mapparch

MAP Archaeological Practice

Land off Hopper Hill Road
Eastfield
Scarborough
North Yorkshire

18/01546/FL

MAP 05.10.2022

Archaeological Strip, Map and Record

MAP Archaeological Practice

Land off Hopper Hill Road
Eastfield
Scarborough
North Yorkshire

Archaeological Strip, Map and Record

Version	Written/Revision by:	Date:	Checked by:	Date:
A	Charlie Puntorno	25.07.2022	Kelly Hunter	25.07.2022

Land off Hopper Hill Road
Eastfield
Scarborough
North Yorkshire

18/01546/FL

MAP 05.10.2022

Archaeological Strip, Map and Record

Contents

Figure List

Plate List Page

Appendices:

Land off Hopper Hill Road
Eastfield
Scarborough
North Yorkshire

18/01546/FL

MAP 05.10.2022

Archaeological Strip, Map and Record

Non-technical Summary

An Archaeological Strip, Map and Record was carried out by MAP Archaeological Practice Ltd., on land off Hopper Hill, Scarborough, on behalf of Consumer Retail. The work was undertaken in advance of the erection of an industrial storage unit (planning reference 18/01546/FL).

The site is located within the Vale of Pickering, and within an area of known archaeological activity ranging in date from the early prehistoric periods with extensive remains of later prehistoric and Romano-British activity being widely recognised.

A series of features were identified on the site, including linear and curvilinear gullies and an east to west orientated ditch. Although the majority of features remain undated, a ring gully located close to the southern boundary of the site contained an assemblage of pottery which dated to between the 1st century BC and the 1st century AD.

The limited scale of excavation somewhat prohibits any detailed interpretation of the features although it is highly likely that they represent a continuation of

contemporary and comparable features which have been extensively identified on land to the east of Hopper Hill.

1. Introduction

1.1 This report sets out the results of an Archaeological Strip, Map and Record that was carried out by MAP Archaeological Practice Ltd. on land off Hopper Hill Road, Eastfield, Scarborough, North Yorkshire. The Strip Map and record was carried out in advance of the erection of an industrial storage unit (planning reference 18/01546/FL).

1.2 Condition 4 attached to the planning permission states that;

The development shall not continue beyond initial site clearance until a Written Scheme of Investigation has been submitted to and approved by the local planning authority in writing. The scheme shall include an assessment of significance and research questions; and:

1.The programme and methodology of site investigation and recording

2.The programme for post investigation assessment

3.Provision to be made for analysis of the site investigation and recording

4.Provision to be made for publication and dissemination of the analysis and records of the site investigation

5.Provision to be made for archive deposition of the analysis and records of the site investigation

6.Nomination of a competent person or persons/organisation to undertake the works set out within the Written Scheme of Investigation.

B) No development shall take place other than in accordance with the Written Scheme of Investigation.

C) The development shall not continue beyond initial site clearance until the site investigation and post investigation assessment has been completed in accordance with the programme set out in the Written Scheme of Investigation. Provision shall be made analysis, publication and dissemination of results and archive deposition secured.

1.3 The work was carried out in accordance with the recommendations of the National Planning Policy Framework (2021) on 'Archaeology and Planning' and according to the Written Scheme of Investigation that was prepared by MAP Archaeological Practice Ltd. (Appendix 7).

1.4 MAP adhered to the general principles of both the CIfA '*Code of Conduct*' (2021) and '*Standard and Guidance for Archaeological Excavation*' *(2020)* throughout the project.

1.5 The site code for the project was MAP 05.10.22.

1.6 All maps within this report have been produced with permission of the Controller of Her Majesty's Stationary Office (© Crown copyright. License AL50453A). With additional mapping data derived from OpenStreetMap. (https://www.openstreetmap.org/copyright).

1.7 All work was funded by Consumer Retail.

2 Site Description.

2.1 The site, which currently consists of overgrown pasture is located to the east of Hopper Hill Road approximately 5km south-west of Scarborough town centre. The site is bounded to the west and south by Hopper Hill Road and to the north and east by further land

2.2 The site lies on deposits of Upper Calcarous Grit Formation sandstone overlain by sands and gravels (BGS. 2021).

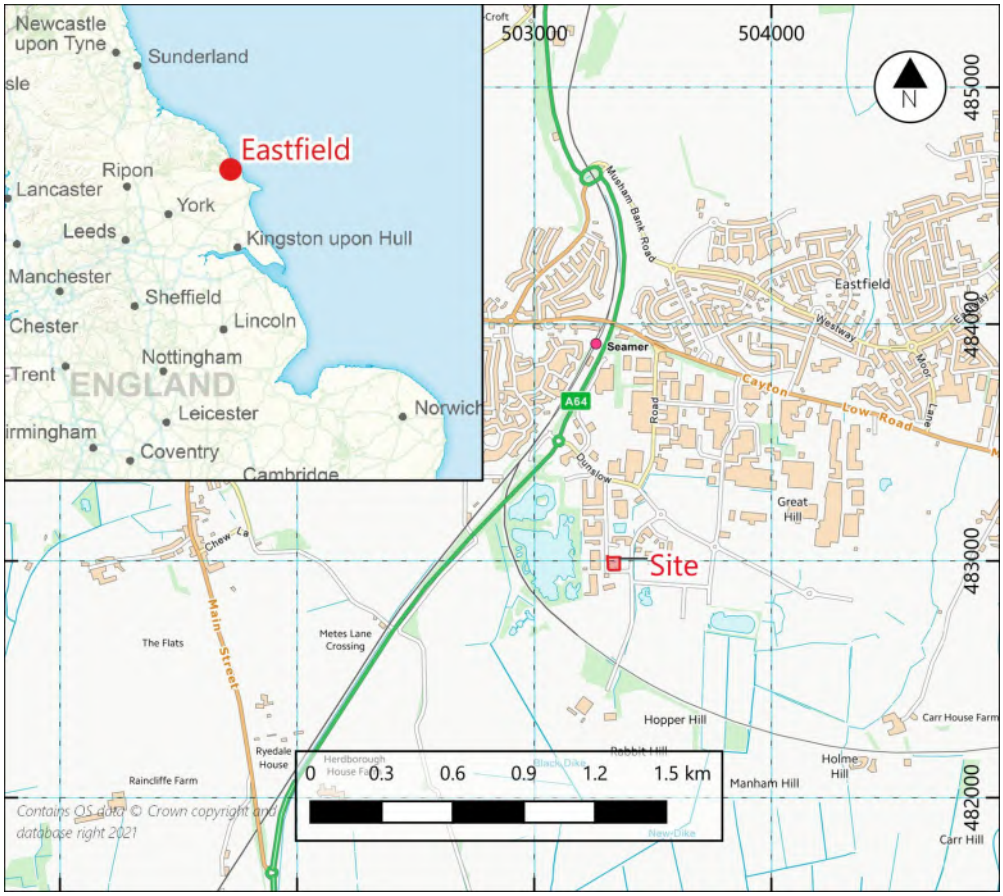


Figure 1. Site Location

3. Archaeological and Historical Background

3.1 The Proposed Development Area lies close to the northern limit of an archaeologically rich region of North Yorkshire, known as the Vale of Pickering. During the post-glacial period the Vale was dominated by a glacial lake known as Lake Pickering. This lake gradually reduced in size until it was contained within the eastern end of the Vale and is now referred to as Lake Flixton which was fed by a number of palaeochannels and contained a number of small islands, such as Flixton Island. The Proposed Development Area lies approximately 3km north of the closest point of Lake Flixton, according to mapping produced by The Carrs Wetland Project (carrswetland.wordpress.com/lake-flixton/).

3.2 The internationally important early Mesolithic (c.9000 cal BC) site of Star Carr (Scheduled Ancient Monument 1401425) is located approximately 1.8Km south of the Site. Star Carr was first identified by John Moore in 1947 and partial excavation took place by Sir Grahame Clark between 1949 and 1951 with later work taking place during the 1980s and more recently as a result of a collaboration between the universities of York, Manchester and Cambridge and University College London. Excavation has demonstrated the presence of in situ evidence of built structures and exceptional preservation of organic material which has led to the site being considered a 'type site' of the early Mesolithic period. It has been suggested that the site was reoccupied a number of times rather than being a single use site which is more commonly identified (English Heritage 2011). A wealth of finds including red deer skull headdresses, flints and a shale pendant have been recovered.

3.3 Work to the immediate south of the site produced evidence of Mesolithic occupation along with a Bronze Age hearth and Iron Age roundhouses with associated smelting activity (MNY 36225). The roundhouses were associated with three enclosing ditches which contained a significant pottery assemblage.

3.4 To the east of the site well preserved evidence of late Prehistoric and Romano-British settlement has been identified (MNY 37405 & MNY37403). A number of enclosures, roundhouses and pits were excavated. The site is located on the 35m and 33m contour which is widely utilised throughout the Vale of Pickering.

4. Aims and Objectives

4.1 In accordance with the 'Standard and Guidance for Archaeological Excavation' (CIfA 2020) the aims of the Archaeological Strip and Record were to:

- Examine the archaeological resource within a given area or site within a framework of defined research objectives.
- To seek a better understanding of the resource.
- To compile a lasting record of the resource; and
- To analyse and interpret the results of the excavation and disseminate them.

5. Methodology

5.1 Excavation

5.1.1 All areas directly impacted by the development were subjected to the Strip, Map and Record, including stanchion bases and the footprint of the industrial unit as depicted in Figure 2.

5.1.2 Overburden, topsoil and subsoil were removed by a 360° tracked mechanical excavator, fitted with a toothless bucket, operating under close archaeological supervision. Machining ceased at the top of either archaeological or naturally formed deposits, depending upon which was located soonest. The exposed surfaces were cleaned by shovel, hoe, or trowel as appropriate.

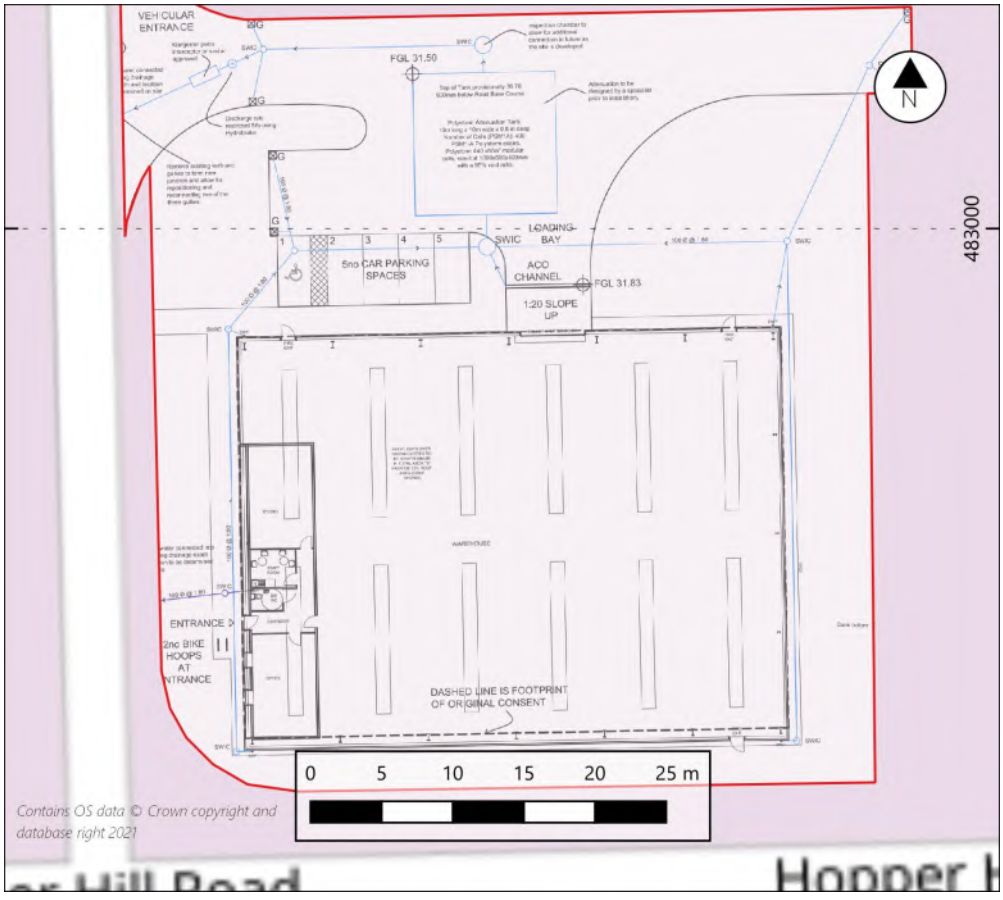


Figure 2. Site Works 1:500

5.1.3 For the purpose of finds retrieval, soil from both the machine stripping and hand excavation was visually scanned.

5.1.4 MAP adhered to the general principles of the CIfA Code of Conduct (CIfA 2021) throughout the project and to the CIfA "Standards and Guidance for Archaeological Excavations" (CIfA 2020).

5.1.5 A sufficient sample of archaeological features and deposits were hand excavated, in order to address the aims of the Archaeological Strip, Map and Record. As a minimum the following samples were excavated from features.

- 50% is all discrete archaeological features (e.g. pits and post-holes).
- 10% of all linear features (e.g. ditches and gullies), including all terminals and feature intersections over 5m in length, 20% of any linear feature shorter than 5m.

5.1.6 All artefacts were retained for specialist analysis.

5.1.7 Nine soil samples were taken from ditch and pit deposits for analysis (Appendix 4).

5.2 On-site Recording

5.2.1 All archaeological deposits were recorded according to correct principles of stratigraphic excavation on MAP's *pro forma* context sheets which are compatible with the MOLA recording system. Thirty-seven separate contexts were recorded (Appendix 1).

5.3 Plans and Sections

5.3.1 The full extent of all archaeological deposits was recorded in plan on drawing film at an appropriate scale (generally 1:20 or 1:50 for plans and 1:10 for sections). All drawings include an AOD height, and their locations were plotted using a Trimble DGPS in order to tie to the Ordnance Survey National Grid. There were twenty-nine drawings (Appendix 2).

5.4 Photographic Record

5.4.1 The photographic record consisted of forty-one high-resolution digital images, recording all archaeological features and deposits encountered (Appendix 3).

5.5 Finds

5.5.1 Finds were processed in accordance with English Heritage Guidelines (EH 1995). All finds were cleaned, identified, assessed, dated (where possible), marked (where appropriate), and properly packed and stored according to national guidelines.

5.5.2 A total of thirty-four sherds of pottery and fourteen fragments of ceramic building material (CBM) were recovered during the strip, map and record (Appendix 6).

6. Results

6.1 Period 1- Late Iron Age/ Romano-British

6.1.1 The only datable feature consisted of a ring gully (segments [1002], [1004] and [1006]. The semi-circular gully which has terminals at the eastern and western limits, and was open to the north, measured a total of 9m in length. The gully had a 'U' shaped profile and measured between 0.32m and 0.37m wide and between 0.20m and 0.07m deep. The fill, a dark brown silty clay contained thirty-four sherds of late Iron Age or Romano-British pottery, ranging in date from the 1st century BC to the 1st century AD. A small amount of hazel and oak charcoal and heather stems were identified within an environmental sample taken from the feature. A small assemblage of post-medieval roof tile was also recovered from the feature, although this is considered to be intrusive.

6.2 Modern

6.2.1 A large pit [1008], which had a diameter of 2.8m and a depth of 0.5m was located in the south-western corner of the site. The pit, which had relatively steep sides and a flat base contained a dark brown sandy clay which contained a fragment of modern iron.

6.2.2 Pit 1036 was located north of Undated Ditch A and posthole 1033. The pit, which measured 0.64m in diameter and 0.12m deep, contained a compacted pea-gravel deposit which was interpreted as being modern in date. The feature had no obvious association with other features.

6.3 Undated

6.3.1 Undated Gully A was identified emerging from the eastern limit of excavation and ran on a north-east to south-west orientation for

approximately 30m and was excavated in three segments, [1020], [1028] and [1030]. The gully, which had a 'U' shaped profile, measured between 1.34m and 0.82m wide and between 0.30m and 0.19m deep. The single fill of the feature, a mid-grey-brown silty clay contained no archaeological material. An environmental sample taken from the feature was sterile.

6.3.2 Undated Gully B was located approximately 0.40m north of Undated Gully A and ran parallel, although was intermittent and excavated in a single segment, [1022]. The feature, which measured 0.37m wide and 0.09m deep, contained a mid-grey-brown silty clay which contained no archaeological material.

6.3.3 Undated Ditch A, located approximately 0.8m north of Undated Gully B, emerged from the eastern limit of excavation and ran on an east to west alignment for approximately 32m. The ditch, which had a 'U' spared profile, measured between 1.3m and 0.7m wide and between 0.64m and 0.4m deep. The feature was excavated in four segments, [1011], [1013], [1016] and [1024], and contained a mid-grey-brown sandy clay fill (which was noticeably darker and less compacted than other features), which contained no archaeological material.

6.3.4 Undated Gully C was located approximately 2.8m north of Undated Ditch A (at its furthest point) and ran on a north-east to south-west orientation for approximately 11m before terminating. A full profile of the feature was excavated in segment [1026], which measured 0.56m wide and 0.22m deep; the single fill, a mid-grey-brown silty clay contained no archaeological material. Undated Gully C is stratigraphically later than Undated Ditch A, which it truncated close to its south-western terminal.

6.3.5 Undated Gully D was located north of Undated Ditch A, the slightly curvilinear gully had a length of approximately 2.3m and was excavated in a single segment, [1031]. The gully measures 0.18m wide and survived to a depth of 0.06m. The fill of the feature, a mid-brown silty clay contained no archaeological material.

6.3.6 Posthole 1033 was located to the north of Undated Ditch A. the feature had a diameter of 0.37m and survived to a depth of 0.05m. The mid-grey-brown silty clay fill contained no archaeological activity.

7. Discussion

7.1 The Archaeological Strip, Map and Record on land off Hopper Hill, Eastfield, Scarborough, was successful in examining and determining the nature of the archaeological deposits within the development area. The excavated features suggest a site which was likely to be rural in character, which has been utilised since the 1st century BC.

7.2 Late Iron Age and Romano-British pottery which was recovered from a ring gully on the site is common on contemporary sites throughout the Vale of Pickering and East Yorkshire. Contemporary activity is well documented within the immediate vicinity of the site, including to the east of the site, where extensive archaeological work was carried out at Scarborough Business Park (AOC Archaeology 2008). during which activity dating to the Mesolithic through to the Late Iron Age was identified. Over 1000 lithics were recovered, which dated to the Mesolithic period but primarily to the Neolithic or Early Bronze Age, from which two pits were also excavated.

The majority of archaeological features related to an extensive Late Iron Age enclosed settlement and associated field system. The activity spanned from 524 cal BC and cal AD 105, making it broadly contemporary with material recovered during the Strip, Map and Record at Hopper Hill. Ditched enclosures and roundhouses provided evidence of both agricultural and domestic activity.

7.3 The proximity of the Hopper Hill site to that to the east suggests that the encountered features are part of a wider Late Iron Age landscape which was located close to the edge of the former Lake Pickering, to the south, which would have allowed for fertile agricultural land. The thirty-four sherds of pottery were recovered from a single feature, a ring gully which may represent domestic activity on the site, although no associated features such as postholes were identified which may have substantiated a claim of the feature representing a drip gully related to a round house. If indeed the feature was a drip gully, albeit truncated by later activity, as was often the case to the east, its internal diameter would have been approximately 4m, somewhat smaller than features to the east which measured between 11m and 12m in diameter., although no entrance was identified. Although the dating of the pottery ties the feature tightly too between the 1st century BC and the first century AD, charcoal recovered from the fill of the feature has also been identified as being suitable for radiocarbon dating.

8. Bibliography

AOC Archaeology. 2008. Excavation of a Late Iron Age Enclosed Settlement at Scarborough Business Park

British Geological Society. Geology of Britain Viewer. Available at; http://mapapps.bgs.ac.uk/geologyofbritain/home.html [accessed 04.03.2022]

Chartered Institute for Archaeologists. 2021. Code of Conduct: professional ethics in archaeology. Available at; https://www.archaeologists.net/sites/default/files/Code%20of%20conduct%20revOct2021_0.pdf [accessed 04.03.2022]

Chartered Institute for Archaeologists. 2020. Standards and Guidance for Archaeological Excavation. Available at; https://www.archaeologists.net/sites/default/files/CIfAS%26GExcavation_2.pdf [accessed 04.03.2022]

9. List of Contributors

Excavation Team:	Robert Blackburn, Angela Fawcett and Paul Squires
Report Text:	Charlie Puntorno
Appendices:	Charlie Puntorno
Plates & Illustrations:	Charlie Puntorno & Max Stubbings
Editor:	Kelly Hunter
Administration:	Sophie Coy

503325
483000

503350
483000

Gully C

Gully B

Ditch A

Gully D

Ring
Gully A

Gully A

503325
482975

503350
482975

Phase 1: Late Iron Age

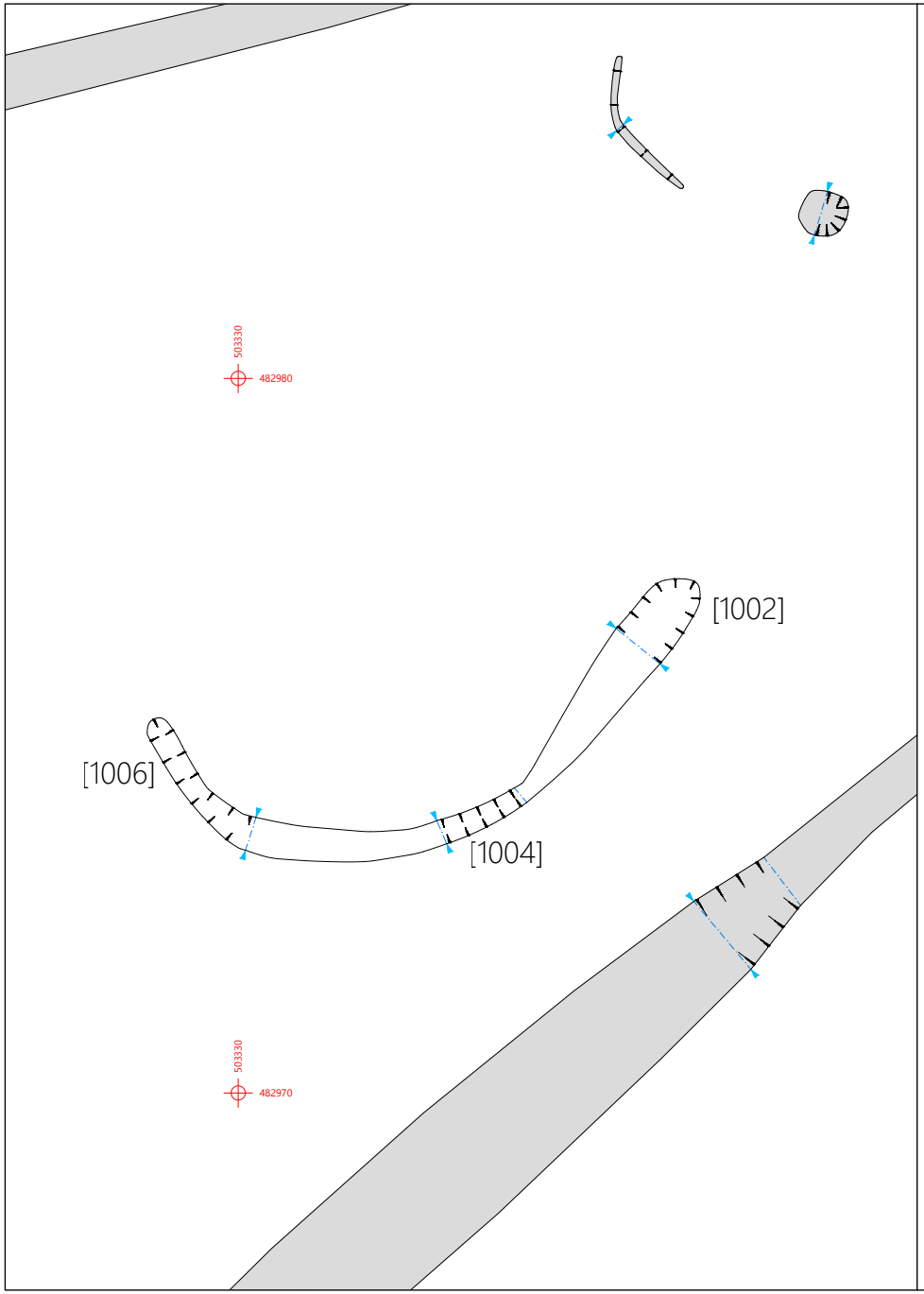
Phase 2: Undated

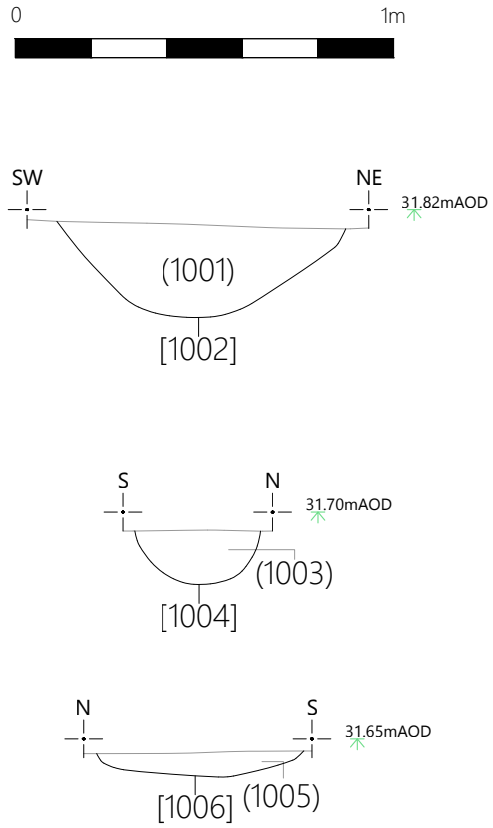
Phase 3: Modern

N

0 10m

Figure 3
Feature Phase Plan
Scale: 1:200 @ A3





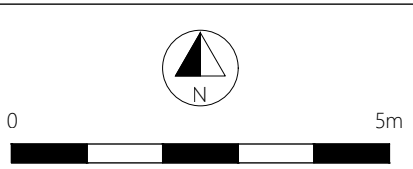


Figure 4
Phase 1
Late Iron Age/Romano-British
Gully Feature Plan & Section
Scale: Plan 1:100
Section 1:20 @ A4

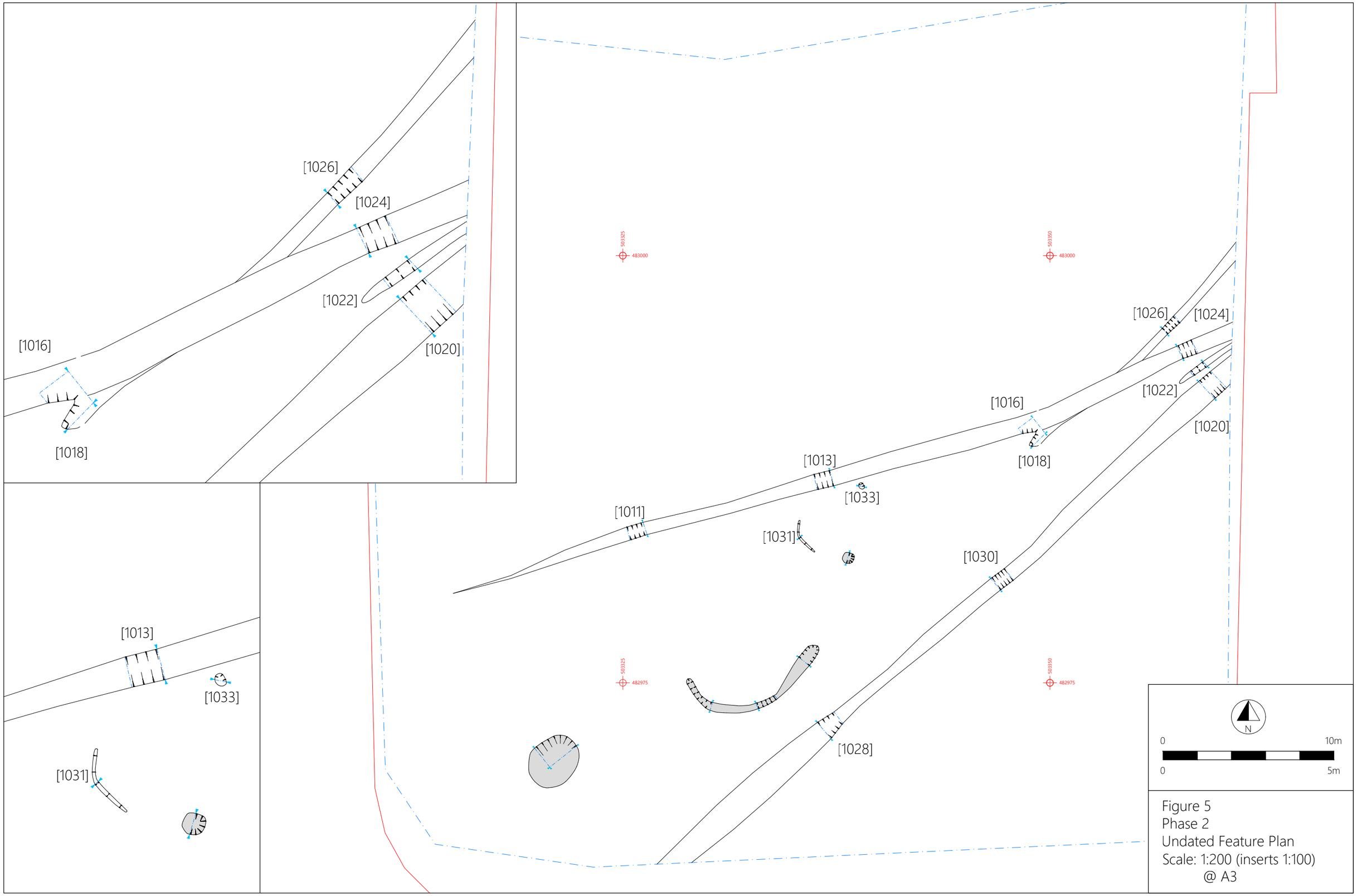


Figure 5
Phase 2
Undated Feature Plan
Scale: 1:200 (inserts 1:100)
@ A3

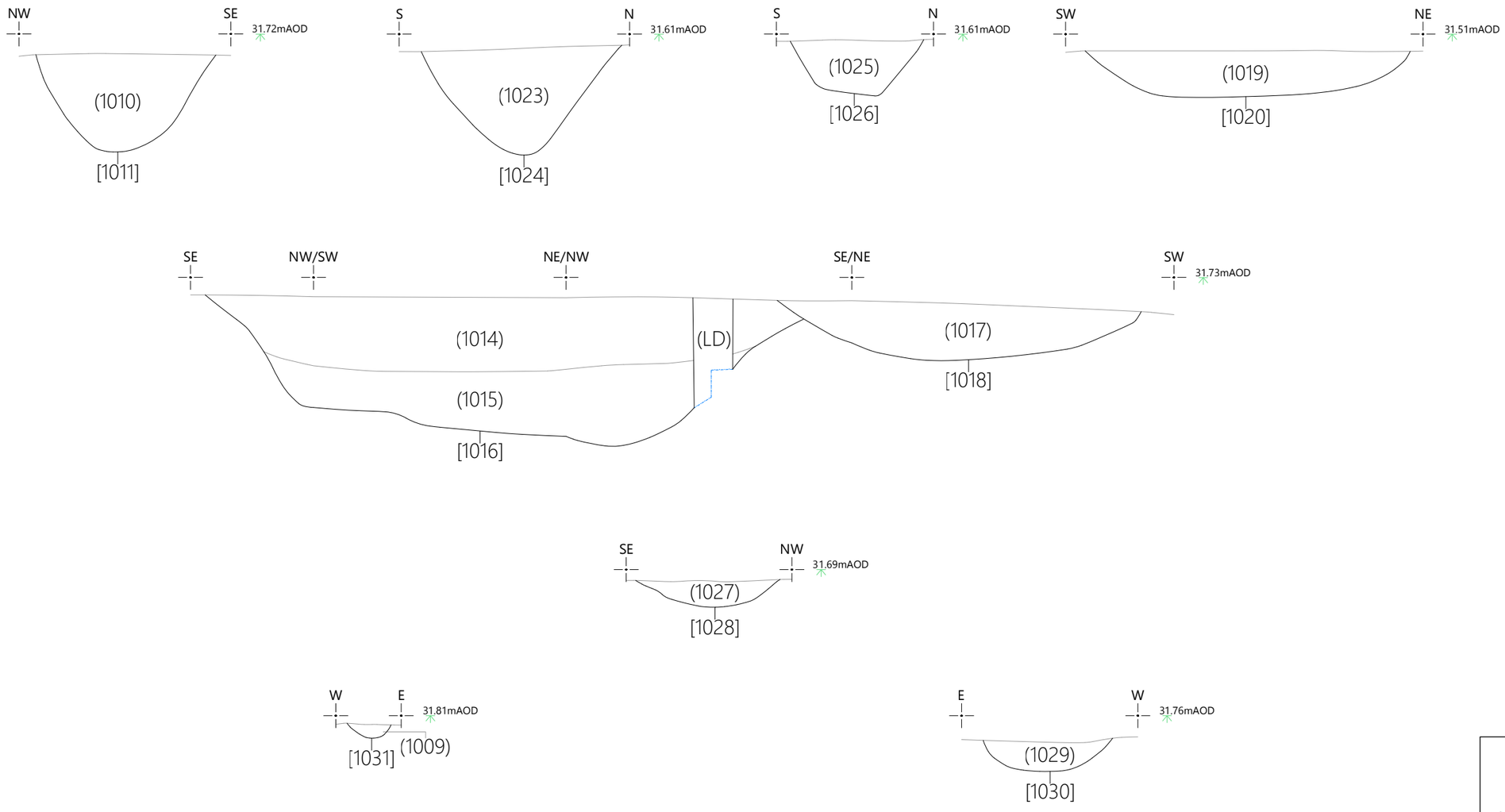
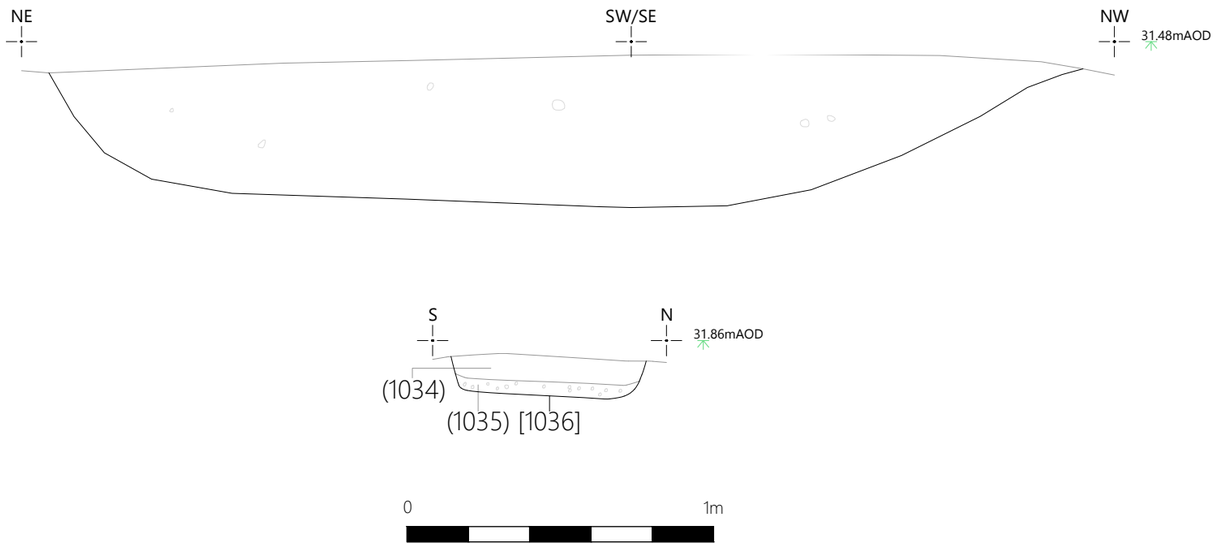


Figure 6
Phase 2
Undated Feature Sections
Scale: 1:20 @ A3



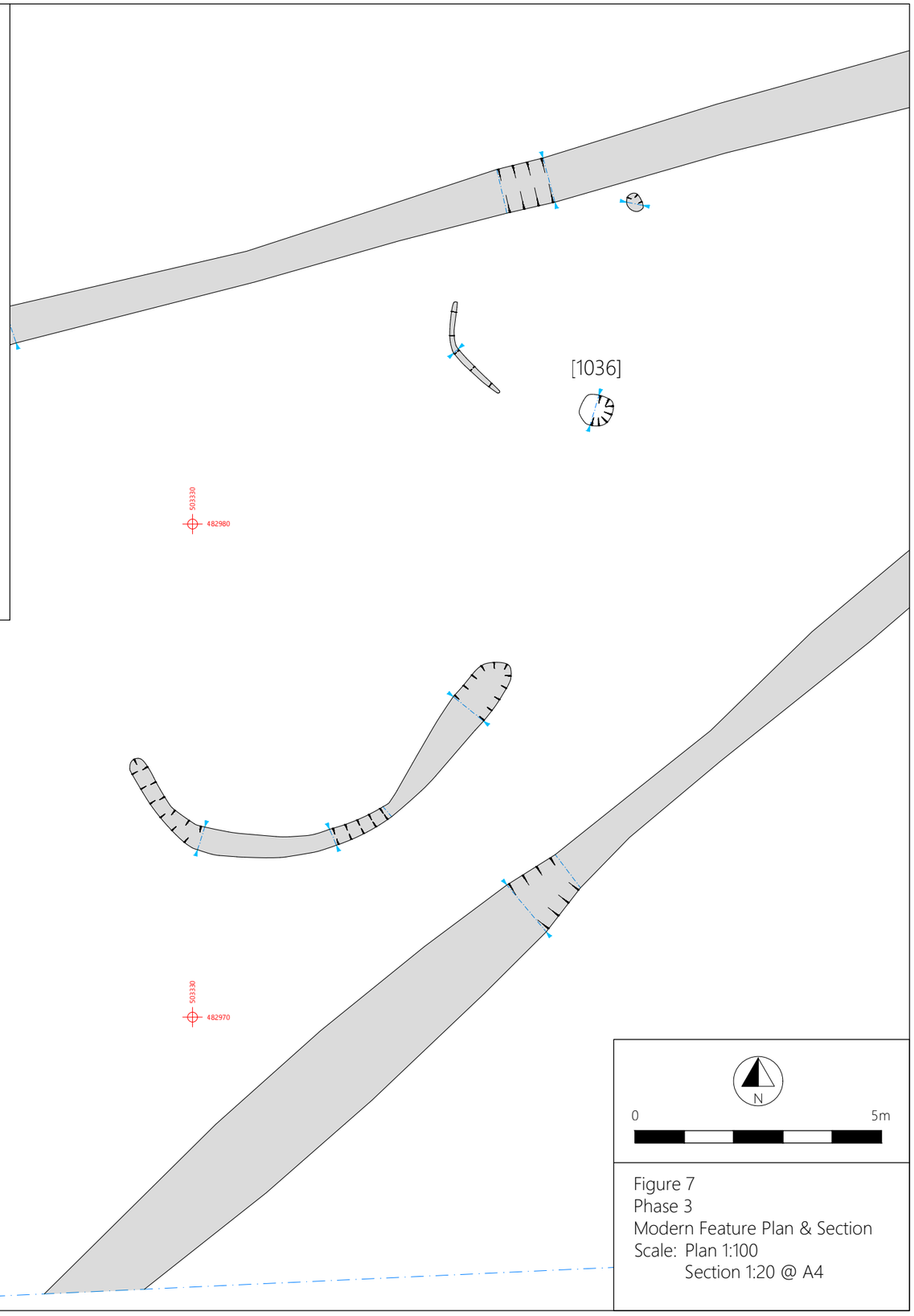


Figure 7
Phase 3
Modern Feature Plan & Section
Scale: Plan 1:100
Section 1:20 @ A4

Plate 1. Late Iron Age/ Romano British Ring Gully. Segment [1002]

Plate 2. Late Iron Age/ Romano British Ring Gully

Plate 3. Undated Ditch A. Segment [1011]

Plate 4. Undated Ditch A. Segment [1024]

Plate 5. Undated Gully A. Segment [1030]

Plate 6. Undated Gully B. Segment [1022]

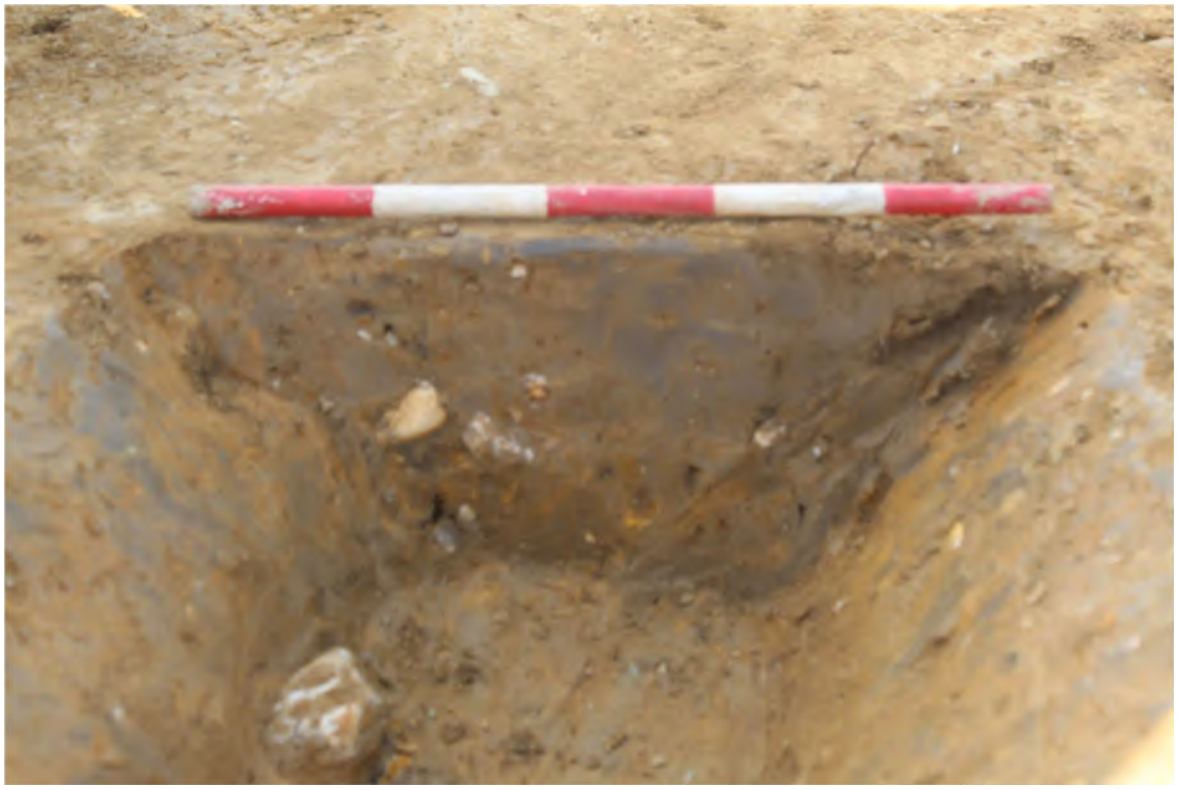


Plate 7. Undated Gully C. Segment [1026]

Plate 8. Undated Gully D

Plate 9. Post Hole [1033]

Plate 10. Pit [1036]

APPENDIX 1

Hopper Hill, Eastfield

Site Code: 05.10.22

Context Index

Context No.	Type	Fill of	Description
1000	Deposit		Topsoil
1001	Fill	1002	dark brown silty clay. Occ charcoal. Contained pottery
1002	Cut		Cut of ring gully
1003	Fill	1004	dark brown sillty clay
1004	Cut		Cut of ring gully
1005	Fill	1006	Dark brown silty clay
1006	Cut		Cut of ring gully
1007	Fill	1008	Dark brown sandy clay.
1008	Cut		Cut of modern pit
1009	Fill	1031	mid brown silty clay
1010	Fill	1011	Mid brown silty clay. Occ stone
1011	Cut		Cut of ditch
1012	Fill	1013	mid yellowish brown silty clay
1013	Cut		Cut of ditch
1014	Fill	1016	Mid brown sandy clay
1015	Fill	1016	mid grey brown silty clay
1016	Cut		Cut of ditch
1017	Fill	1018	mid yellowish brown silty clay
1018	Cut		Cut of ditch
1019	Fill	1020	mid grey brown silty clay
1020	Cut		Cut of ditch
1021	Fill	1022	mid grey brown silty clay
1022	Cut		Cut of gully
1023	Fill	1024	mid grey brown silty clay
1024	Cut		Cut of ditch
1025	Fill	1026	mid grey brown silty clay
1026	Cut		cut of ditch
1027	Fill	1028	mid grey brown silty clay
1028	Cut		Cut of ditch
1029	Fill	1030	mid grey brown silty clay
1030	Cut		Cut of ditch
1031	Cut		Cut of gully
1032	Fill	1033	mid grey brown silty clay

1033	Cut		Cut of posthole
1034	Fill	1036	mid grey brown silty clay
1035	Fill	1036	mid grey brown silty clay
1036	Cut		Cut of pit- possibly modern

APPENDIX 2

Hopper Hill, Eastfield
Site Code: 05.10.22

Drawing Index

Drawing No.	Context No.	Scale	Description
001	1011	1:20	SW facing sectiopn of ditch segment [1011]
002	1011	1:20	Plan of ditch segment [1011]
003	1013	1:20	SW facing sectiopn of ditch segment [1013]
004	1013	1:20	Plan of ditch segment [1013]
005	1016 & 1018	1:20	Section of ditch segments [1016]& [1018]
006	1016 & 1018	1:20	Plan of ditch segments [1016] & [1018]
007	1002	1:20	NE facing section of ring gully terminal [1002]
008	1002	1:20	Plan of ring gilly terminal [1002]
009	1008	1:20	Section of pit [1008]
010	1008	1:20	Plan of pit [1008]
011	1020	1:10	NE facing section of ditch segment [1020]
012	1022	1:10	SW facing section of gully segment [1022]
013	1024	1:10	E facing segment of ditch segment [1024]
014	1026	1:10	NE facing section of ditch segment [1026]
015	1020, 1022, 1024, 1026	1:20	Plan of ditch & gully segments [1020], [1022], [1024], [1026]
016	1028	1:20	NE facing section of ditch segment [1028]
017	1028	1:20	Plan of ditch segment [1028]
018	1004	1:20	E facing section of ring gully segment [1004]
019	1004	1:20	Plan if ring gully segment [1004]
020	1006	1:20	NW facing section of ring gully segment [1006]
021	1031	1:10	S facing section of gully segmemt [1031]
022	1030	1:20	NE facing section of ditch segment [1030]
023	1030	1:20	Plan of ditch segment [1030]
024	1033	1:10	NW facing section of posthole [1033]
025	1033	1:20	Plan of posthole [1033]
026	1036	1:10	E facing section of pit [1036]
027	1036	1:20	Plan of pit [1036]
028	1031	1:20	Plan of gully segment [1031]
029	1006	1:20	Plan of ring gilly terminal [1006]

APPENDIX 3

Hopper Hill, Eastfield

Site Code: 05.10.22

Photographic Index

Frame No.	Context No.	Scale	Description
3453	1002	0.5m	NE facing section of gully terminal segment [1002]
3454	1002	0.5m	Plan shot of gully terminal segment [1002]
3455	1004	0.5m	E facing section of gully segment [1004]
3456	1004	0.5m	E facing section of gully segment [1004]
3457	1004	1m & 0.5m	Plan shot of gully segment [1004]
3458	1004	1m & 0.5m	Plan shot of gully segment [1004]
3459	1006	0.5m	NW facing section of gully terminal segment [1006]
3460	1006	1m & 0.5m	Plan shot of gully terminal segment [1006]
3461	1008	2x 1m	NE facing section of pit [1008]
3462	1008	2x 1m	NE facing section of pit [1008]
3463	1008	2x 1m	N facing section of pit [1008]
3464	1031	0.5m	S facing section of gully segment [1031]
3465	1031	0.5m	S facing section of gully segment [1031]
3466	1016	1m & 0.5m	SW facing section of ditch segment [1016]
3467	1016 & 1018	2x 1m	Plan shot of ditch sections [1016] & [1018]
3468	1016 & 1018	2x 1m	Plan shot of ditch sections [1016] & [1018]
3469	1020	1m	NE facing section of ditch segment [1020]
3470	1020	1m	NE facing section of ditch segment [1020]
3471	1022	0.5m	SW facing section of gully segment [1022]
3472	1022	0.5m	SW facing section of gully segment [1022]
3473	1011	1m	SW facing section of ditch segment [1011]
3474	1011	1m	Plan shot of ditch segment [1011]
3475	1030	1m	NE facting section of ditch segment [1030]
3476	1030	1m	NE facting section of ditch segment [1030]
3477	1024	0.5m	E facing section of ditch segment [1024]
3478	1024	0.5m	E facing section of ditch segment [1024]
3479	1013	1m	SW facing section of ditch segment [1013]
3480	1013	1m	SW facing section of ditch segment [1013]
3481	1013	1m	SW facing section of ditch segment [1013]
3482	1026	0.5m	NE facing section of gully segment [1026]
3483	1026	0.5m	NE facing section of gully segment [1026]
3484	1028	1m	NE facing section of ditch segment [1028]

3485	1028	1m	NE facing section of ditch segment [1028]
3486	1036	0.5m	pre-ex shot of pit [1036]
3487	1036	0.5m	pre-ex shot of pit [1036]
3488	1033	0.3m	N facing section of posthole [1033]
3489	1033	0.3m	N facing section of posthole [1033]
3490	1035	0.5m	Plan shot of pit [1035]
3491	1036	0.5m	W facing section of pit [1036]
3492	1036	0.5m	W facing section of pit [1036]

APPENDIX 4

Hopper Hill, Eastfield

Site Code: 05.10.22

Environmental Index

Sample No.	Context No.	Cut	Description
001	1027	1028	Mid grey brown silty clay. Single fill of ditch segment [1028]
002	1021	1022	Mid grey brown silty clay. Single fill of gully segment [1022]
003	1023	1024	Mid grey brown silty clay. Single fill of gully segment [1024]
004	1025	1026	Mid grey brown silty clay. Single fill of ditch segment [1026]
005	1034	1036	Mid grey brown silty clay. Upper fill of pit [1036]
006	1001	1002	Dark brown silty clay. Single fill of ring gully terminal [1002]
007	1003	1004	Dark brown silty clay. Single fill of ring gully segment [1004]
008	1012	1013	Dark brown silty clay. Single fill of ditch segment [1013]
009	1007	1008	Dark brown silty clay. Fill of pit [1008]

Hopper Hill Road, Eastfield 05-10-22

Carbonised Plant Macrofossils and Charcoal

Diane Alldritt

1: Introduction

Five environmental sample flots taken during archaeological investigations on land at Hopper Hill Road, Eastfield (MAP 05-10-22) were examined for carbonised plant macrofossils and charcoal. Samples were taken from ditch and gully features and a single pit resulting in recovery of small quantities of charcoal and other carbonised remains.

2: Methodology

The bulk environmental samples were processed by MAP Archaeological Practice Ltd. using a Siraf style water flotation system (French 1971). The samples were 10litres to 20litres in volume. The flots were dried before examination under a low power binocular microscope typically at x10 magnification. All identified plant remains including charcoal were removed and bagged separately by type.

Wood charcoal was examined using a high powered Vickers M10 metallurgical microscope at magnifications up to x200. The reference photographs of Schweingruber (1990) were consulted for charcoal identification. Plant nomenclature utilised in the text follows Stace (1997) for all vascular plants apart from cereals, which follow Zohary and Hopf (2000).

3: Results

The environmental samples produced small quantities of carbonised plant remains 5ml up to 25ml in volume mostly found to consist of charcoal fragments <0.5cm to

1.0cm in size in amongst crushed charred detritus below the level of identification. A small number of heather stems and rhizomes were present in the ring gully deposits suggesting probable cutting of peat or heathy turves for domestic fuel. Modern remains were recorded at <2.5ml to 20ml in volume mainly root and twig detritus with trace finds of earthworm egg capsules indicating bioturbation was taking place. Clinker was found in one sample and probably came from Post Medieval disturbance.

Results are given in table 1 and discussed below.

4: Discussion

Two samples taken from ring gully segments produced fragments of charcoal and a few finds of heather stems and rhizomes probably all fuel waste from domestic burning activity. Ring gully [1002] (1001) contained *Corylus* (hazel) charcoal as well as poorly preserved indeterminate fragments together with *Calluna* (heather) stems and rhizomes. Ring gully [1004] (1003) had a mixture of *Quercus* (oak) and hazel charcoal with a few pieces of heather stem. These were probably all domestic hearth sweepings or trample from nearby burning.

Pit [1036] (1034) contained indeterminate heavily iron pan damaged charcoal which had probably washed in to the feature. Ditch [1028] (1027) and gully [1022] (1021) were both sterile and possibly fairly recent agricultural features.

5: Conclusion

The environmental samples produced small amounts of carbonised plant remains mainly consisting of oak and hazel charcoal recorded from the ring gully segments [1002] and [1004] mixed with a few fragments of heather stem and rhizome. This suggested mixed fuel use for domestic purposes probably involving cutting of peat or

heathy turves to supplement woodland resources. The hazel charcoal from [1002] and [1004] would be suitable for radiocarbon dating if required.

Further excavation work may continue to produce small deposits of carbonised remains.

References

French, D. H. 1971 An Experiment in Water Sieving. *Anatolian Studies 21* 59-64.

Schweingruber, F. H. 1990 *Anatomy of European Woods*. Paul Haupt Publishers Berne and Stuttgart.

Stace, C. 1997 *New Flora of the British Isles*. 2nd Edition Cambridge University Press.

Zohary, D. and Hopf, M. 2000 *Domestication of Plants in the Old World*. 3rd Edition Oxford University Press.

APPENDIX 5

Hopper Hill, Eastfield

Site Code: 05.10.22

	Context	1001	1003	1021	1027	1034
	Sample	6	7	2	1	5
	Feature	gully [1002]	gully [1004]	gully [1022]	ditch [1028]	pit [1036]
	Radiocarbon Y/N	Y ch	Y ch	N	N	N
	Sample Volume (litres)	20	20	10	20	10
	Total CV	25ml	20ml	0	0	5ml
	Modern	<2.5ml	<2.5ml	10ml	20ml	<2.5ml
Charcoal	Common Name					
Quercus	oak		3 (0.23g)			
Corylus	hazel	1 (0.13g)	3 (1.18g)			
Indeterminate		3 (0.86g)				2 (0.50g)
Carbonised Wild Resources						
Calluna stems	heather	7 (0.22g)	2 (0.07g)			
Rhizomes		2 (0.11g)				
Other Remains						
Clinker				2		
Earthworm egg capsules			1			

Hopper Hill, Seamer, North Yorkshire
05.10.22
Assessment of Pottery and Ceramic Building Material

Pottery

Introduction

Thirty-four pottery sherds were recovered from the 2022 Strip, Map and Record excavation at Hopper Hill, Seamer, North Yorkshire. The assemblage consisted of Late Iron Age / Romano-British (LIA/RB) material, ranging in date from the 1st century BC to the 1st century AD. The sherds were recovered from one context (1001), the fill of a ring gully.

Analysis, Condition and Quantification

The sherds were examined under a x20 hand lens to identify the fabrics and tempering agents so that they could be assigned to specific fabric type.

The size of the sherds ranged from 4cm to 8cm. With 34 sherds present, the assemblage weighed 237g, giving an average sherd weight of 6.9g. With no rims, bases or decorated sherds present no minimum number of vessels can be estimated.

Fabric Terminology

The terminology used in this assessment for the Late Iron Age and Early Roman pottery follows that developed for ceramics in East Yorkshire in Rigby's study of the prehistoric and Roman pottery of East Yorkshire (Rigby 2004)

Catalogue

Context 1001

34 body sherds in Vesicular ware, the soluble tempering agent having been removed by acidic soil conditions. The form of the voids suggests that the temper

was calcite, rather than shell or limestone. Two sherds, although predominantly vesicular, have other tempering agents visible, one with sparse rock gritting (1-2mm diameter), the other has an oxidised exterior with sparse, coarse, quartz sand grits (1mm diameter).

Spot date: LIA/RB

Pottery - Discussion and Conclusions

The pottery is of LIA/RB date, though the lack of feature sherds rules out any further comment. Pottery of this sort is current at many other sites of the same date in the Vale of Pickering and East Yorkshire.

Recommendations

This pottery assemblage (and the CBM discussed below) should be retained along with the rest of the site archive. There are no sherds requiring illustration.

Ceramic Building Material

Introduction

Fourteen fragments of ceramic building material weighing a total of 186g were recovered from context 1001 during the Strip, Map and Record at Hopper Hill. All the fragments were from post medieval roof tiles with a thickness of 18mm.

Bibliography

Rigby, V., 2004 *Pots in Pits. The British Museum Yorkshire Settlements Project 1988-90.* East Riding Archaeologist, Volume 11.

Summary for maparcha1-508288

OASIS ID (UID)	maparcha1-508288
Project Name	Archaeological Intervention at Land off Hopper Hill Road Eastfield Scarborough
Sitename	Land off Hopper Hill Road Eastfield Scarborough
Activity type	Archaeological Intervention
Project Identifier(s)	Land off Hopper Hill Road
Planning Id	18/01546/FL
Reason For Investigation	Planning: Post determination
Organisation Responsible for work	MAP Archaeological Practice Ltd
Project Dates	10-Apr-2022 - 29-Apr-2022
Location	Land off Hopper Hill Road Eastfield Scarborough NGR : TA 03342 83021 LL : 54.2324776362376, -0.416088335544229 12 Fig : 503342,483021
Administrative Areas	Country : England County : North Yorkshire District : Scarborough Parish : Seamer
Project Methodology	All areas directly impacted by the development were subjected to the Strip, Map and Record, including stanchion bases and the footprint of the industrial unit
Project Results	An Archaeological Strip, Map and Record was carried out by MAP Archaeological Practice Ltd., on land off Hopper Hill, Scarborough, on behalf of Consumer Retail. The work was undertaken in advance of the erection of an industrial storage unit (planning reference 18/01546/FL). The site is located within the Vale of Pickering, and within an area of known archaeological activity ranging in date from the early prehistoric periods with extensive remains of later prehistoric and Romano-British activity being widely recognised. A series of features were identified on the site, including linear and curvilinear gullies and an east to west orientated ditch. Although the majority of features remain undated, a ring gully located close to the southern boundary of the site contained an assemblage of pottery which dated to between the 1st century BC and the 1st century AD. The limited scale of excavation somewhat prohibits any detailed interpretation of the features although it is highly likely that they represent a continuation of contemporary and comparable features which have been extensively identified on land to the east of Hopper Hill.
Keywords	Gully - LATER PREHISTORIC - FISH Thesaurus of Monument Types Round House (Domestic) - LATER PREHISTORIC - FISH Thesaurus of Monument Types Ditch - LATER PREHISTORIC - FISH Thesaurus of Monument Types
Funder	
HER	North Yorkshire HER - unRev - STANDARD

Person Responsible for work	Charlie , Puntorno
HER Identifiers	
Archives	

Land off Hopper Hill Road
Eastfield
Scarborough
North Yorkshire

18/01546/FL

Written Scheme of Investigation

Archaeological Strip, Map and Record

Land off Hopper Hill Road
Eastfield
Scarborough
North Yorkshire

WRITTEN SCHEME OF INVESTIGATION:
Archaeological Strip, Map and Record

CONTENTS PAGE

Land off Hopper Hill Road
Eastfield
Scarborough
North Yorkshire

WRITTEN SCHEME OF INVESTIGATION:
Archaeological Strip, Map and Record

1 Summary

1.1 This document sets out the details for the archaeological work required at land off Hopper Hill Road, Eastfield, Scarborough, North Yorkshire in order to preserve any archaeological deposits of features by record, prior to the erection of an industrial storage unit (planning reference 18/01546/FL).

1.2 Condition 4 attached to the planning permission states that;

The development shall not continue beyond initial site clearance until a Written Scheme of Investigation has been submitted to and approved by the local planning authority in writing. The scheme shall include an assessment of significance and research questions; and:

1.The programme and methodology of site investigation and recording

2.The programme for post investigation assessment

3.Provision to be made for analysis of the site investigation and recording

4.Provision to be made for publication and dissemination of the analysis and records of the site investigation

5.Provision to be made for archive deposition of the analysis and records of the site investigation

6.Nomination of a competent person or persons/organisation to undertake the works set out within the Written Scheme of Investigation.

B) No development shall take place other than in accordance with the Written Scheme of Investigation.

C) The development shall not continue beyond initial site clearance until the site investigation and post investigation assessment has been completed in accordance with the programme set out in the Written Scheme of Investigation. Provision shall be made analysis, publication and dissemination of results and archive deposition secured.

1.3 In accordance with the recommendations of the National Planning Policy Framework (2021) on 'Archaeology and Planning' the Archaeological Strip, Map and Record has been recommended by the Principal Archaeologist at North Yorkshire County Council in order to allow for a programme of archaeological recording to take place prior to development.

2 Site Description.

2.1 The site, which currently consists of overgrown pasture is located to the east of Hopper Hill Road approximately 5km south-west of Scarborough town centre. The site is bounded to the west and south by Hopper Hill Road and to the north and east by further land

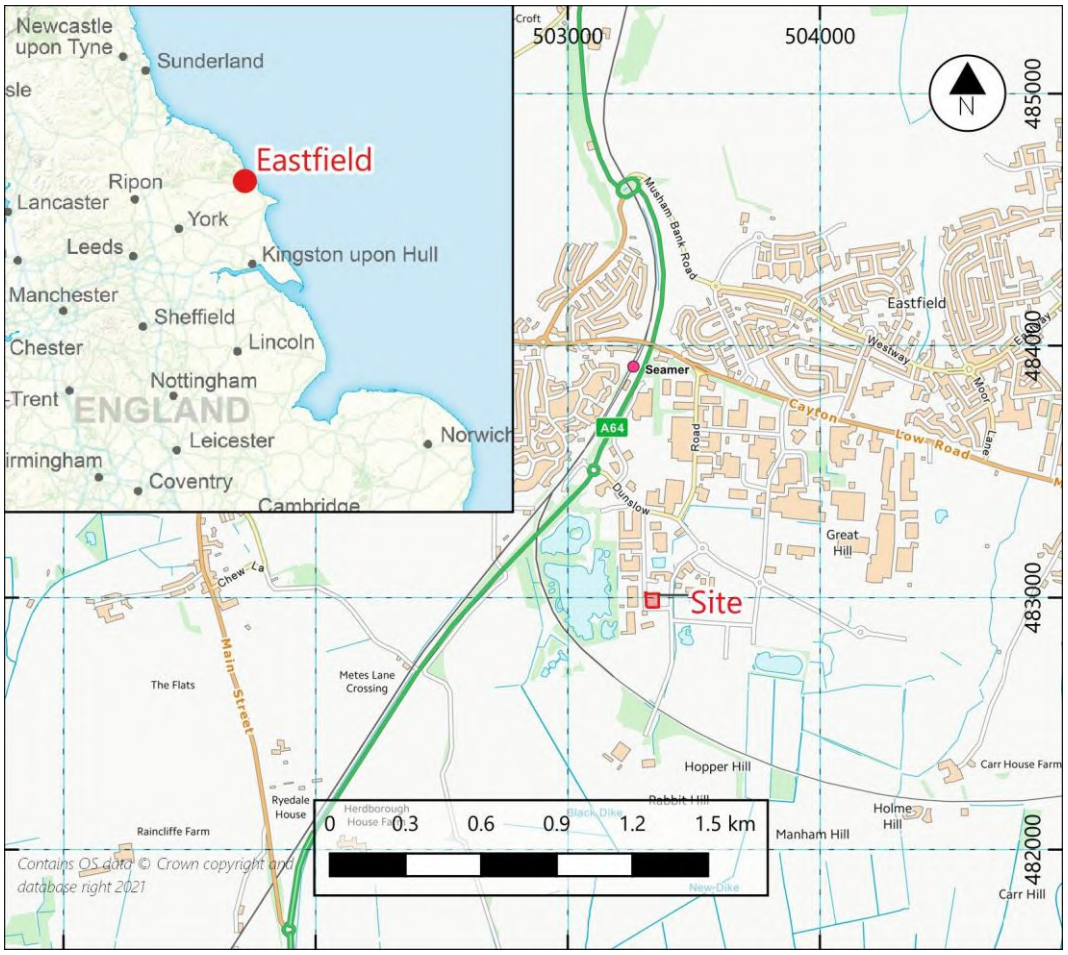


Figure 1. Site Location 1:30,000

2.2 The site lies on deposits of Upper Calcarous Grit Formation sandstone overlain by sands and gravels (BGS. 2021).

3. Archaeological and Historical Background

3.1 The Proposed Development Area lies close to the northern limit of an archaeologically rich region of North Yorkshire, known as the Vale of Pickering. During the post-glacial period the Vale was dominated by a glacial lake known as Lake Pickering. This lake gradually reduced in size until it was contained within the eastern end of the Vale and is now referred to as Lake Flixton which was fed by a number of palaeochannels and

contained a number of small islands, such as Flixton Island. The Proposed Development Area lies approximately 3km north of the closest point of Lake Flixton, according to mapping produced by The Carrs Wetland Project (carrswetland.wordpress.com/lake-flixton/).

3.2 The internationally important early Mesolithic (c.9000 cal BC) site of Star Carr (Scheduled Ancient Monument 1401425) is located approximately 1.8Km south of the Site. Star Carr was first identified by John Moore in 1947 and partial excavation took place by Sir Grahame Clark between 1949 and 1951 with later work taking place during the 1980s and more recently as a result of a collaboration between the universities of York, Manchester and Cambridge and University College London. Excavation has demonstrated the presence of in situ evidence of built structures and exceptional preservation of organic material which has led to the site being considered a 'type site' of the early Mesolithic period. It has been suggested that the site was reoccupied a number of times rather than being a single use site which is more commonly identified (English Heritage 2011). A wealth of finds including red deer skull headdresses, flints and a shale pendant have been recovered.

3.3 Work to the immediate south of the site produced evidence of Mesolithic occupation along with a Bronze Age hearth and Iron Age roundhouses with associated smelting activity. (MNY 36225). The roundhouses were associated with three enclosing ditches which contained a significant pottery assemblage.

3.4 To the east of the site well preserved evidence of late Prehistoric and Romano-British settlement has been identified (MNY 37405 & MNY37403). A number of enclosures, roundhouses and pits were excavated. The site is located on the 35m and 33m contour which is widely utilised throughout the Vale of Pickering.

4. Archaeological Programme

4.1 In accordance with the 'Standard and Guidance for Archaeological Excavation' (CIfA 2014) the aims of the Archaeological Excavation is to:

- Examine the archaeological resource within a given area or site within a framework of defined research objectives;
- To seek a better understanding of the resource;
- To compile a lasting record of the resource; and
- To analyse and interpret the results of the excavation and disseminate them

5 Compliance

5.1 MAP will adhere to the general principles of the CIfA Code of Conduct (CIfA 2019) throughout the project and to the CIfA 'Standards and Guidance for Archaeological Excavation (CIFA 2014).

5.2 All work will be carried out in accordance with chapter 16 of the National Planning Policy Framework (2021) on 'Archaeology and Planning'.

5.3 The work will be monitored under the auspices of the Principal Archaeologist at North Yorkshire County Council who will be consulted before the commencement of site works.

5.4 All maps within this report have been produced from the Ordnance Survey with the permission of the Controller of Her Majesty's Stationery Office, Crown Copyright. License No. AL 50453A and also data derived from Open Street Map (https://www.opennstreetmap.org/copyright).

5.5 If human remains are encountered, they will be excavated, recorded and lifted under the conditions of licences for the removal of human remains (issued by the Ministry of Justice) and in accordance with the Burial Act (1857) and 'Guidelines to the Standards for Recording Human Remains' (Brickley & McKinley. 2004) to ensure that they are treated with due dignity.

5.6 MAP Archaeological Practice is an ISO 9001 accredited organisation (certificate number GB2005425). The award of the ISO 9001 certificate, independently audited by the British Standards Institution (BSI), demonstrates MAP's commitment to providing a quality service to our clients. ISO (the International Organisation for Standardisation) is the most recognised standards body in the world, helping to drive excellence and continuous improvement within businesses.

6 Fieldwork Methodology

6.1.1 It is proposed that all areas directly impacted by the development will be subject to the Strip, Map and Record, this is likely to include stanchion bases and the footprint of the industrial unit as depicted in Figure 2.

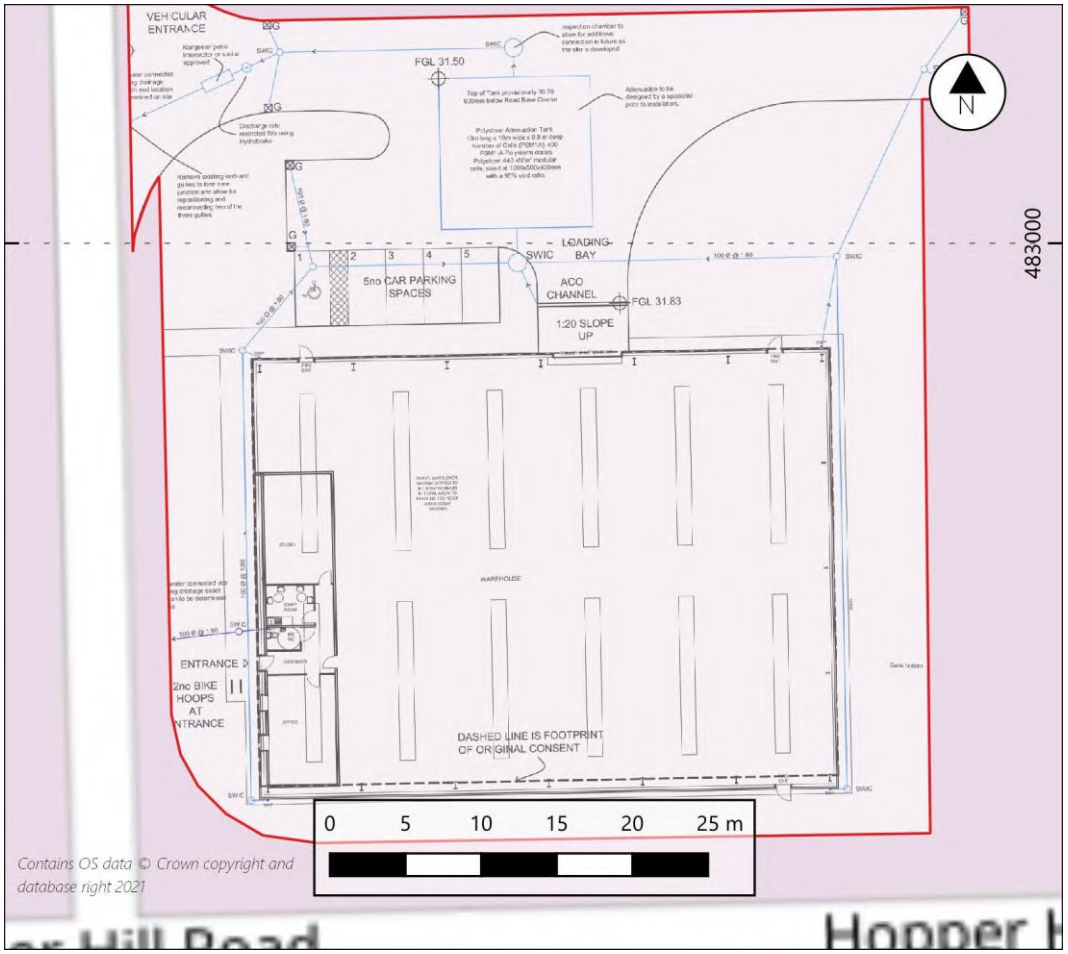


Figure 2. Site Works 1:500

6.1.2 All overburden will be carefully removed by mechanical excavator using a wide toothless blade, under archaeological supervision, to the top of archaeological features or layers. Excavated topsoil will be redeposited in bunds around the edge of the site, or at an alternative location, to be determined in agreement with the client. Top soil and subsoils will be stored separately, and all spoil will be stored and managed in line with the

standards of the Construction Code of Practice for Sustainable Use of Soils on Construction Sites (DEFRA 2009).

6.1.3 All excavation of archaeological features and deposits carried out will be by hand. Areas of intensive modern disturbance will be given a low priority in excavation. Where practicable and after the agreement of the Principle Archaeologist, the fills of these features will be removed by mechanical excavator.

6.1.4 Context recording methodologies and systems will be used. All archaeological deposits will be recorded according to principles of stratigraphic excavation on MAP's *pro forma* sheets, which are compatible with the MoLAS recording system. The MoLAS recording manual will be used on site where necessary. The stratigraphy of trenches will be recorded even if no archaeology is found.

6.1.5 The excavation sampling policy is :

a. A 100% sample of stakeholes

b. An initial 50% sample should be taken of all postholes, but where they are part of a building these should be 100% excavated

c. A 50% sample of pits with a diameter up to 1.5m (where justified, these should be 100% excavated,

d. A minimum 25% sample of all pits over 1.5m in diameter, but this should include a complete section across the pit to record a full profile (where justified, these should be 100% excavated)

e. A minimum 10% sample of all linears, unless otherwise agreed by the Principal Archaeologist.

f. All junctions/intersections and corners of linear features will be investigated and their stratigraphic relationships determined – if necessary using box sections and all ditch terminals will be examined,

f. All funerary contexts, all buildings and all industrial features will be subject to 100% excavation. As noted above, postholes and the enclosing ditches around barrows and roundhouses would be first subject to sample excavation, sectioning and recording, but then will be fully excavated

g. Built structures, such as walls, will be examined and sampled to a degree whereby their extent, form, date, function and relationship to other features and deposits can be established

h. Any in situ building remains will be fully recorded for the extent that they are exposed. Brick and stone samples may be taken if potentially diagnostic of date or function.

6.1.6 In certain cases, the use of mechanical excavation equipment may also be appropriate for removing deep intrusions (e.g modern brick and concrete floors or footings), or for putting sections through major features after partial excavation (e.g ditches), or through deposits to check that they are of natural origin. The use of such machinery will first be agreed by the Principal Archaeologist.

6.1.7 A full written, drawn and photographic record will be made of all material revealed during the course of the Strip, Map and Record. Plans and section drawings will be drawn to a scale appropriate to the excavated feature. High resolution digital photographs should form the basis of the photographic archive.

6.1.8 A sampling strategy for the recovery for environmental remains has been formulated in accordance with an Environmental Strategy written by an Environmental Strategy written by an Environmental Consultant (Diane Aldritt, appendix 1) and also follows the guidance of the Association for Environmental Archaeology (1995) and Historic England (2011).

6.1.9 Samples will be collected from primary and secondary contexts, where applicable, from a range of representative features, including pit and ditch fills, postholes, floor deposits, ring gullies and other negative features. Where features allow between 40 and 60 litres will be taken although entire contexts will be sampled if the volume is low, and specialist samples, such as for General Biological Analysis (GBA) or column samples, will be of the order of 20 litres. Positive features will also be sampled; retention of structural material such as bricks will be implemented where necessary. Sampling will also be considered for those features where dating by other methods (for example pottery and artefacts) is uncertain. Animal bones will be hand collected, and bulk samples collected from contexts containing a high density of bones. Spot finds of other material will be recovered where applicable. Flotation samples and samples taken for coarse-mesh sieving from dry deposits will be processed at the time of the fieldwork wherever possible, partly to permit variation of sampling strategies if necessary, but also because processing at a later stage could cause delays.

6.1.10 If human remains are encountered the excavation the preferred option would be for them to be adequately recorded before lifting, and then carefully removed for scientific study, and long-term storage with an appropriate museum; however, the burial licence may specify reburial or cremation as a requirement.

6.1.11 A finds recovery and conservation strategy will be discussed with the Principle Archaeologist and recipient museum in advance of the project commencing, and a policy for finds recording should be agreed and submitted to the Principal Archaeologist, before commencement of site works. Any recording, marking and storage, materials will be of archive quality, and recording forms and manuals will be submitted to the Principal Archaeologist, prior to the commencement of on-site works, if these have not been supplied previously. Allowance will be made for preliminary conservation and stabilisation of all objects and an assessment of long-term conservation and storage needs We have made an allowance for a minimum four boxes in calculating estimates for museums storage grant.

6.1.12 All finds (artefacts and ecofacts) visible during excavation will be collected and processed, unless variations in this principle are agreed with the Local Authority. Finds will be appropriately packaged and stored under optimum conditions, as detailed in the RESCUE/UKIC publication First Aid for Finds. In accordance with the procedures outlined in MoRPHE, all iron objects, a selection of non-ferrous artefacts (including all coins), and a sample of any industrial debris relating to metallurgy will be X-radiographed before assessment.

6.1.13 We will make provision within our excavation strategies, where necessary, for use of shoring, pumps or artificial lighting. Such strategies will also follow for sampling for radiocarbon, archaeomagnetic and/or dendrochronological determinations, as appropriate: where in situ timbers are found to survive in good condition, samples should be taken for dendrochronological assay. sampling strategies have been undertaken in

accordance with relevant Historic Guidelines including 'Environmental archaeology, a Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-Excavation (second edition, 2011) and 'Archaeomagnetic Dating' (2006).

6.1.14 Arrangements for site access and reinstatement are to be agreed with the commissioning body.

6.1.15 Health and safety will take priority over archaeological matters. All archaeologists undertaking fieldwork must comply with all Health and Safety Legislation, this includes the preparation of a Risk Assessment.

6.1.16 All archaeological staff and visitors to the site will comply with current government guidance regarding COVID-19. All precautions, including those concerning social distancing will be outlined in MAP's risk and method statement. A remote site visit by the Principal Archaeologist may be required.

6.1.17 Necessary precautions will be taken over underground services and overhead lines.

6.1.18 All on site staff hold valid CSCS cards. All Project Officers and Project Managers hold a valid First Aid at Work Certificate and Site Supervisor Safety Training qualifications.

6.1.19 MAP will provide evidence of all necessary insurances, including Employer's Liability, Professional Liability and Public Liability Cover.

7. Post Excavation Assessment and Reporting

7.1 Upon completion of the Strip, Map and Record, the artefacts, soil samples and stratigraphic information will be assessed as to their potential and significance for potential further analysis.

7.2 Processing of all samples collected for biological assessment, or sub-samples of them, will be completed. Bulk and site-riddled samples from dry deposits should have been processed during excavation, where possible. The preservation state, density and significance of material retrieved must be assessed, following methods presented in Environmental Archaeology and archaeological evaluations, or existing local guidelines, until national guidelines are available. Unprocessed sub-samples must be stored in conditions specified by the appropriate specialists. Assessments for any technological residues will be undertaken. Samples for dating must be submitted to laboratories promptly, so as to ensure that results are available to aid development of specifications for subsequent mitigation strategies.

7.3 Assessment of artefacts must include inspection of X-radiographs of all iron objects, a selection of non-ferrous artefacts (including coins), and a sample of any industrial debris relating to metallurgy. A rapid scan of all excavated material should be undertaken by conservators and finds researchers in collaboration. Material considered vulnerable will be selected for stabilisation after specialist recording. Where intervention is necessary, consideration will be given to possible investigative procedures (e.g glass composition studies, residues in or on pottery, and mineral preserved organic material). Once assessed, all material will be packed and stored in

optimum conditions, as described in First Aid For Finds. Waterlogged organic materials should be dealt with, following Historic England documents, Guidelines for the care of waterlogged archaeological leather, and guidelines on the recording, sampling, conservation and curation of waterlogged wood.

7.4 If pottery is recovered from the site local reference collections and relevant fabric and form codes will be used.

7.5 A post-excavation assessment will be prepared to allow an informed decision to be made on the future analysis and publication of the project.

a) A non-technical summary of the results of the work, Introduction and aims and objectives.

b) An introduction which should include

- the site code/project number
- planning reference number
- dates when fieldwork took place
- grid reference

c) An account of the methods and results of the excavation, describing structural data and associated finds and/or environmental data recovered.

d) Interpretation, including phasing of the site sequence and spot-dating of ceramics (Descriptive material should be clearly separated from interpretive statements). This shall be supported by the use of photographs and drawings, to include an overall plan of the site accurately identifying the location of trenches; individual trench plans as excavated indicating the location of archaeological features, with at least one section detailing the stratigraphic sequence of deposits within each trench and will include heights relative to Ordnance Datum Levels. .

e) A specialist assessment of the artefacts recovered with a view to their potential for further study and analysis. Allowance should be made for preliminary conservation and stabilisation of all objects and an assessment of long-term conservation and storage needs.

f) A specialist assessment of environmental samples taken, with a view to their potential for subsequent study.

g) The results from investigations in archaeological sciences will be included in the Site Archive and presented in the Evaluation Report. Reports must include sufficient detail to permit assessment of potential analysis. They will include tabulation of data in relation to site phasing and contexts, and must include non-technical summaries. The objective presentation of data must be clearly separated from interpretation. Recommendation for further investigation (both on samples already collected, and at future excavations) must be clearly separated from the results and interpretation.

h) An assessment of the archaeological significance of the deposits identified, in relation to other sites in the region.

i) A conclusion with recommendations for further post-excavation work and updated Project Design, if required.

j) Detailed archive location and destination and a catalogue of the archive content. The report will also include a copy of the OASIS recording form.

k) Appendices and figures, as appropriate, including a copy of the specification and/or project design.

l) References and bibliography of all sources used

7.6 Copies of the report will be submitted to the commissioning body, the Local Planning Authority and the North Yorkshire Historic Environment Record within an agreed timetable and subject to any contractual requirements on confidentiality (see 8.1 below).

7.7 We will provide a digital copy of the Post Excavation Assessment Report in PDF format to the North Yorkshire shire Historic Environment Record Office.

7.8 A Brief, interim report may be required shortly after the completion of fieldwork.

7.9 The following Specialists have been contacted as are available to work on the project:

Pottery - T G Manby (Prehistoric),

M R Stephens (medieval and Post-medieval)

P A Ware (Roman)

Flint - P Makey

Animal Bone – Jane Richardson

Environmental Sampling – Diane Alldritt

Conservation – York Archaeological Trust

Human Remains – York Osteology

Ceramic Building Material – Dr Phil Mills

Clay Tobacco Pipe - M R Stephens

8. Post Excavation Analysis, Reporting and Publication.

8.1 The results of the assessment may require an updated Project Design to be produced which would, if necessary, allow for further analysis of the site. Such work will be agreed by the Principal Archaeologist.

9. Copyright, Confidentiality and Publicity

9.1 Unless the individual/organisation commissioning the project wishes to state otherwise, the copyright of any written, graphic or photographic records and reports rests with MAP.

10. Archive Preparation and Dissemination

10.1 The requirements for archive preparation and deposition must be addressed and undertaken in a manner agreed with the recipient museum: in this instance, the Yorkshire Museum is recommended.

10.2 A site archive will be prepared in accordance with the specification outlined in *Management of Archaeological Projects* (MoRPHE (Lee, E, 2006). See also *Towards an Accessible Archaeological Archive, the Transfer of Archaeological Archives to Museums: Guidelines for use in England, Northern Ireland, Scotland and Wales* Society of Museum Archaeologists 1995.

10.3 The site archive, including finds and environmental material, subject to the permission of the relevant landowners, will be labelled, conserved and stored according to the United Kingdom Institute for Conservation (UKIC)'s. Provision will be made for the stable storage of paper records and their long term storage on a suitable medium, such as microfilm, a copy of which should be deposited with the NMR (Historic England). An index to the contents of the archive together with details of its date and place of deposition should be lodged with the HER.

10.4 Archive deposition must be arranged in consultation with the recipient museum and the North Yorkshire Council Historic Environment Officer and

must take account of the requirements of the recipient museum and the relevant guidelines (see above) relating to the preparation and transfer of archives. The timetable for deposition shall be agreed on completion of the site archive and narrative.

11. Bibliography

British Geological Society. Geology of Britain Viewer. Available at; http://mapapps.bgs.ac.uk/geologyofbritain/home.html

NPPF 16 2021 National Planning Policy Framework 16: Conserving and Enhancing the Historic Environment (February 2019)

12. Best Practice & Scientific Guidance

Archaeological Conservation

Investigative Conservation: Guidelines on how the Detailed Examination of Artefacts from Archaeological Sites can Shed Light on their Manufacture and Use (2008): Officially archived, but available on request.

Guidelines on the X-radiography of Archaeological Metalwork (2006): https://historicengland.org.uk/images-books/publications/x-radiography-of-archaeological-metalwork/

Waterlogged Organic Artefacts: Guidelines on their Recovery, Analysis and Conservation (2018): https://historicengland.org.uk/images-books/publications/waterlogged-organic-artefacts/

Environmental Archaeology

Animal Bones and Archaeology - Recovery to Archive (2019): https://historicengland.org.uk/images-books/publications/animal-bones-and-archaeology/

Deposit Modelling and Archaeology: Guidance for Mapping Buried Deposits (2020): https://historicengland.org.uk/images-books/publications/deposit-modelling-and-archaeology/

Environmental Archaeology: A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation (Second Edition) (2011): https://historicengland.org.uk/images-books/publications/environmental-archaeology-2nd/

Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record (2015): https://historicengland.org.uk/images-books/publications/geoarchaeology-earth-sciences-to-understand-archaeological-record/

Guidelines for the Curation of Waterlogged Macroscopic Plant and Invertebrate Remains (2008): Currently being revised, but available on request.

Mineralised Plant and Invertebrate Remains: A Guide to the Identification of Calcium Phosphate Replaced Remains (2020): https://historicengland.org.uk/images-books/publications/mineralised-plant-and-invertebrate-remains/

Geophysical Survey

EAC Guidelines for the Use of Geophysics in Archaeology: Questions to Ask and Points to Consider (2016) [Europae Archaeologiae Consilium]: https://historicengland.org.uk/images-books/publications/eac-guidelines-for-use-of-geophysics-in-archaeology/

Geophysical Survey in Archaeological Field Evaluation (2008): Officially archived, but available on request.

Marine Geophysics Data Acquisition, Processing and Interpretation: Guidance Notes (2013): https://historicengland.org.uk/images-books/publications/marine-geophysics-data-acquisition-processing-interpretation/

Human Remains

Guidance for Best Practice for the Treatment of Human Remains Excavated from Christian Burial Grounds in England (Second Edition) (2017) [Advisory Panel on the Archaeology of Burials in England]: https://www.archaeologyuk.org/apabe/pdf/APABE_ToHREfCBG_FINAL_WEB.pdf

Guidance for the Care of Human Remains in Museums (2005) [Department for Culture, Media and Sport]: https://www.archaeologyuk.org/apabe/pdf/DCMS_Guidance_Human_Remains_in_Museums.pdf

Large Burial Grounds: Guidance on Sampling in Archaeological Fieldwork Projects (2015) [Advisory Panel on the Archaeology of Burials in England]: https://www.archaeologyuk.org/apabe/pdf/Large_Burial_Grounds.pdf

Science and the Dead: A Guideline for the Destructive Sampling of Archaeological Human Remains for Scientific Analysis (2013) [Advisory Panel on the Archaeology of Burials in England]:

https://www.archaeologyuk.org/apabe/pdf/Science_and_the_Dead.pdf

The Role of the Human Osteologist in an Archaeological Fieldwork Project (2018): https://historicengland.org.uk/images-books/publications/role-of-human-osteologist-in-archaeological-fieldwork-project/

Updated Guidelines to the Standards for Recording Human Remains (2017) [Chartered Institute for Archaeologists / British Association for Biological Anthropology and Osteoarchaeology]: https://babao.org.uk/assets/Uploads-to-Web/14-Updated-Guidelines-to-the-Standards-for-Recording-Human-Remains-digital.pdf

Materials Science and Industrial Processes

A Standard for Pottery Studies in Archaeology (2016) [Prehistoric Ceramics Research Group, the Study Group for Roman Pottery and the Medieval Pottery Research Group]: https://historicengland.org.uk/images-books/publications/standard-for-pottery-studies-in-archaeology/

Archaeological and Historic Pottery Production Sites: Guidelines for Best Practice (2015): https://historicengland.org.uk/images-books/publications/archaeological-and-historic-pottery-production-sites/

Archaeometallurgy: Guidelines for Best Practice (2015): https://historicengland.org.uk/images-books/publications/archaeometallurgy-guidelines-best-practice/

Archaeological Evidence for Glassworking: Guidelines for Recovering, Analysing and Interpreting Evidence (2018): https://historicengland.org.uk/images-books/publications/glassworkingguidelines/

Organic Residue Analysis and Archaeology: Guidance for Good Practice (2017): https://historicengland.org.uk/images-books/publications/organic-residue-analysis-and-archaeology/

Science for Historic Industries: Guidelines for the Investigation of 17th- to 19th-century Industries (2018): https://historicengland.org.uk/images-books/publications/science-for-historic-industries/

Preservation in Situ

Land Contamination and Archaeology: Good Practice Guidance (2017): https://historicengland.org.uk/images-books/publications/land-contamination-and-archaeology/

Piling and Archaeology: Guidance and Good Practice (2019): https://historicengland.org.uk/images-books/publications/piling-and-archaeology/

Preserving Archaeological Remains: Decision-taking for Sites under Development (2016): https://historicengland.org.uk/images-books/publications/preserving-archaeological-remains/

Scientific Dating

Archaeomagnetic Dating: Guidelines on Producing and Interpreting Archaeomagnetic Dates (2006): Officially archived, but available on request; Historic England also suggests people consult the 'Archaeomagnetism: Magnetic Moments in the Past' webpages (https://www.bradford.ac.uk/archaeomagnetism/) hosted by the University of Bradford.

Dendrochronology: Guidelines on Producing and Interpreting Dendrochronological Dates (2004): Currently being revised, but available on request.

Luminescence Dating: Guidelines on Using Luminescence Dating in Archaeology (2008): Currently being revised, but available on request.

Practice and Guidelines

Archiving and Project Management

Brown, D.H. 2011. Archaeological Archives – A guide to best practice in creation, compilation, transfer and curation. Institute for Archaeologists and the Archaeological Archives Forum. 2nd Edition. http://www.archaeologyuk.org/archives/aaf_archaeological_archives_2011.pdf

Chartered Institute for Archaeologists. (2019) Code of Conduct. https://www.archaeologists.net/sites/default/files/CodesofConduct.pdf

Chartered Institute for Archaeologists. (2014b) Standard and Guidance for Archaeological Excavation.

https://www.archaeologists.net/sites/default/files/CIfAS&GExcavation_1.pdf

Historic England. 2015c. Management of Research Project in the Historic Environment: The MoRPHE Project Managers' Guide. Swindon: English Heritage.
https://historicengland.org.uk/images-books/publications/morphe-project-managers-guide/heag024-morphe-managers-guide/

Institute for Archaeologists. 2008. Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials. Reading: Institute for Archaeologists.
http://www.archaeologists.net/sites/default/files/nodefiles/ifa_standards_materials.pdf

Institute for Archaeologists. 2009. Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives. Reading: Institute for Archaeologists.
http://www.archaeologists.net/sites/default/files/nodefiles/Archives2009.pdf

Institute for Archaeologists. 2010 Draft Standard and Guidance for Archaeological Geophysical Survey. Reading: Institute for Archaeologists.
http://www.archaeologists.net/sites/default/files/nodefiles/geophysicsSG.pdf

SYAS. 2001. Yorkshire, the Humber and the North- East: A Regional Statement of Good Practice for Archaeology in the Development Process.
https://www.sheffield.gov.uk/content/dam/sheffield/docs/planning-and-

development/archaeology/The-regional-statement-for-good-practice-in-archaeology-within-Planning--pdf--24KB-.pdf

APPENDIX 1

Conservation Strategy By Ian Panter of York Archaeological Trust

Artefacts from all categories and all periods will be recovered as a matter of routine during the excavation. When retrieved from the ground finds will be kept in a finds tray or appropriate bags in accordance with First Aid for Finds. Where necessary, a conservator may be required to recover fragile finds from the ground depending upon circumstances.

If waterlogged conditions are encountered a wide range of organic materials may be recovered, including wood, leather and textiles. Advice will be sought from a conservator to discuss optimum storage requirements before any attempt is made to retrieve organic finds and structural timbers from the ground.

After the completion of the fieldwork stage, a conservation assessment will be undertaken which will include the X-radiography of all the ironwork (after initial screening to separate obviously modern debris), and a selection of the non-ferrous finds (including all coins). A sample of slag may also be X-rayed to assist with identification and interpretation. Wet-packed material, including glass, bone and leather will be stabilised and consolidated to ensure their long-term preservation. All finds will be stored in optimum conditions in accordance with First Aid for Finds and Guidelines for the Preparation of Excavation Archives for Long-Term Storage (Walker, 1990).

Waterlogged wood, including structural elements will be assessed following the English Heritage guidelines, Waterlogged wood: sampling, conservation and

curation of structural wood (Brunning 1996). The assessment will include species identification, technological examination and potential for dating.

The conservation assessment report will include statements on condition, stability and potential for further investigation (with conservation costs) for all material groups. The conservation report will be included in the updated project design prepared for the analysis stage of the project.

References

Brunning, R. and Watson, J. *Guidelines on Recording, Sampling, Conversation and Curation of Waterlogged Wood*. Swindon: English Heritage (2010). http://www.english-heritage.org.uk/publications/waterlogged-wood/waterlogged-wood.pdf

Karsten, A., Graham, K., Jones, J., Mould, Q. and Walton Rogers, P. (2012) *Waterlogged Organic Artefacts: Guidelines on Their Recovery, Analysis and Conservation*. Swindon: English Heritage. http://www.english-heritage.org.uk/publications/waterlogged-organic-artefacts/woa-guidelines.pdf

Walker, K. 1990 *Guidelines for the preparation of excavation archives for long-term storage*, Archaeology Section of the United Kingdom Institute for Conservation.

Watson, J., Fell, V. and Jones, J. (2008) *Investigative Conservation: Guidelines on How the Detailed Examination of Artefacts from Archaeological Sites can Shed Light on their Manufacture and Use*. Swindon: English Heritage. http://www.english-

heritage.org.uk/publications/investigative-conservation/investigative-conservation.pdf

Watkinson, D. and Neal, V. 1998 First Aid for Finds *(3rd edition), RESCUE and the Archaeology Section of the United Kingdom Institute for Conservation.*

Institute for Archaeologists. (2008) *Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials*. Reading: Institute for Archaeologists. http://www.archaeologists.net/sites/default/files/node-files/ifa_standards_materials.pdf

APPENDIX 2

Environmental Strategy By Diane Alldrit

The on-site environmental sampling strategy will systematically seek to recover a representative sample of botanical, molluscan (both terrestrial and aquatic), avian and mammalian evidence from the full range of contexts encountered during the excavation. This will enable, at the assessment stage, the possibility for radiocarbon dating material to be obtained, and for an initial analysis of the economic and environmental potential of the site. In order to achieve this, a bulk sample (BS, Dobney *et al* 1992) comprising an optimum size of 40litre of sediment (where possible) should be taken from every stratigraphically secure and archaeologically significant context. In practice it may not always be possible to obtain 28l of sediment from certain features during the assessment stage, for instance from partially excavated pits or post-holes, in which case a single bucket sample, c.10 to 14litre should be taken at the site supervisors discretion. Deposits of mixed origin, for instance topsoil, wall fills and obvious areas of modern contamination, should be avoided where possible, as these will contain intrusive material and not provide secure radiocarbon dates.

All buckets and other sampling equipment must be clean and free of adherent soil in order to prevent cross-contamination between samples. If dry soil is to be stored for any length of time it should be kept in cool, dry conditions, and away from strong light sources. However, it is preferable to process samples as soon as possible after excavation.

Bulk soil samples shall be processed using an Ankara-type water flotation machine (French 1971) for the recovery of carbonised plant remains and charcoal. The

flotation tank should contain a >1mm mesh for collection of the retent or 'residue' portion of the sample (which may contain pottery, lithics and animal / bird bone, in addition to the heavier fragments of charcoal which do not float). The 'flot' portion of the sample, which may include carbonised seeds, cereal grain, charcoal and sometimes mollusc shell, should be captured using a nest of >1mm and >300micron Endicot sieves. Flotation equipment, including sieves, meshes, brushes and so forth must be meticulously cleaned between samples in order to prevent contamination of potential radiocarbon dating material. All material resulting from flotation will be dried prior to microscopic examination. Flotation is not suitable for the recovery of pollen or for processing waterlogged samples, which shall be discussed below.

Where there is potential for waterlogged preservation, shown for instance by the presence of wood and other organic or wet material, then a 5 to 10litre size sample should be taken (GBA sample, Dobney *et al* 1992). This material is to be retained for later processing using laboratory methods to enable the recovery of waterlogged plant material and insects. For assessment purposes a 1litre sub-sample of the organic sediment from each potential waterlogged sample shall be processed using laboratory wash-over methods, and once processed kept wet. All waterlogged samples awaiting processing should be kept damp, preferably stored in plastic sealable tubs, and in cool conditions. Where large waterlogged timbers are recovered these should be stored under refrigerated conditions and an appropriate conservator consulted.

There is the possibility that the waterlogged deposits may require parasite egg analysis. It is proposed that the 'squash' technique is adapted, this would require small lumps of raw sediment approximately 3mm in diameter taken from three separate points from within the sample and homogenised in a little water by

shaking. After allowing coarse particles to settle for a few moments, a drop of the supernatant was removed. This work would be undertaken by either John Carrott or Harry Kenwood if necessary.

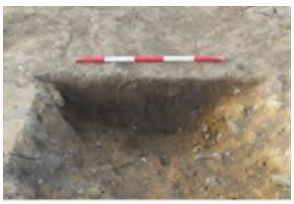
If sediment suitable for pollen analysis is encountered, for instance rich organic peaty deposits, or deep ditch sections with organic preservation, the archaeobotanical specialist is to be consulted prior to any sampling taking place. These deposits would require sampling with large kubiena tins and require the specialist to be on-site. Pollen analysis, even at assessment level, would subsequently impose a considerable cost implication should it be carried out.

The specialist is available to provide consultation and advice on the environmental sampling strategy throughout the course of the excavation and during post-excavation processing if required.

References

Dobney, K. D., Hall, A. R., Kenward, H. K. and Milles, A. 1992 A working classification of sample types for environmental archaeology. *Circaea* 9 24-26.

French, D. H. 1971 An Experiment in Water Sieving. *Anatolian Studies 21* 59-64.


IMG_3453

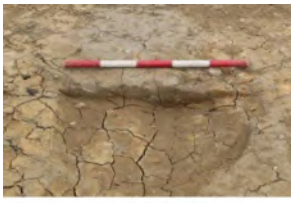

IMG_3454


IMG_3455


IMG_3456


IMG_3457


IMG_3458


IMG_3459


IMG_3460


IMG_3461


IMG_3462


IMG_3463


IMG_3464


IMG_3465


IMG_3466


IMG_3467


IMG_3468


IMG_3469


IMG_3470


IMG_3471


IMG_3472


IMG_3473


IMG_3474


IMG_3475


IMG_3476

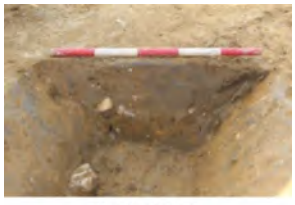

IMG_3477


IMG_3478


IMG_3479


IMG_3480


IMG_3481


IMG_3482


IMG_3483


IMG_3484


IMG_3485


IMG_3486


IMG_3487

IMG_3488

IMG_3489

IMG_3490

IMG_3491

IMG_3492