8

- 124** Pits in Group 8 dated to the prehistoric period and were also situated largely within the area defined by the Group 9 Ditches M.10, M.15 and M.13. Several of the pits, with regular forms, were distributed in an approximate line across the south of Area B, in the vicinity of Ditch M.15. The pits ranged in size, 0.60m–3.00m long x 0.20m–0.50m deep. The pits were quite regular, with consistent diameters of 1.00m, with steep sides and concave bases. Elsewhere, forms were more varied, and three of the pits had irregular edges. Pit fills consisted of various shades of brown silty sand, which had likely accumulated naturally.

Group 9

- 125** Several ditches in Area B appeared from their position and form to be part of a field system and are considered as Group 9. The group comprises M.10, M.11, M.13, M.14 and M.15. Ditch M.15 was truncated by ditch M.13, but is included within the same group, due to its orientation.

Plate 6

- 126** North–south orientated Ditch M.10 was located on the west side of Area B and was truncated by post-medieval Ditch M.9 to the north. Eleven slots were excavated through Ditch M.10 in order to examine 20% of the feature and for through Ditch M.11. A further ditch, M.14 appeared to continue the line of M.10 to the south, and the gap between may have represented an entranceway. Ditch M.11 and M.10 formed a double feature of the type seen elsewhere across the Postwick Park and Ride and Postwick Hub excavations (Crawley 2014). There was just over 4.00m distance between the two. Such double ditches may have been situated either side of paths or droves. Ditch M.10 appeared to extend beyond the north limits of Area B, although as it was not observed within Area A this suggests that it may have terminated somewhere in between. On average it measured 0.85m wide x 0.20m–0.28m deep. Ditch M.11 was slightly narrower than M.10 at c. 0.55m wide and was shallower, being a maximum of 0.15m deep. The sides and base were generally concave. The central portion the ditch truncated a large area of disturbed natural ground. Ditch M.10 was very shallow and had probably been truncated by ploughing, the base was alternately concave or flattened and the sides were regular, often with a slope of 45°. The fills of M.10 and M.11 were each light greyish brown silty sand in the south and mid-orange brown sand in the north. Worked flints were recovered from the fill.

Plate 7

- 127** North–south Ditch M.13 was situated east of M.12 and M.16. A section excavated at the south end of the ditch appeared to prove that it genuinely terminated at this point. The ditch measured 76.0m long, an average 1.00m wide, and appeared to stop short of a small segment of perpendicular ditch to the south. The ditch truncated narrow Ditch M.15 at its south end. Nine sections were excavated through the feature to provide a 20% sample. Depth varied along the length of the feature from 0.40m–0.15m, and the sides were generally concave and the base variously flat or concave. The fill was generally mid–light brown silty sand, which had probably accumulated through natural processes. Worked flints were found in two excavated sections along with what was presumably an intrusive fragment of post-medieval glass, which was found in the top portions of the fill.
- 128** Ditch M.14 was situated at the south end of Area B and was probably a continuation of Ditch M.10. A break between M.14 and M.10 may possibly represent an entrance

of some kind or crossing point of the ditches. Ditch G.14 extended beyond the south edge of the excavation and two sections were excavated through it. It measured at least 11.48m long x 0.70m wide. It was 0.20m deep to the south and 0.16m deep to the north. The sides and base were generally concave. The ditch fill was light brown silty sand, which became more gravelly in the south. No dating evidence was recovered from the fill.

- 129 Ditch M.15 was truncated by Ditch G.13. The ditch was orientated east–west, terminated at either end, and was 28.91m long x 0.30m–0.60m wide. Six sections were excavated through Ditch M.15. It was 0.20m–0.22m deep for much of its length decreasing to 0.14m to the west. The sides and base of the feature were generally concave, though it was flat and slightly irregular in places. The ditch fill was light brown silty sand, which had probably built up through natural agencies.
- 130 Ditch M.16 was located towards the north of Area B. It was on the same alignment as and essentially a continuation of post medieval Ditch G.12. Ditch G.16 measured 11.75 long x 1.30m wide. The feature terminated at its southern end and this was shown within an excavated slot which may have allowed for an entranceway between G.16 and G.12, and a terminus at its north end was cut by a pit. Ditch G.16 was irregular in plan and was investigated by three sections. At the centre of the ditch it measured 0.28m deep, whereas at the north end it was 0.16m deep. The feature had gently sloping sides and a concave base. Items of 19th-century date found in the ditch were not retained.

Dated post-medieval features

Group 10

- 131 Two post-medieval ditches were located at the north end of Area B, each corresponding to a crop-mark recorded on the NHER. These were allocated Group number 10.
- 132 A single post-medieval pit **662** situated at the centre of Area B was not part of a Group. It measured 1.04m x 1.10m x 0.34m. The sides were steep and the base flat. The backfill of the pit was mid-brown silty sand, which contained a small fragment of clay pipe.
- 133 Ditch M.8 was situated at the north end of Area B and was orientated approximately east–west. The ditch terminated to the west, where it truncated a pit or natural feature, and extended beyond the east limit of excavation to the east. Ditch M.8 was probably the same as Ditch M.7 in Area A to the east. The ditch measured at least 76.00m long and a maximum of 2.06m wide. Six sections were excavated through the feature, and due to its demonstrable post-medieval date, permission was granted by Mott MacDonald and NCCHEs to excavate less than the prescribed 20% of the feature. Ditch M.8 was 0.38m deep towards its east end, 0.70m in the centre and 0.62m at its west end. Generally the base was concave with steep and even sides. The fill varied between pale greyish brown silty sand in the east and yellowish grey silty sand in the west. The ditch truncated an undated pit or natural feature at its west end.

Plate 8

- 134 Ditch M.9(=M.7) measured more than 157.00m long. It was broadly orientated east–west and continued beyond both the east and west limits of Area B. Its maximum width was 3.07m, although in places it became as narrow as 1.00m. Eight sections

were excavated through the feature, and due to its demonstrable post-medieval date, permission was granted by Mott MacDonald and NCCHEs to excavate less than the prescribed 20% of the feature. The north half of Area B presented wide areas of natural scarring/disturbance, which in part were cut by Ditch M.9. At its east end M.9 truncated Ditch M.17, and at its west end it cut Ditch M.10. Ditch M.9 measured 0.62m–0.92m deep. Its sides were generally steep and even and its base concave. The fill was dark orangey grey clayey sand for much of its length, being mottled in places with mid-brown silty sand. On the whole, the fill was more clayey than seen elsewhere at the site. A mix of post-medieval pottery and other finds such as residual worked flints was found in the ditch.

- 135 Ditch M.12 was situated towards the centre of Area B on a northeast–southwest alignment, an orientation which, based on comparison with other, dated features suggested that it was post-medieval. Five sections were excavated through the ditch, and once it became clear that the feature was of post-medieval date Mott MacDonald and NCCHEs consented to less than 20% of the feature being excavated. A slot excavated at the northern end of the ditch appeared to confirm that the feature terminated, whereas the apparent south ‘terminus’ was almost certainly due to truncation from ploughing. The feature was 52.72m long x 1.30m wide x 0.18m–0.28m deep. Where the ditch was deepest in the north its sides were steep and its base concave, whereas in the south the sides were more gradual and the base concave. The fill was mid-greyish brown silty sand at the south end and light brown silty sand at the north end. Some items of 19th-century date were found in the ditch, but were not retained.

Area C

Figure 6. Plate 9

- 136 Area C was approximately oval in shape and was situated in the southeast of the site. It measured 4535m² and contained the densest concentration of archaeological features.

Natural features

It is quite likely that some of the features initially described as pits were actually of natural origin, although further analysis following this assessment will aim to determine this with a higher degree of certainty. Methods will include an examination of the site photographs and a more thorough examination of the site records. The features were excavated to various depths, often to at least 1.00m, with some augered to more than 2.00m deep.

Undated features

Group 11

- 137 Seventy-two undated pits found across Area C were grouped as G.11. They can be considered in three separate locations: the southwest side of penannular ring-ditch G.15, along the west side of Area C, and in the vicinity of the small enclosure G.16. These locations are not sufficiently discrete to permit closer grouping at this stage, however. Around the enclosure G.16, pits appeared to be distributed about a roughly circular open or ‘empty’ area, which could suggest that they were sited in respect of a structure or other feature that has left no trace in the archaeological record. The pits measured 0.40m–7.00m wide. Depths were 0.20m–3.00m, and typically the pits had concave sides and bases. It is expected that some of the

features will be re-categorised as natural features during the post-excavation analysis. Pit fills consisted of various shades of brown silty sand, which had most likely accumulated naturally. The general locations of the pits in areas closer to likely prehistoric features G.14, G.15 and G.16 may indicate the likelihood that they are of prehistoric date, although this is untested.

Group 12

- 138 Group 12 records three undated ditches in Area C: Ditches M.20, M.25 and **334**. As they occupied the same alignment as other north–south (M.21) and east–west ditches (M.18), together they may form part of an arrangement of fields; due to a lack of dating they are currently grouped separately.
- 139 East–west Ditch M.20 was situated at the centre-west of Area C. It appeared far wider than other linear features at the site and proved to be formed from two separate ditches. At the east end, the two separate features became more defined, and terminated a short distance west of perpendicular north–south ditch M.21. Although M.20 was evidently two parallel linear features, they were given the same group number because of the indistinct nature of their fills and the notion that they appeared to represent the position of a single boundary. The ditches measured 0.13m–0.20m deep x 5.17m across at the widest point. Each ditch had a concave base and shallow edges. The feature fills consisted of mid-orangey brown sandy silt, which had accumulated naturally. The two fills were homogeneous and no clear relationship could be discerned.
- 140 Ditch M.25 was located at the north edge of Area C. It was orientated north–south, extended beyond the north limit of the excavation and terminated at its south end. The ditch measured at least 9.00m long x 0.85m wide on average. It was 0.15m–0.20m deep, its base was concave and its sides sloped gradually. The fill of M.25 was mid-orangey brown silty sand, which it was thought had accumulated naturally. No dating evidence was recovered from the feature.
- 141 One further, curving ditch **334** was situated northeast of M.22, and did not contain dating evidence.

Dated prehistoric features

Group 13

Plates 10, 11, 12

- 142 Fifteen pits in Area C contained dating evidence, predominantly worked flints that were not closely datable, but a limited amount of Iron Age pottery was recovered from two pits. The pottery amounted to one abraded sherd from one pit and four small abraded sherds from another vessel in another pit. Their abraded condition indicates that they were subject to movement on the surface, and therefore probably do not reliably date the pits. The pits measured 0.40m–7.00m wide. The depths of the pits were 0.20m–3.00m, and typically they had concave sides and bases.

Plate 13

- 143 Two irregular pits situated at the north end of Area C were of different form to the others, roughly elongate oval in plan. In each example the pit measured c. 4.00m x 2.90m and contained several deeper cuts within it. Prehistoric worked flints (which are not closely datable) were recovered from each pit, and an abraded body sherd of Anglo-Saxon Thetford-type ware was recovered from one of the pits. The

condition of the Anglo-Saxon sherd could indicate that it is intrusive and may not necessarily date the pit.

144 *Group 14*

145 Area C presented evidence of a possible prehistoric field system comprising ditches M.18, M.21 and M.23. They are considered together as Group 14.

146 Ditch M.18, in the north of Area C, was orientated east–west. Its maximum width was 1.17m. The ditch met perpendicular Ditch M.21 to the south, and a section excavated at the junction of the two ditches demonstrated that they were contemporary. At its east end M.18 was very shallow, and truncated a gravelly layer which appeared to seal a large pit situated at the approximate centre of a ring-ditch M.19. The east end of the Ditch M.18 may have been truncated away by ploughing, but it is possible that it actually terminated in respect of the structure represented by ring-ditch M.19. Six sections were excavated through Ditch M.18; it was 0.18m–0.30m deep with concave sides and base and a fill of generally mid-orangey brown silty sand, which had silted up naturally. Where the ditch intersected with ditch M.21, the fill contained frequent flints, with large flints towards the base.

Plate 14

147 North–south ditch M.21 was located at the centre of Area C and was recorded by excavation to be contemporary with Ditch M.18. Ditch M.21 intersected with M.18 at its north end and terminated to the south. Seven sections were excavated through the ditch. Ditch M.21 truncated a small enclosure G.16 formed by Ditches M.22 and M.24 in the south of Area C. A further length of ditch M.23, which was essentially a continuation of the same boundary feature as M.21, was situated 4.30m to the south. Ditch M.21 was 2.30m at its widest point and measured 44.0m long. The ditch was 2.30m wide at its widest point towards the centre of the ditch, and 0.76m wide towards its northern terminus at its narrowest point. The depth varied between 0.28m at the north end and 0.40m at the south terminus. The sides, particularly towards the centre of the feature, were steeply sloping and the base flattish, but in places it had an almost v-shaped profile. The fill was greyish brown silty sand, which was thought to have built up through natural agencies. Worked prehistoric flints which within this time-frame were not closely datable were recovered from the fill.

148 North–south Ditch M.23 was located at the south end of Area C and measured 15.00m long. At its north end the feature was truncated by a large pit, whilst to the south it had a clear terminus. Ditch M.23 was cut through Ditch M.24. Ditch M.23 was a maximum of 1.04m wide and was 0.35m deep in the north and 0.14m deep in the south. Its sides were steep and regular and its base was flat. The fill of M.23 was dark orangey brown silty sand in the north and mid-brown silty sand in the south. No dating evidence was recovered from the feature, although as it appeared to be a continuation of M.21 it is included in G.14.

Group 15

Plate 15

149 Ditch M.19 was a penannular ring-ditch situated in the northeast of Area C. A large pit, off-set in its centre appeared to be related and is included with M.19 in Group G15. The ring-ditch measured 18.00m in diameter from outer edge to outer edge. The northwest side of the ring-ditch had been subject to some degree of plough truncation. A terminus was recorded in the ditch in its southwest extent. Nine

sections were excavated through the ditch. Two elongate pits to the west may have formed some continuation of the ditch, and one of them may have represented a second terminus of the ditch. The ring-ditch appeared to have a deliberately open entrance on its southwest side. It is worth noting that several pits were clustered around the southwest side, some of which also contained prehistoric dating evidence. Where sections were dug through the ring-ditch on its less-truncated south and east sides, it measured 0.70m deep. The sides were steeply and regularly sloping and the base concave and in places flat. The fills were often stony, and may represent infill by material formerly excavated and placed as a bank on the outer side of the ditch. A small east–west gully on the east side of M.19 appeared to cut the ring-ditch. Prehistoric worked flints were recovered from the fill of the ring-ditch, though these were not as closely datable as those recovered from the large pit at the centre, which contained 29 struck flints with Mesolithic–Early Neolithic characteristics. A large pit was positioned slightly north of the centre of the ring-ditch and is thought likely to be associated with it.

- 150 The large pit inside the ring-ditch measured 11.00m north–south x 6.45m east–west. It was 1.10m deep and had uneven and irregular edges. The base was concave. The fill was mid-greyish brown sand, which may have accumulated naturally.

Group 16

Plate 16

- 151 A small enclosure G.16 formed by Ditches M.22 and M.24 was located in the the south of Area C. As the enclosure was truncated by a G.14 ditch it has been attributed a prehistoric date.
- 152 Ditch M.22 was an L-shaped feature that formed two sides (north and west) of small enclosure G.16 (a third side—the south—was formed by another length of Ditch M.24). Where the west side of M.22 terminated at its south end a small entrance appeared to be formed with Ditch M.24. The east end of the north side of M.22 was cut by a small pit. There were no indications that the ditch ever extended further east than the pit, so although truncated, this probably represents its terminus. The maximum width of M.22 was 0.80m, although the ditch was often narrower at 0.55m. The sides of the feature were concave and the base slightly concave. The entire length of the L-shaped feature was c. 30.00m, and the enclosure formed in conjunction with ditch M.24 was approximately 20.00m across northwest–southeast. Six sections were excavated through the ditch; its fill was characteristically mid-brown silty sand, which may have accumulated naturally. No dating evidence was recovered from the feature.
- 153 Ditch M.24 formed the south side of small enclosure G.16. It terminated at its northwest end whilst at its southeast end it truncated one large pit and was cut by a second pit. Ditch M.24 measured 17.00m long x 0.62m wide. Four sections were excavated through the ditch. It was 0.28m deep in its centre, 0.14m deep at the northwest end, and its sides and base were concave. The fill of M.24 was darker brown silty sand in the central part of the feature and mid-grey orangey brown at the northwest end. No dating evidence was recovered from M.24, although it can be said with some certainty that it was stratigraphically earlier than G.14.

Other features

- 154 A small possible post-hole 0.40m wide x 0.40m deep was situated near the centre of Area C. Its light sandy fill, which had probably accumulated naturally, contained 14 struck flints with Mesolithic–Early Neolithic characteristics. It was not assigned to a Group.

Area D

Figure 4

- 155 Area D was located at the west edge of the site adjacent to the existing park and ride terminal. It was an elongate oval shape and measured 1562m² in area.
- 156 Area D was allocated a separate NHER Event Number ENF 131412. Archaeological monitoring on 23 April 2013 did not identify any archaeological features or recover any archaeological finds. All the deposits observed consisted of made-ground, which probably dated to the construction of the roundabout and road system adjacent to the park and ride terminal.

Area E

Figure 4

- 157 The elongate oval-shaped Area E was situated immediately east of Area B and measured 1292m² in area.
- 158 Area E, an area of tree planting east of the car park, was removed from the scope of the archaeological project by consultation between Mott MacDonald and NCCHEs.

Area F

Figure 6

- 159 Area F was situated in the southeast of the site, to the southwest of Area C and measured 4066m² in area. The monitoring concerned only the narrow strip reduced to geological horizons where a cycle path would be constructed, which measured approximately 220m².
- 160 Area F was allocated a separate NHER Event Number ENF 134155. Archaeological monitoring in June 2014 identified a single large pit, from which late 16th–20th-century pottery and a fragment of clay pipe were recovered.

7. FACTUAL DATA SUMMARIES AND STATEMENTS OF POTENTIAL

- 161 The following Section presents an assessment of the stratigraphic, artefact, and environmental data recovered by the excavation. This assessment considers the significance of each data set in relation to its potential to address the project's objectives and research aims. It also seeks to identify aspects of the project that are of a wider significance or that can potentially address new research questions.
- 162 A variety of sources has been consulted as part of this assessment including *Research and Archaeology Revisited: a revised framework for the East of England* (Medlycott 2011), which summarises the archaeological resources of East Anglia and presents detailed research agendas for each period.

Assessment of Stratigraphic and Structural Data

Archive Quantification

Table 1 summarises the archive components generated by the excavation.

Archive element	Items
Context records	778
Drawn sections	322
Drawn plans	161
Black and white films	17
Digital photographs (including duplicates)	1688
Environmental samples taken from (number of contexts)	33

Table 1. Archive quantification

- 163 Following completion of the excavation, all written and drawn records were checked and cross-referenced. Typed versions of context, drawing and sample registers were created. Context information and finds data were combined in a single Microsoft Excel spreadsheet. All photographic films were processed. The finds were washed, dried, marked, and bagged for inclusion in the site archive.

Summary

- 164 The stratigraphic relationships, dating and spatial distribution of archaeological features requires further examination to refine phasing.
- 165 The periods of activity identified at the site are recognised as covering wide timespans, and it is probable a number of phases are represented, particularly for Period 1 (prehistoric).
- 166 Evidence for prehistoric activity at the Postwick Park and Ride site comprises ditches and enclosures on differing alignments, numerous pits and other features including a ring-ditch. The majority of features are tentatively considered to be of Neolithic– Bronze Age date, although only a relatively small number of features are securely dated by artefacts.

Statement of Potential

- 167 Potential archaeological research at the site can draw on the findings of a relatively large study area and can also be considered in relation to previous work at nearby sites.
- 168 Although small collections of Mesolithic, Iron Age–Roman and Anglo-Saxon material were retrieved by the investigations, it is considered that findings relating to a possible Neolithic–Bronze Age phase of activity at the site provide the greatest research potential. Further analysis of these findings might usefully inform understanding late prehistoric land use at a regional level.
- 169 A small number of medieval–post-medieval features and finds from the site are considered to be limited potential. However, the identification of boundaries and other features of this date range will add to understanding the later development of the local landscape. The continuity, or otherwise, of landscape divisions and orientation across successive periods might usefully be examined.

Assessment of Archaeological Finds**Archive Quantification**

- 170 All finds were washed, dried, marked, and bagged for inclusion in the site archive. Finds were recorded by count and weight, and data was entered onto a Microsoft Excel spreadsheet. Each material type was considered separately and is presented below organised by material and chronology.
- 171 Appendix 2a contains a list of finds in context number order
- 172 Table 2 presents the artefacts that form the major part of the artefact and ecofact assemblage recovered by the excavation.

Artefact Type	No.	Wt (g)
Animal bone	53	334
Brick and tile	15	4493
Burnt flint	6	234
Clay pipe	11	33
Copper alloy	15	57
Fired clay	2	25
Glass	11	1363
Iron	6	1361
Iron Age pottery	5	5
Late Anglo-Saxon pottery	1	2
Lead	1	6
Medieval pottery	2	4
Medieval/post-medieval pottery	1	15
Metalworking waste	3	550
Modern pottery	10	172
Post-medieval pottery	10	613

Artefact Type	No.	Wt (g)
Roman pottery	1	2
Shell	1	14
Silver	1	3
Stone	1	827
Worked flint	178	2861

Table 2. Quantification of artefacts and ecofacts

- 173 The finds from the site are discussed below with supporting information presented in the Appendices where relevant.

Pottery Assessment

Summary

- 174 Thirty sherds of pottery (813g) were recovered from eighteen contexts. Table 3 provides a summary of the quantification by fabric. A summary catalogue by context is included in the Appendix and the full catalogue is available as an Access database in the archive.

Description	Fabric	No	Wt/g	Eve	MNV
Iron Age Fine Flint	IAFF	5	5		2
Roman Greyware	RBGW	1	2		1
Thetford-type ware	THET	1	2		1
Early medieval ware	EMW	1	1		1
Local medieval unglazed	LMU	1	3		1
Late medieval and transitional	LMT	1	15	0.04	1
Iron-glazed blackwares	IGBW	1	1		1
Glazed red earthenware	GRE	3	22	0.05	3
Speckle-glazed Ware	SPEC	4	564		1
Tin glazed earthenwares	TGE	1	21	0.01	1
Westerwald Stoneware	GSW5	1	5		1
English Stoneware	ESW	1	123	1.00	1
Staffordshire white salt-glazed stonewares	SWSW	1	13	0.07	1
Creamwares	CRW	1	4		1
Refined white earthenwares	REFW	6	17	0.07	5
Yellow Ware	YELW	1	15		1
<i>Totals</i>		30	813	1.24	23

Table 3. Pottery quantities by fabric

Methodology

- 175 Quantification was carried out using sherd count, weight and estimated vessel equivalent (eve). The minimum number of vessels (MNV) within each context was also recorded, but cross-fitting was not attempted unless particularly distinctive vessels were observed in more than one context. A full quantification by fabric, context and feature is available in archive. All fabric codes were assigned from the

author's post-Roman fabric series, which includes East Anglian and Midlands fabrics, as well as imported wares. Wares were identified following Jennings (1981). Form terminology for medieval pottery is based on MPRG (1998). Recording uses a system of letters for fabric codes together with number codes for ease of sorting in database format. The results were input directly onto an MS Access database.

Pottery by period

Iron Age and Roman

- 176 Five small sherds of handmade prehistoric pottery from two vessels were recovered from pit fills **188** and **351** in Area C. These are likely to be of Iron Age date, but all are abraded.
- 177 A small sherd of Roman greyware, abraded and stained brown, was recovered from ditch fill **628**.

Anglo-Saxon

- 178 An abraded body sherd of Thetford-type ware was recovered from pit fill **441**. The sherd is broadly of late 9th–11th-century date.

Medieval

- 179 A small sherd of early medieval ware (11th–12th century) was found in ditch fill **515**.
- 180 A body sherd of a fine greyware, most likely LMU (12th–14th century) but in poor condition (other possibilities are Thetford-type ware or Roman greyware), was unstratified (**762**).
- 181 A late medieval and transitional ware (late 14th–16th century) bowl rim fragment was found in ditch fill **110**. It was glazed with a light green lead glaze externally and partially on the inner surface. The rim was a collared form.

Post-medieval and modern

- 182 Twenty sherds were of 16th-century or later date.
- 183 Eight were sherds of 16th–18th-century local red earthenwares (GRE, IGBW, SPEC). There was a rim fragment from a GRE bowl in pit fill **56**, and two abraded body sherds in ditch fill **701** and pit fill **102**. A tiny sherd of IGBW was recovered from pit fill **663**. Four fragments of a large storage vessel with brown speckle glaze (SPEC) came from pit fill **56**. A rim sherd of a small tin glazed earthenware ?dish with a very broad rim (60mm wide) was found in ditch fill **550**.
- 184 One sherd of Westerwald stoneware (late 17th–19th century) was an unstratified find (**542**). It was decorated with incised lines enclosing blue cobalt painting, but the sherd was too small to determine the pattern. An English stoneware bottle neck/handle of the same period came from ditch fill **550**.
- 185 Eighteenth-century refined wares comprised a plain rim sherd of a white salt-glazed stoneware plate (ditch fill **626**) and a scalloped rim sherd of a creamware ?plate (ditch fill **548**).
- 186 Probable 19th or early 20th-century wares included six sherds of refined factory-made whitewares from pit fills **60** and **102**, ditch fill **550** and context **500**. Three were decorated with blue transfer printing and one had a black transfer-printed maker's mark on the base in the form of two letters 'SF'. A body sherd of yellow ware, probably from a bowl, was also recovered, from ditch fill **78**.

Pottery by context

187 Table 4 shows the distribution of fabrics by context, with suggested spot dates.

Fill of	Context	Description	Fabrics	Spot date
55	56	Pit	GRE SPEC	L.17th-18th c.
59	60	Pit	REFW	L.18th-20th c.
77	78	Ditch	YELW	L.18th-19th c.
101	102	Pit	GRE REFW	L.18th-20th c.
109	110	Ditch	LMT	15th-16th c.
187	188	Pit	IAFF	IA
350	351	Pit	IAFF	IA
440	441	Pit	THET	10th-11th c.
514	515	Ditch	EMW	11th-12th c.
547	548	Ditch	CRW	1730-1760
549	550	Ditch	TGE ESW REFW	L.18th-20th c.
625	626	Ditch	SWSW	18th c.
627	628	Ditch	RBGW	Roman
662	663	Pit	IGBW	16th-18th c.
700	701	Ditch	GRE	16th-18th c.
-	500	?	REFW	L.18th-20th c.
-	542	U/S finds	GSW5	E.17th-19th c.
-	762	U/S finds	LMU	11th-14th c.

Table 4. Pottery distribution and spot dates

188 Most contexts only produced one or two sherds of pottery, but the fragments at least provide a *terminus post quem* for the fills of these features.

Statement of potential

189 This is a small assemblage, most of which is of relatively late date. The assemblage has been fully recorded and spot dates provided. Given the small quantity and wide dispersal of the material, the assemblage is of limited value for interpretation of the site.

Brick and Tile Assessment*Summary*

190 Fifteen fragments (4,493g) of brick & tile were collected from ten contexts. Table 5 provides a summary of the quantities by form and a catalogue is included in Appendix 4.

Type	Form	Code	No	Wt (g)
<i>Roofing</i>	Pantile	PAN	4	430
<i>Walling</i>	Early brick	EB	2	1866
	Late brick	LB	7	1059
<i>Flooring</i>	Floor brick	FB	2	1138

Table 5. Brick and tile quantities by form

Methodology

- 191** The assemblage was quantified by fabric and form. Fabrics were identified on the basis of macroscopic appearance and main inclusions. The width, length and thickness of bricks and floor tiles were measured, but roof tile thicknesses were only measured when another dimension was available. The results were input directly into a Microsoft Access database, which forms the archive catalogue.

Summary of the assemblage

- 192** Only four fragments of roofing tile were recovered, all fragments of pantile. Three were in fine sandy grog-tempered fabrics typical of the area, and one was in a fine sandy fabric with sparse ferrous inclusions. Tiles of this type were in use from the 17th century onwards, although these examples appear machine made and are probably 19th-century at the earliest. They were found in ditch fills **550**, **601** and **626**.
- 193** Two early bricks in estuarine clays, both yellow, were collected from gully fill **614**. They were of similar size, but one had been made in a form lined with abundant grass/straw (105 x 44mm) and the other was made in a sanded form (107mm x 48mm) suggesting that they were made at different times. The smaller of the two had traces of cream mortar with medium-coarse sand aggregates, whilst the larger had white lime mortar on a broken edge. These bricks were made and used in the 13th–15th centuries, although they were often re-used in later structures as hardcore, which is probably the reason for the mortar traces on the broken edge of one of these examples.
- 194** Fragments of late brick (16th–20th century) in red-firing fine and medium sandy fabrics with a variety of inclusions (most frequently flint, ferrous particles and coarse quartz) were recovered from pit fill **56**, and ditch fills **90**, **503**, **626** and **642**. Most pieces were small and abraded. Two fragments (in **56** and **90**) had reduced surfaces and may be relatively early (16th century?); one of these was 55+mm thick and appeared to be worn on the surface. The fragment from **642** was 105mm wide and 48mm thick, this size also suggesting a relatively early date. This fragment was not worn, but the upper surface may have been exposed as it showed signs of weathering.
- 195** Two fragments of floor bricks were recovered, both tempered with coarse white grog. One, from pit fill **50**, was in white-firing gault clay and had been used and worn on both surfaces; it was 55+mm thick. The other, from pit fill **535**, was pinkish in colour but probably intended to appear white. It measured 105 mm wide and was worn down to 48mm thick. These bricks were commonly used for flooring in the 18th and 19th centuries, generally in passageways and other areas of heavy use.

Statement of potential

- 196** This is a small assemblage, most of which is of relatively late date. The assemblage has been fully recorded and spot dates provided. Given the small quantity and wide dispersal of the material, the assemblage is of limited value for interpretation of the site. No further work is recommended, unless further fieldwork is carried out on the site, in which case this assemblage should be incorporated with finds from that project.

Fired Clay Assessment

Summary

- 197 Two fragments (25g) of fired clay were recovered from two contexts. Both pieces were in fine sandy clays and both were abraded.
- 198 A fragment from pit fill **139** had an oxidised surface which had been smoothed and was relatively flat. The inner portion was reduced. The fragment was similar in appearance to pieces of triangular loom weight of Iron Age date.
- 199 An angular lump recovered from context **500** with a finger-smoothed surface, more than 25mm thick and almost entirely oxidised, was of uncertain function.

Statement of potential

- 200 The assemblage has been fully recorded and no further work is required.

Clay Pipe Assessment

Summary

- 201 Eleven pieces of clay tobacco pipe were recovered from the site, weighing 33g in total.
- 202 All but two pieces were undiagnostic stem fragments. These were found in the following contexts: pit fills **50**, **102**, and **663**; ditch fills **106** and **548**.
- 203 The remaining two pieces were heels with a small amount of stem, but with no bowl remaining. The piece from pit fill **96** is a projecting blunt circular heel with the letters E and ?G or ?C embossed either side of the heel. The second example was unstratified **542**, and was a pointed projecting heel, oval in plan. This piece may have had some kind of decoration around it, but it is now illegible.
- 204 The dating of these pieces is uncertain, as is the identification of the maker of the initialled piece. The type of heel represented in both case is 18th century or later.

Statement of potential

- 205 The clay pipe assemblage holds little potential for further work, it has been broadly dated where possible, but much of it is not closely datable within the post-medieval period.

Glass Assessment

Summary

- 206 Eleven pieces of glass, weighing 1,363g, was found in six contexts on the site; ditch fills **519**, **546**, **548**, **550** and **701** plus three pieces from post-hole/natural feature fill **500**.
- 207 All of the glass is green in colour and all except one piece is from bottles. The single fragment of a delicate vessel rim was recovered in **701**.
- 208 Pieces represented include mainly bases and base fragments although a neck and rim is present in **519**.
- 209 The glass is of post-medieval and modern date, probably 18th-20th century.

Statement of potential

- 210 There is little further to be gained from further research/identification of the glass. Most of the contexts where glass was recovered also produced well-dated pottery.

Metal Finds Assessment*Summary*

- 211 A total of twenty-three metal finds were recovered from the excavations at Postwick; this breaks down as fifteen of copper-alloy, six of iron, one lead and one silver.
- 212 Some of the metal finds have been given small find numbers, and recorded in slightly more detail, with dimensions and a more detailed description given. Where a find has a small find number it is displayed thusly SF1, etc. The catalogue of these finds can be found at Appendix 6. Finds without small find numbers are simply recorded within Appendix 2a.

Copper alloy

- 213 The 15 copper-alloy finds were recovered from five contexts: ditch fills **503** and **642**, quarry pit fill **513**, pit fill **531** and unstratified **542**. Almost all of the finds, where identifiable were of post-medieval date; some remain unidentified.
- 214 Three post-medieval buttons and what is either a button or a cuff link were recorded. The buttons are fairly plain, standard, types. The possible cuff link, which was found in ditch fill **503**, is small, flat and circular with bevelled edges and with an inset shiny disc of metal to the front. The reverse has an integral wire loop.
- 215 One buckle frame (SF3), one buckle spindle (SF1) and an incomplete buckle pin (SF4), all of post-medieval date were also found. Quarry pit fill **513** produced buckle spindle (SF1), which is probably of 18th century date. Ditch fill **642** produced the oval buckle frame (SF3) and the buckle pin (SF4).
- 216 A token (SF2), which has been fully identified, was recovered unstratified from context **542**. The obverse reads: 'PE[TER] RICHARDSON' with the Arms of the Duke of Norfolk. The reverse reads: 'P.M.R; IN N[OR] WALSHAM ?57'. The number is a little unclear, but as other examples of this token have been recorded with the date of 1657, it seems likely that this is also what is referred to here (British Farthings 2015).
- 217 A coin or token (SF6), which is currently unidentified was also found. The coin is the same diameter as token SF2, although this piece was recovered from ditch fill **642**. It is worn, rough and illegible, although it could be a similar token to SF22, but is also of the correct size to be an early post-medieval Royal farthing of Charles I or similar.
- 218 The only other identifiable piece is a fragment of a crotal bell, which has some worn decoration to the outer surface, recovered from ditch fill **642**. The remaining pieces are all fragments and cannot be fully identified; these were both unstratified **542** and from ditch fill **642**.

Iron

- 219 Six iron finds were recovered from five contexts, including ditch fills **515**, **519**, **550** and **626** and post-hole/natural feature fill **500**.

- 220 Two complete horseshoes were found, both of a similar date to each other; one from ditch fill **515** and one from ditch fill **519**. One is larger and heavier than the other, and has a keyhole-shaped profile (SF10). The other is slightly narrower in web and lighter, and has a more U-shaped profile (SF9). Both date to the post-medieval period, one possibly 16th–17th century and the other 16th–18th century.
- 221 Two wavy square-sectioned objects (SF11) were recovered from ditch fill **550**. The exact function of these objects is not known, however, they may be staples, used in fixtures and fittings within the household.
- 222 A small incomplete knife (SF8) was recovered from post-hole/natural feature fill **500**. The piece is missing most of the whittle tang. The exact date of this piece is not certain.
- 223 An unidentified fragment was recovered from ditch fill **642**. The piece is so encrusted that no features can be made out.

Lead

- 224 A strip of lead waste was found in ditch fill **642**, this piece cannot be dated.

Silver

- 225 A single silver coin (SF7) in worn condition was found in ditch fill **503**. The coin is Tudor, probably of Henry VIII or Elizabeth I, but at present the exact denomination and date is not known.

Statement of potential

- 226 All of the identifiable metal finds are of post-medieval date. Only a few of the copper-alloy pieces were unstratified, but most of the assemblage was from stratified features.
- 227 There is little further potential in the metal finds assemblage. It is doubtful whether x-radiography will enable any further refinement of the identifications.
- 228 The closer dating of the silver coin is possible, and would likely aid the phasing of the ditch in which it was found.

Metalworking Waste Assessment

Summary

- 229 Three pieces of metalworking waste weighing 550g, was recovered from two contexts on the site. One piece (343g) was found in pit fill **257**, and two (207g) came from post-hole/natural feature fill **500**.
- 230 All of the pieces are tap slag, and have the characteristic ‘flows’ and rough underside indicative of this part of the ironworking process. The larger piece, from **257**, also has small rounded pebbles and grit included in the underside. All pieces are coloured bluish-grey.
- 231 Tap slag is formed when a furnace is ‘tapped’ to enable the waste slag to escape, and this is how the slag gains its flowing lava-like appearance.

Statement of potential

- 232 The small quantity of tap slag recovered from the site does not imply that iron working was being undertaken within the site itself. It is indicative of activity possibly in the vicinity.

- 233 The contexts which contained the slag were variable, with one only containing worked flint and the other with a mixture of worked flint, modern pottery and undated ironwork. It is therefore difficult to place the metalworking evidence within a dated time period, and it remains undated.
- 234 There is little further merit in analysis of this assemblage due to its small size and lack of provenance.

Flint Assessment

Summary

- 235 A total of 178 pieces (2,861g) of worked flint (Table 6) in a generally non-patinated, sharp condition were collected.
- 236 The most common implements were blades and side scrapers manufactured on blades or sub-rectangular flakes, which combined with the presence of bi-polar cores, microliths and microburins is broadly indicative of a date in the Mesolithic period. A small number of implements may span the periods before and after, the Upper Palaeolithic–earlier Neolithic, whilst some scrapers are potentially of later prehistoric date.

Implement/Flake Type	No.	Wt (g)
Hammerstone	2	583
Core	3	118
Core fragment	3	136
Platform rejuvenation flake	2	66
Microlith	1	6
Burin	1	28
Serrated blade	2	23
Microburin	4	10
Bladelet	6	6
Blade	12	232
Combination tool	1	28
Denticulate	1	66
Piercer	1	16
End scraper	5	127
Double-side scraper	1	22
Side scraper	10	311
Thumbnail scraper	1	14
Debitage	122	1069
<i>Total</i>	<i>178</i>	<i>2861</i>

Table 6: Quantification of worked flint implement and flake types

Methodology and terminology

- 237 The flint was quantified by fragment count and weight (g), with all data entered into a Microsoft Excel spreadsheet that will be deposited as part of the archive. Flake type (see 'Dorsal cortex,' below) or implement type, patination, colour and condition were also recorded as part of this data set, along with free-text comments.
- 238 The term 'cortex' refers to the natural weathered exterior surface of a piece of flint, and the term 'patination' to the colouration of a flaked surface exposed by human or

natural agency. Dorsal cortex is categorised after Andrefsky (2005, 104, 115) with 'primary flake' referring to those with cortex covering 100% of the dorsal face; 'secondary flake' with cortex covering 50–99%; 'tertiary' with cortex covering 1–49% and 'non-corticated' to those with no dorsal cortex. A 'blade' is defined as an elongated flake the length of which is at least twice as great as its breadth, often exhibiting parallel dorsal flake scars (a feature that can assist in the identification of broken blades that, by definition, have an indeterminate length/breadth ratio). Terms used to describe implement and core types follow Healy (1988, 48–9).

Assemblage description

- 239** The raw flint utilised in the assemblage is generally mottled mid–dark grey with relatively thin off-white, cream-yellow–pale orange cortex suggesting that the flint workers were utilising reasonably good quality raw material available from the local river terrace gravels associated with the river Yare. However, a burin and small scraper in near-black flint suggest limited movement of very high quality Breckland flint into the area, while smooth brown grey cortex on other flakes suggests some nodules may have been sourced from river-borne material. It is also notable that the two hammerstones in the assemblage are of contrasting flint to that which was struck, exhibiting a slightly chipped pale grey cortex over yellow-brown–crimson grey cores, perhaps indicative of an alternative source.
- 240** The worked flint is distributed thinly with two notable groups of 29 pieces in pit **461** and 14 pieces in post-hole **301**, each of which demonstrates an association of characteristically Mesolithic bipolar cores or implements (microlith/microburin) with blades or scrapers that may otherwise be more broadly dated to span the earlier Neolithic. The site also includes numerous features that contained six–eight pieces of worked flint, including pits **43**, **187**, **742**, ditches **71**, **176** and **643**, which frequently demonstrate similar technological associations.
- 241** Core and core fragments suggest that nodules were extensively worked, reflecting possibly careful selection and possible limitations in the river terrace gravel raw material. The two bi-polar blade cores represent contrasting methods, with an example in ditch **184** formed on the side of a pebble, while the core in pit **43** has been systematically reduced utilising platform abrasion/preparation to a thin profile (15mm wide), similar to a flake blank, although there is no evidence of further modification. In contrast, a single platform core in pit **461** was reduced to size where it produced bladelets before being discarded, with core fragments from the same feature suggesting this core or another of similar material produced blades using a single platform. The assemblage did not include any true 'tablet' platform rejuvenation flakes, but sub-rectangular flakes in ditch **643** and unstratified conext **762** suggest that bi-polar striking platforms were perhaps 'refreshed' by lateral reduction (hence thinning of cores), or that periodically they were utilised for the production of very regular flakes, possibly blanks, although there is no evidence of subsequent re-touch. Furthermore, at least 21 of the debitage flakes (>17%) may be the result of platform maintenance, such as the removal of overhangs, suggesting a high degree of preparation to ensure the continuity of a core's viability. The neat, systematic production of blades and bladelets using carefully maintained bi-polar and single platform cores is characteristic of Mesolithic assemblages in the region, though blades continue to be produced using single platform cores in the earlier Neolithic.

- 242** Blade-based reduction methods and technology dominate this assemblage, not only through core technology, but by the presence of blades, blade-derived implements and the bulk of the debitage. The blades tend to be very neat, frequently with evidence of prepared striking platforms, but some variability may relate to chronology. One very long blade (120mm) contained in pit **211** exhibits a short length of chipped wear on one lateral edge, and may comprise a 'bruised' blade typically associated with the final upper Palaeolithic; although further long blades (70-75mm long) with traces of lateral edge wear in pits **256** and **461** appear Mesolithic; while a 55mm long blade in pit **43** is backed by cortex and may constitute a small knife. The bulk of blades are 40–55mm long and bladelets <15mm. Two of these blades in ditch **502** had been finely re-touched to create serrated edges; while several examples exhibited deliberately truncated bulbs of percussion, typical of Mesolithic technological modification, which extends to the microburin technique of manufacturing microliths. Microburins, blades snapped to produce microlith implements, were recorded in pit **130**, post-hole **301**, ditches **470** and **600**, with all comprising proximal microburins; although only the final example preserved part of a notch worked into a blade as per the microburin technique. Implements that characterise Mesolithic assemblages include microliths and burins, and single examples of each were contained in pit **130** and ditch **109** respectively. The microlith was an obliquely blunted type while the burin exhibited a single angle removal, with both exhibiting limited abrupt re-touch to one lateral edge.
- 243** Excluding the scrapers the remaining re-touched implements include a piercer in ditch **576** consistent with types recorded in Mesolithic assemblages; a denticulate in pit **43** and a combination tool in post-hole **301**, both closely associated with characteristic Mesolithic technology. The denticulate utilises a large sub-circular flake into which coarse notches have been worked using semi-invasive re-touch, while the combination tool incorporates a piercer and scraper on a hard-hammer struck flake. The five end scrapers were manufactured utilising similar hard-hammer struck flakes, though frequently with trimmed/truncated bulbar ends; while nine of the side scrapers and the double side scraper tend to be manufactured on blades or fairly regular rectangular flakes. It is notable that five of the side scrapers were contained in post-hole **301**, associated with the combination tool, a microburin and hammerstone. The single exception to this pattern is a large side scraper contained in ditch **225** that has semi-invasive re-touch around the curving distal end and one lateral edge, and may be classified as a convex side scraper typical of middle to upper Palaeolithic technology, though such implements may have been expedient tools in the Mesolithic.
- 244** The assemblage includes 122 debitage flakes, of which 90 flakes (c. 74%) are tertiary or un-corticated flakes with blade-like proportions in the size ranges of <30mm or 30–50mm, consistent with the neat systematic reduction techniques indicated by the Mesolithic cores and blades in the assemblage. A high proportion of these flakes are close to true blades, with many exhibiting prismatic profiles, parallel dorsal scars or remnants of prepared platforms (including those removed as overhangs to maintain/shape a striking platform). Examples in ditches **109** and **600** exhibited dorsal scars indicative of bipolar cores, while a group in pit **152** were clearly removed from a single core that also likely produced the end scraper also in the feature. The remaining flakes generally exhibit slightly irregular profiles, often with blade-like dorsal scars, with only eight flakes exhibiting broad-squat profiles and pronounced bulbs of percussion, probably indicative of hard-hammer

core/nodule trimming in the Mesolithic or possibly of later prehistoric flake production. The assemblage also includes a single large un-corticated flake (101g) removed with a hard-hammer in pit **417**. The flake exhibits multiple dorsal flake scars of cortex trimming, but is otherwise un-modified and may have been removed to create an initial striking platform. The use of hard hammers is highlighted by two flint hammerstones contained in pit **231** and post-hole **301**; the former with flake removed to create a slightly projecting point, and the latter unmodified but with two areas of percussion wear on leading edges/projections.

Burnt Flint

- 245** Six pieces of burnt flint were recovered from the site, however these have been counted and weighed and since discarded, as they can offer no further information on dating of the site.
- 246** The burnt flint was found in post-hole fill **28** (5 pieces; 174g) and pit fill **284** (1 piece; 60g).

Statement of potential

- 247** This assemblage contains limited quantities of a modest range of core, implement and flake types that appear to be indicative of Mesolithic activity in valley of the River Yare. These include bi-polar and single platform blade and bladelet cores, with blades, scrapers and microlith technology; however although these pieces are associated with one another in small groups of 6–8 pieces, they appear to have only a sparse distribution with larger groups absent, except possibly for 29 pieces in pit **461** and 14 pieces in post-hole **301**. The research potential for Mesolithic flint work in East Anglia has been highlighted, especially where associated with preserved land surfaces, potentially including river terrace gravel landscapes such as those adjacent to the river Yare (Austin 1997, 9; English Heritage 2013). This potential was realised with the extensive post-glacial (Upper Palaeolithic) and earlier Neolithic assemblage from Mousehold Heath (Bishop and Proctor 2011), which was notably able to build on concentrations accumulated in tree-throw hollows and pits, while Mesolithic components have also been noted in assemblages further west in the Yare valley such as at Bixley (Kemp 2000, 88). This assemblage may represent part of the continuum of activity in that period in the landscape of the river Yare, but due to the relative lack of concentrated, associated groups probably only has a low to medium degree of significance.

Stone Assessment

Summary

- 248** A single piece of worked stone was recovered from ditch fill **515**. The piece is a sandstone whetstone, of unknown date.
- 249** The whetstone is a rectangular bar with only two of the faces finished, the rest are roughly hewn and more rounded than the angular finished surfaces. The two finished surfaces are also slightly dished, and one has a deep, long (130mm), central groove with four shorter, fainter ones either side. The other surface has fainter grooves, which may be incidental.
- 250** The piece measures 167mm in length, 56mm in width and 48mm in thickness.

Statement of potential

- 251 This type of stone may have been sourced from Lincolnshire or Northamptonshire (F. Green pers. comm. 29 June 2015) and it is difficult to date such a piece.
- 252 The context in which the stone was found included both pottery of 11th–12th-century date and a post-medieval iron horseshoe. Using this information it is possible that the stone was used in either the medieval or post-medieval period, but more likely the latter as it is un-worn and the grooves are crisp and well defined.

Animal Bone Assessment*Summary*

- 253 The animal bone consisted of hand-collected remains. This is a small assemblage and in relatively poor condition and an initial rapid scan showed little potential for further work and therefore a summary assessment has been produced. All of the bone was identified to species wherever possible using a variety of comparative reference material. Where a complete identification to species was not possible, bone was assigned to a group, such as ‘sheep/goat’ or ‘mammal’ whenever possible. The bones were recorded using a modified version of guidelines described in Davis (1992).
- 254 Any butchering was recorded, noting the type, such as cut, chopped or sawn and location. Bones were examined for any burning, gnawing or pathologies. Other modifications, such as possible industrial or craft-working waste were also recorded.
- 255 Weights and total number of pieces counts were also taken for each context, along with the number of pieces for each individual species present (NISP) and these appear in the appendix. All of the information was input directly into a catalogue in the appendix for this report.

Quantification, provenance and preservation

- 256 A total of 334g of faunal remains, consisting of fifty-three pieces, was found during excavations at this site. The bone was produced from five fills, four of which are ditch fills and one from a ring-ditch. Dates of associated artefacts suggest that much of the assemblage may be post-medieval. Quantification of the faunal assemblage by context number, feature type, weights and counts is given in Table 7.

Context	Feature Type and Weight/Count				Total by Context	
	Ditches		Ring-ditch			
	Wt	Count	Wt	Count		
503	60g	1			60g	1
548	31g	2			31g	2
570	202g	1			202g	1
626			24g	48	24g	48
642	17g	1			17g	1
Totals for weights & counts	286g	29	24g	48	334g	53

Table 7. Quantification of the faunal assemblage by context number, feature type, weight in grams and fragment count

- 257 The bone is in reasonable condition, but with much of the remains showing some wear and erosion, probably due to some acidity in the soil. Surfaces of the bone

have a good deal of invertebrate damage, which would be expected in the ditch environments that the bone was deposited in, where the damp and organic environments would be a haven for molluscs, isopods and insects.

- 258 None of the remains had been burnt and no fragments showed any canid gnawing, the latter suggesting that scavenger activity might be low.

Species and modifications

- 259 Only one species was positively identified in this assemblage. Cattle was recorded from four of the five bone producing fills. For quantification of species and unidentified bone by context see Table 8.

Context and feature type	Species and NISP		Total
	Cattle	Mammal	
Ditch fill 503	1		1
Ditch fill 548	2		2
Ditch fill 570	1		1
Ring-ditch fill 626		48	48
Ditch fill 642	1		1
Totals	53		53

Table 8. Quantification of the faunal assemblage by context, feature type, species and NISP

- 260 The cattle remains consisted of adult bones in **503**, **548** and **642** and a juvenile femur in **570**. The cattle rib in **503** had been sawn and other cattle bone had been chopped or cut, attesting to the use of cattle for meat at this site. The juvenile femur in **570** was very large, despite not being fully grown, suggesting this was a bull and/or large breed of cattle.
- 261 The mammal bone in the ring-ditch fill **626** is in poor condition, highly fragmented and showing eroded surfaces. The poor condition may be due to the age of the bone and perhaps adverse soil conditions for bone survival.
- 262 There were no bones present that showed any pathological conditions that may indicate the health of the stock or uses of the animals. None of the bone in this assemblage was sufficiently complete for any measurements to be taken.

Discussion and conclusions

- 263 This is a small assemblage that is derived from butchering and food waste. There is only one species present in this assemblage, which may suggest selection or perhaps the better survival of the bones from a larger and more robust species. It may be possible that other species were originally present but their remains may have been lost due to poor bone survival.
- 264 The assemblage is associated with post-medieval or later artefacts, which may be the date of the bone or the bone may be re-deposited, especially as there are finds of a Roman and Saxon date in the finds assemblage. The faunal assemblage is broadly similar to other small bone collections, which are usually dominated by cattle, the main domestic meat species.

Statement of potential

- 265** None of the bone present was sufficiently complete for any metrical data to be collected to indicate breeds present. This is a very small assemblage, of a late or mixed date range, that has no potential for further analysis work.

Shell Assessment*Summary*

- 266** A single piece of oyster shell (14g) was recovered from ditch fill **515**.
- 267** This piece has since been discarded, as it can provide no further information.

Statement of potential

- 268** A single oyster shell cannot add to the dating of the site, therefore there is no potential for further analysis of this piece.

Assessment of Environmental Evidence

Introduction and method statement

- 269 The excavation recorded numerous pits, ditches and other discrete features, many of which were sampled for the retrieval of the plant macrofossil assemblages. However, in advance of any large-scale processing, it was decided to evaluate just four samples to ascertain whether plant remains were present and how well they were preserved.
- 270 The samples were processed by manual water flotation/washover and the flots were collected in a 300 micron mesh sieve. The dried flots were scanned under a binocular microscope at magnifications up to x 16 and the plant macrofossils and other remains noted are listed below in Table 1. Nomenclature within the table follows Stace (2010). All plant remains were charred.
- 271 The non-floating residues were collected in a 1mm mesh sieve and will be sorted when dry. Any artefacts/ecofacts will be retained for further specialist analysis.

Summary

- 272 Of the four assemblages, two contain moderate to high densities of charcoal/charred wood, whilst the other two are particularly sparse, containing very little at all. The charcoal within pits **47** (sample 1) and **714** (sample 31) is largely comminuted, but the larger fragments which do survive are distinctly flaked, almost certainly indicating that the material was burnt at extremely high temperatures. Other plant macrofossils are exceedingly scarce, but three assemblages contain small pieces of charred root or stem, sample 10 (pit **338**) includes a possible indeterminate cereal grain and sample 31 contains a small fragment of heather (Ericaceae) stem. All four assemblages contain either black porous/tarry residues or small pieces of coal, all of which are probably intrusive within the features from which the samples were taken. Similar material has been noted from other sites on the periphery of the city, where it has been interpreted as either late medieval/post-medieval night soil or detritus generated by the use of steam ploughs during the early modern era. The assemblage from sample 31 also includes a number of small, black cylindrical concretions, each of which is about 3–4mm long. Although visually similar to charred rodent droppings, it is thought most likely that they may constitute further residues from the combustion of either organic remains or coal. However, it will require the use of a high-magnification microscope to verify this hypothesis.

Statement of potential

- 273 In summary, the evaluation has shown that although plant macrofossils are present or abundant in certain samples, the composition of the recovered assemblages is potentially somewhat limited. Although initially disappointing, this data will be useful as it will allow for a targeted approach to all future processing and analysis. It is, therefore, suggested that the following criteria are used to select additional samples for assessment:
- Samples which are well dated (either stratigraphically or by artefact association), particularly those which have suffered little in the way of post-depositional disturbance.
 - Samples from features which appear to have had a very specific function i.e. domestic/structural/industrial/agricultural
 - Samples from features where charred remains were noted during excavation

- 274** As the above may not include the numerous samples taken from ditch deposits, it is suggested that a selection of material from ditch termini, ditch intersections and deposits that flank obvious entrances or openings are also checked to ascertain their potential.
- 275** It is proposed that a maximum of three pollen samples, taken as sub-samples from existing bulk samples, will be analysed. The large pit **461**, ring ditch M.19 and ditch M.21 offer good potential for such analysis. The pollen – if present – will provide a picture of the vegetation in the surrounding landscape during the period over which the feature in-filled. The pollen also has the potential to indicate land use and the development of agricultural practices during the earlier prehistoric period.

B UPDATED PROJECT DESIGN

8. UPDATED RESEARCH AIMS AND OBJECTIVES

Introduction

276 This Updated Project Design is based on the results of the assessment and details the general aims of the post-excavation programme and its revised research objectives. It also presents a publication proposal that suggests how and where the project's results should be published. This is followed by a breakdown of the individual tasks that need to be undertaken to bring this project to completion.

General Aims

- 277 The aims of the post-excavation programme can be summarised as follows:
- To undertake further analysis of specific data sets where required to meet the initial aims of the project and any revised research objectives that have arisen as a result of the assessment.
 - To create an ordered and indexed research archive for deposition with an appropriate curatorial institution.
 - To produce an interpretive synthesis drawing together all available datasets for dissemination in an appropriate publication. It is envisaged that the results will be combined with the results of the adjacent Postwick Hub excavation.

Research Objectives

278 Following the assessment of the evidence recovered during this project it is possible to set out refined research objectives. These are both general and specific.

General research objectives

- 279 The general research objectives of the post-excavation programme are concerned with a synthesis of all available data-sets to achieve the following:
- determine the stratigraphic sequence of the site
 - refine, where feasible, the developmental sequence of the site
 - determine the spatial and temporal organisation within all periods of activity
 - determine the nature of activity and changes in its character over time
 - determine evidence for social and economic activity
 - define the position of the site within the local archaeological and topographical environment
 - determine the position and significance of the site within its local, regional and national context
 - disseminate the results of the project via an archive report.

Specific research objectives

- 280 The following specific objectives for the post-excavation research of the site are discussed with reference to the current regional archaeological research framework *Research and Archaeology Revisited: a revised framework for the East of England* (Medlycott 2011), which sets out themes in East Anglian archaeology that require further targeted study and understanding.
- 281 Further work may help to address research themes highlighted by Medlycott in aspects of landscape and contemporary environment.

Period 1

- Examination of the change from mobile to more sedentary groups and the development of an agricultural economy during the Neolithic and Bronze Age (Medlycott 2011, 84)
 - Investigation of sites identified by the NMP, including establishing the date and character of sites mapped by aerial photography, with particular reference to possible Bronze Age sites (Medlycott 2011, 21, 85).
- 282 Within the limits of available data, the revised research objectives for these themes are to:
- characterise the layout of the field ditches, enclosures and other features revealed by the excavations with reference to known local and regional examples
 - determine the spatial and temporal organisation of the site from its earliest recognisable point through the prehistoric period to establish origins
 - determine activity type, longevity and identity in terms of regional characteristics of prehistoric rural settlement
 - with reference to NMP crop-mark data, determine the date, position and significance of the site within its local and regional landscape.

Period 2

- Chart the development of the medieval and early post-medieval landscape (Medlycott 2011, 85)
- 283 Within the limits of available data, the revised research objectives for these themes are to:
- examine the characteristics and range of the features identified alongside the ceramics and other relevant finds to propose function and longevity of activity in the post-medieval period
 - ascertain the duration of post-medieval activity at the site using stratigraphic and supporting artefact evidence and set this within the prevailing social environment to comment on settlement, farming and other aspects of post-medieval occupation
 - use historical mapping sources and NMP data to further characterise the shifting economic development of the landscape in the post-medieval period.

9. METHOD STATEMENTS FOR ANALYSIS

Context and Stratigraphic Analysis

- 284 A complete stratigraphic matrix will be prepared, grouped, and phased using the Harris Matrix composer program. This will allow further analysis and comparison of contexts as well as enable concordance with analysis of finds and environmental assemblages during the post-excavation phase of the project.
- 285 All artefact and environmental data will then be fully integrated with the context information and a detailed descriptive text produced for inclusion in the archive report. This descriptive text will form the basis for a summary to be presented in the published report.

Artefact Analysis

Pottery

- 286 The assemblage has been fully recorded and no further work is recommended.

Brick and Tile

- 287 The assemblage has been fully recorded and no further work is recommended.

Fired Clay

- 288 The assemblage has been fully recorded and no further work is recommended.

Clay Pipe

- 289 The assemblage has been fully recorded and no further work is recommended.

Glass

- 290 The assemblage has been fully recorded and no further work is recommended.

Metals

- 291 The silver coin would benefit from further identification by a numismatist. Other than this the assemblage is fully recorded and requires no further work.

Metalworking Waste

- 292 The assemblage has been fully recorded and no further work is recommended.

Flint

- 293 The flint assemblage is fully recorded, however the following further work is recommended:
- Analysis of size of blades, scrapers and implements (including plots)
 - Discussion of technology within the site assemblage
 - Comparison of assemblage with material from Mousehold Heath and Mesolithic type sites/technology in the region
 - Potential library research into other Mesolithic sites in Norfolk
 - Selection of flint for illustration
 - Production of an archive/publication level report

Stone

- 294 The assemblage has been fully recorded and no further work is recommended.

Animal Bone

- 295 If any samples have been taken for sieving, then there is a possibility of further bone being produced. This sample material would need to be assessed separately for potential. Otherwise, no further work is recommended on this particular assemblage.

Shell

- 296 The assemblage has been fully recorded and no further work is recommended.

Environmental Analysis

- 297 The evaluation of four samples has shown that plant macrofossils are present and sometimes abundant in certain samples, although the composition is somewhat limited. It is proposed that 15 further samples (45 buckets) are processed.

10. PUBLICATION PROPOSAL

- 298 To fulfil the project aims it is proposed an archive report and a report suitable for publication is prepared for submission to *Norfolk Archaeology*; the journal of the Norfolk and Norwich Archaeological Society.

Storage, Curation and Conservation

- 299 The intended recipient for the project archive is the Norfolk Museums Service, subject to the agreement of the landowner. The artefacts and ecofacts will be packaged according to Norfolk Museums Service specifications, following the guidelines laid out in *Standards and guidance for the creation, compilation, transfer and deposition of archaeological archives* (ClfA 2014b), and *Archaeological Archives; A guide to best practice in creation, compilation, transfer and curation* (Brown 2007).

Resources and Programming

- 300 It is planned that a post-excavation programme will be undertaken by a project team led by Senior Project Officer responsible for implementation of the Updated Project Design. The work will be overseen by a Project Manager.
- 301 Elements of the programme will be delegated to nominated staff. The work of each team member will be scheduled and coordinated by the Project Manager and Project Officer. To ensure completion of the project to agreed performance targets, monitoring of the project will be carried out by a member of the NPS Archaeology senior management, who will also provide advice and support to the Project Officer.

Staff

- 302 The project team will consist of NPS Archaeology staff and external specialists where appropriate.

Staff	Initials	Role
David Adams	DA	Project Manager (Post-Excavation)
Jayne Bown	JB	Archaeology Manager
Peter Crawley	PC	Senior Project Officer
TBC	TBC	Reports Officer
Andrew Peachey	AP	Worked Flint
Julie Curl	JC	Faunal remains (external specialist)
David Dobson	DD	Senior Illustrator
Holly Payne	HP	Project Assistant
Rebecca Sillwood	RS	Finds Officer

Table 9. Project staff

Analysis Tasks

Task	Task Description	Resource (days)	Staff
<i>Stratigraphic Analysis</i>			
1	Refine stratigraphic grouping and phasing.	1.0	PC
<i>Artefactual Analysis</i>			

Task	Task Description	Resource (days)	Staff
2	Research and preparation of report on flint assemblage	2.5	AP
3	Prepare of flint illustrations	1.0	DD
4	Collate finds reports	1.0	RS
<i>Environmental Analysis</i>			
5	Identify charcoal from samples to be submitted for AMS dating (minimum of three samples – exact number to be determined if suitable charcoal is identified)	1.0	FG
6	Charred and waterlogged plant macrofossils. Preparation of c. 15 further samples (45 buckets). Counting and reporting	Fee quote	VF
7	Radiocarbon dating (if suitable remains are present, up to two samples)	Fee quote	TBC
8	Pollen analysis and report (if suitable remains are present)	Fee quote	FG
<i>Archive Report</i>			
9	Synthesise analysis results from stratigraphic, scientific, environmental analyses and artefact evidence	1.0	PC
10	Create draft descriptive text and discussion	5.0	PC
11	Digitise sections	2.0	PC
12	Graphics - create illustrations, figures, plates	2.5	DD
13	Edit	2.0	TBC
14	Review	0.5	JB
15	Report production and submission	0.5	DD
16	Cross-check and prepare archive	2.0	PC/RS
<i>Article for Norfolk Archaeology</i>			
17	Provide descriptive text and discussion from archive report and combine results with the Postwick Park and Ride site	3.0	PC
18	Graphics: re-cast illustrations, figures and plates from archive report and create new images where necessary	1.0	DD
19	Edit	1.0	TBC
20	Review	0.5	JB
21	Report production and submission	0.5	DD

Table 10. Project tasks, duration and personnel

Acknowledgements

NPS Archaeology thanks Mott MacDonald for commissioning the archaeological project and Norfolk County Council for funding the work.

Thanks are extended to Paul Riccoboni of Mott MacDonald who monitored the project, for his interest, input and help towards completing the work. Thanks also to Ken Hamilton who monitored the work on behalf of Norfolk County Council Historic Environment Service.

Thanks to Tim Ellis of Norfolk County Council for his interest in the project and to Chris Gill and the Birse site managers and team of foremen for helping to facilitate the project and in maintaining a safe working area.

The fieldwork was undertaken by John Ames, Sarah Bates, Paul Beers, Nigel Byram, Stuart Calow, Frances Green, David Moro, Antonio Pavez, John Percival and the author. Surveying was undertaken by Steve Howes of NPS Land Survey.

The finds were processed, recorded and reported on by Louise Weetman and Rebecca Sillwood, who also reported on the smaller finds assemblages. Sue Anderson reported on the post-Roman pottery, brick and tile and fired clay. Julie Curl reported on the animal bone and the worked flint was assessed by Andrew Peachey. Thanks to Val Fryer for her assessment of the environmental samples.

The site drawings were digitised by the author and illustrations for this report were prepared by David Dobson. Victoria Mellor and Andrew Crowson edited the report.

Bibliography and Sources

- Adams, D. 2013. *Archaeological Trial Trench Evaluation at Postwick Hub, Postwick, Norfolk*. NPS Archaeology report (unpublished)
- Adams, P. 2013. *Postwick Park and Ride Extension. Written Scheme of Investigation for Archaeological Mitigation*. Mott MacDonald (unpublished)
- Andrefsky, W. 2005 *Lithics: Macroscopic Approaches to Analysis. 2nd edition*. Cambridge: Cambridge University Press
- Ashwin, T. and Davison, A. (eds) 2005. *An Historical Atlas of Norfolk*. Stroud: Phillimore
- Ashwin, T. 2005a. 'Norfolk's First Farmers: Early Neolithic Norfolk (c.4000-3000BC)' in Ashwin, T. and Davison, A. (eds) *An Historical Atlas of Norfolk*. Stroud: Phillimore
- Ashwin, T. and Bates, S. 2000. *Excavations on The Norwich Southern Bypass, Part 1: Excavations at Bixley, Caistor St Edmund, Trowse, Cringleford and Little Melton 1989-91*. East Anglian Archaeology 91
- Austin, L. 1997. 'Palaeolithic and Mesolithic' in Glazebrook, J. (ed.) *Research and Archaeology: A Framework for the Eastern Counties. 1. Resource Assessment*. East Anglian Archaeology Occasional Paper 3, 5–11
- Baker, P. and Worley, F. 2014. *Animal Bones and Archaeology, Guidelines for best practice*. London: English Heritage
- Bishop, B. 2011. 'Late Neolithic to Early Bronze Age Flintwork' in Bishop, B. and Proctor, J. *Settlement, Ceremony and Industry on Mousehold Heath*. Pre-Construct Archaeology Monograph 13, 57–8
- Brown, D.H. 2007. *Archaeological Archives; A guide to best practice in creation, compilation, transfer and curation*. IfA and AAF
- British Geological Survey 1985. *East Anglia, Sheet 52N 00 Solid Geology, 1:250,000 series*. Natural Environment Research Council
- British Geological Survey 1991. *East Anglia, Sheet 52N 00 Quaternary, 1:250,000 series*. Natural Environment Research Council
- British Geological Survey 2015. *Geology of Britain viewer*. [online] Available at: <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>. [Accessed 4 September 2015]
- British Farthings 2015. [online] <http://www.britishfarthings.com/Tokens/17th-Century/Norfolk/Walsham-Walsingham.html>. [Accessed 9 September 2015]
- Butler, C. 2005. *Prehistoric Flintwork*. Stroud: Tempus
- Chartered Institute for Archaeologists (CIfA) 2014a. *Standard and guidance for archaeological excavation*
- Chartered Institute for Archaeologists (CIfA) 2014b. *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives*
- Crawley, P. 2014. *Archaeological Strip, Map and Sample Excavation at the Postwick Hub, Norwich. Assessment Report and Updated Project Design*. NPS Archaeology report 2014/1264AUPD (unpublished)

Davis, S. 1992. *A Rapid Method For Recording Information About Mammal Bones From Archaeological Sites*. English Heritage AML Report 71/92

Department for Communities and Local Government, 2012. *National Planning Policy Framework*

English Heritage 2008. *Management of Research Projects in the Historic Environment. Project Planning Notes 3: Archaeological Excavation*

English Heritage, 2009. *Management of Research Projects in the Historic Environment. The MoRPHE Project Managers Guide v 1.1*

English Heritage, 2013. *Mesolithic Research and Conservation Framework (Draft)*

Gurney, D. 2005. 'Roman Norfolk (c. AD 43-110)' in Ashwin, T. and Davison, A. (eds) *An Historical Atlas of Norfolk*. Stroud: Phillimore

Healy, F. 1988. *The Anglo-Saxon Cemetery at Spong Hill, North Elmham, Part VI: Occupation during the Seventh to Second Millennium BC*. East Anglian Archaeology 39

Hodges, L. 2013. *Archaeological Trial Trench Evaluation of the Postwick Park and Ride Extension at Postwick, Norfolk*. NPS Archaeology report 2013/1272 (unpublished)

Hillson, S. 1992. *Mammal bones and teeth*. London: Institute of Archaeology, University College, London

Jennings, S. 1981. *Eighteen Centuries of Pottery from Norwich*. East Anglian Archaeology 13

Kemp, S., 2000. 'Struck Flint' in Ashwin, T. and Bates, S. *Excavations on the Norwich Southern Bypass, 1989-91 Part I: Excavations at Bixley, Caistor St. Edmund, Trowse, Cringleford and Little Melton*. East Anglian Archaeology 91, 88–90

Medlycott, M. 2011. *Research and Archaeology Revisited: a revised framework for the East of England*. East Anglian Archaeology Occasional Paper 24

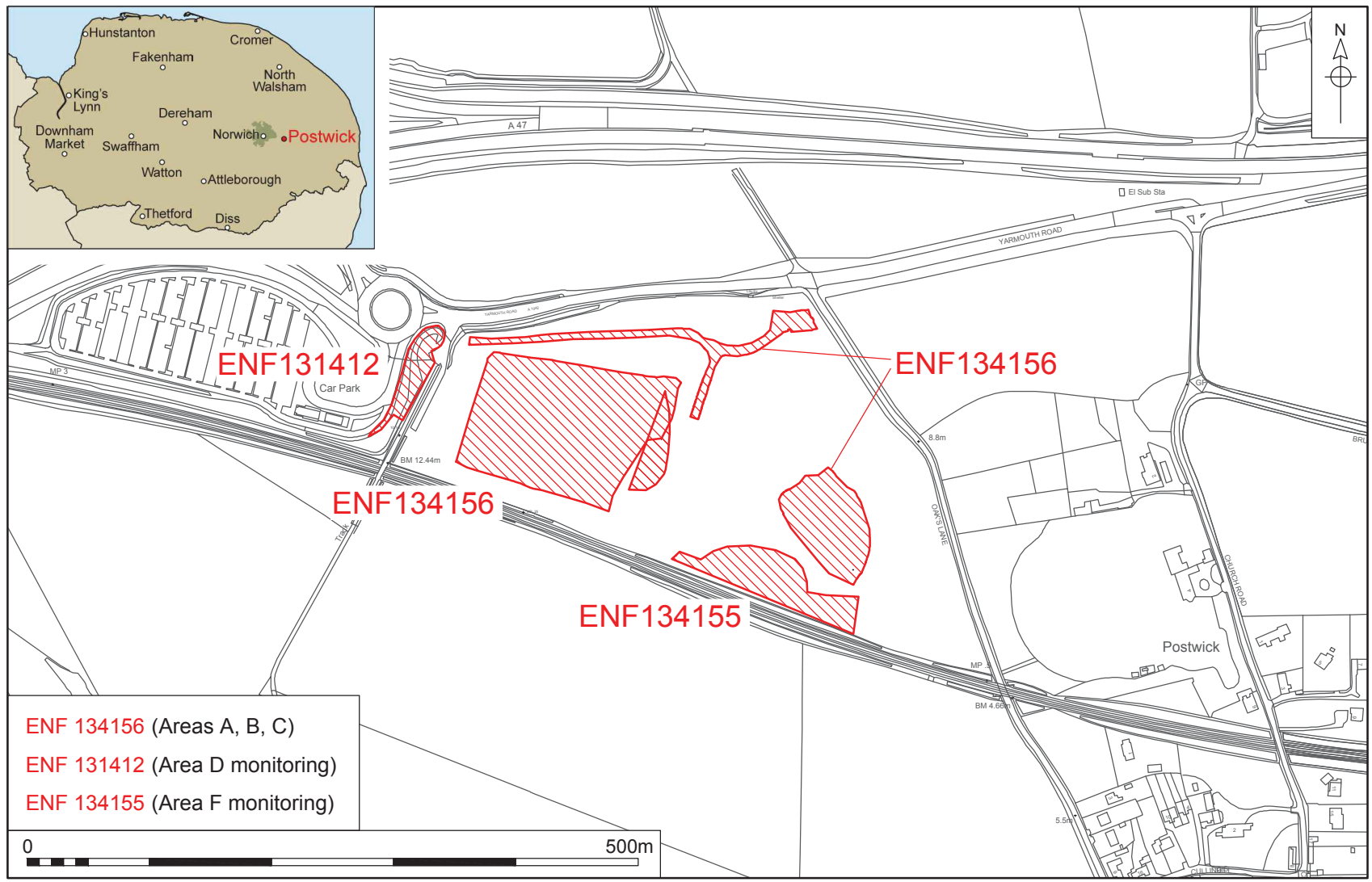
Medieval Pottery Research Group. 1998. *A Guide to the Classification of Medieval Ceramic Forms*. MPRG Occasional Paper 1

Norfolk County Council 2015. *Historic Map Explorer*. [online] <http://www.historic-maps.norfolk.gov.uk/>. [Accessed 5 August 2015]

Page, N. 2013. *Postwick Park and Ride, Postwick, Norfolk. Project Design for Archaeological Watching Brief and Strip, Map and Sample Excavation*. NPS Archaeology 01-04-14-2-1125 (unpublished).

Stace, C., 2010. *New Flora of the British Isles*. 3rd edition. Cambridge: Cambridge University Press

FIGURES



© Crown copyright and database rights 2015 Ordnance Survey 100019340

Figure 1. Site location showing Norfolk Historic Environment Record Event Numbers. Scale 1:5000

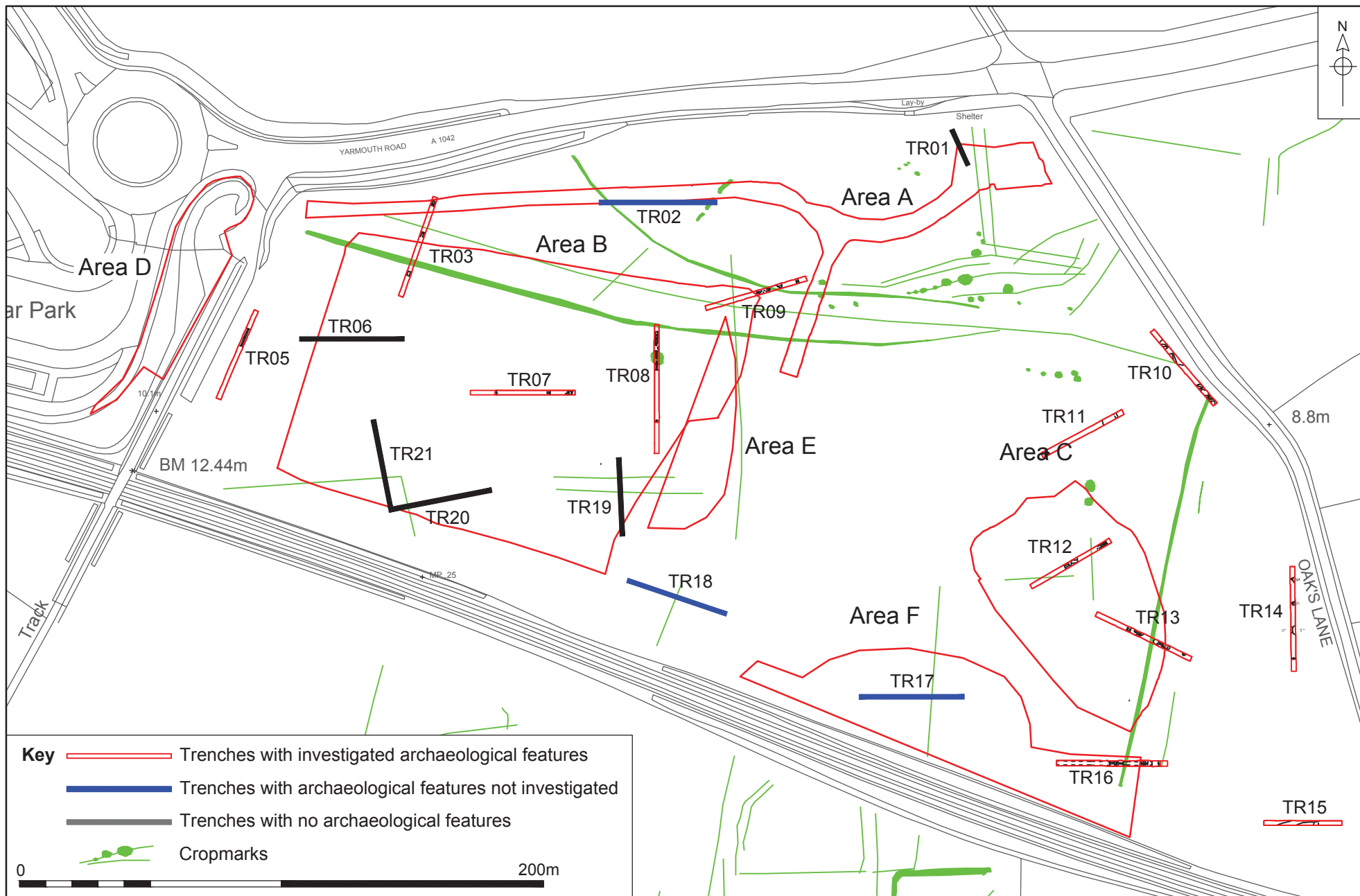


Figure 3. Location of evaluation trenches with cropmarks. Scale 1:2000

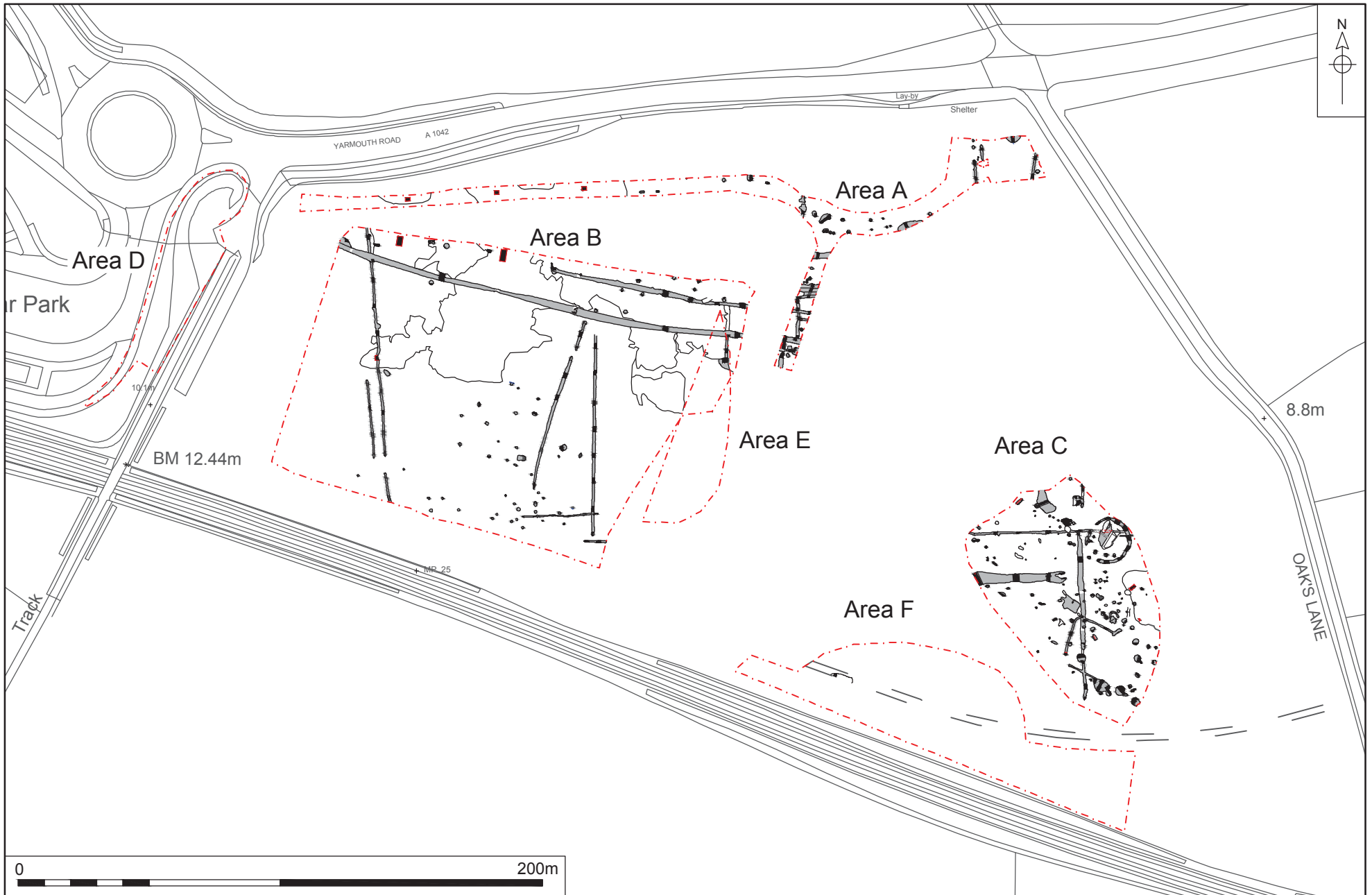


Figure 4. The site. Scale 1:2000

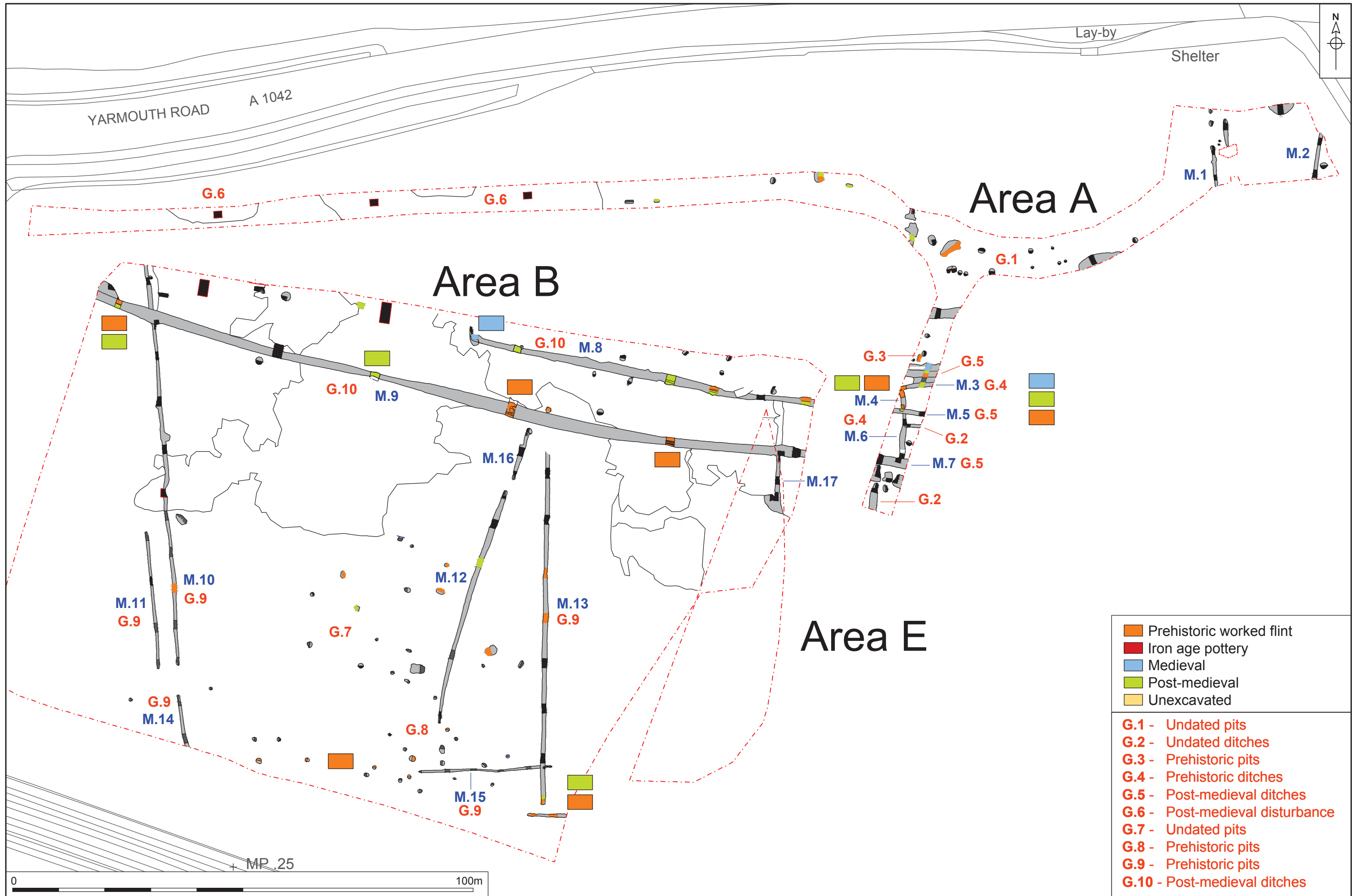


Figure 5. Plan of Areas A and B. Scale 1:750

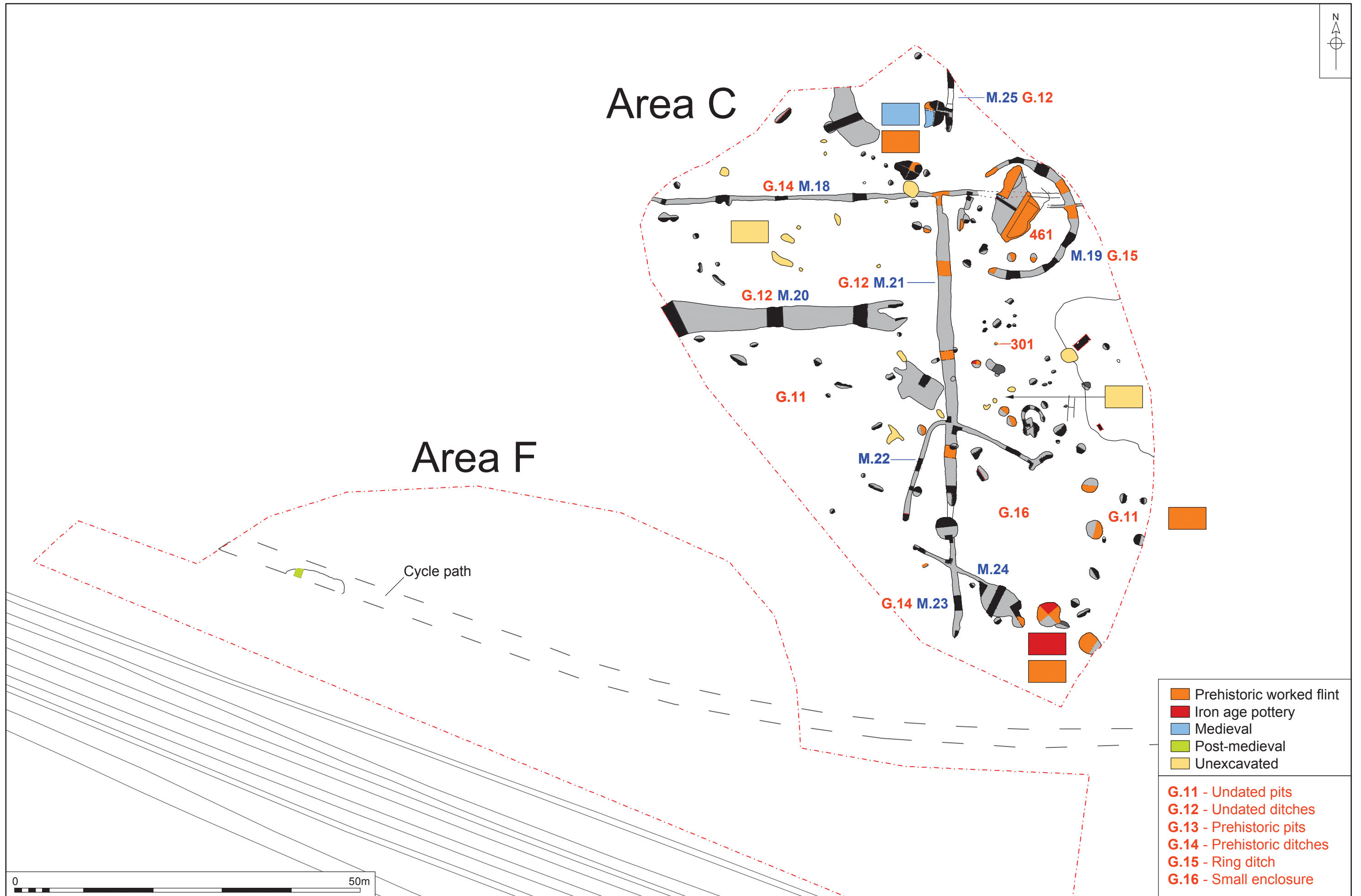


Figure 6. Plan of Areas C and F. Scale 1:500

PLATES



Plate 1. Area A, looking southwest



Plate 2. Machining Area B (south), looking west



Plate 3. Area B (north), looking south



Plate 4. Area B (north), looking east



Plate 5. Area B (south), looking southeast



Plate 6. Ditches M.10, M.11, looking south



Plate 7. Ditch M.13, looking south



Plate 8. Ditch M.9, looking east



Plate 9. Area C, looking north



Plate 10. Excavating pit 419, looking south



Plate 11. Large pit **187**, looking south



Plate 12. Pits **256** and **258**, looking west



Plate 13. Irregular pit **440**, looking north



Plate 14. Ditch M.21, looking north



Plate 15. Ring-ditch M.19, looking north



Plate 16. Ditch M.22, looking southeast