

East West Rail Phase 2

**Land West of Bicester Bypass, Charbridge Lane Overbridge Diversion,
Oxfordshire:**

An Archaeological Evaluation Report

February 2020

Rev B02



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Executive Summary

In November 2019, an archaeological evaluation was undertaken on land to the west of the Bicester Bypass, Oxfordshire (NGR: SP 60076 23051) on behalf of the East West Rail Alliance. Two boreholes for Site Investigation works were also excavated under watching brief conditions on 13th December 2019. The Site lies within the local authority administrative area of Cherwell District Council. The archaeological evaluation by trial trenching is being undertaken as part of a phase of archaeological works at the Site. Geophysical resistivity and magnetometry survey have already been undertaken within the evaluation area in order to provide information on the extent and significance of potential buried archaeological remains, in particular archaeological remains associated with a possible mill mound located in the north of the Site. The proposed development includes below ground works associated with utilities diversion, the temporary Charbridge Lane Overbridge Diversion, as well as provision for Ecological Compensation. These works may directly impact buried archaeological remains and as such, trial trenching is required at the Site to further determine the presence or absence of buried archaeological remains and the requirement for mitigation.

This is a report on the results of the archaeological evaluation, following assessment of all finds, samples, and stratigraphic relationships.

A total of 19 trenches of various sizes but up to 30m x 2m, were excavated to establish the presence/absence and significance of archaeological remains. The natural geology was yellow brown clay with occasional grey lenses and occasional grey clay with iron panning with occasional outcropping of cornbrash.

The field which was evaluated is low-lying and flooded several times during the archaeological works. Trenches in the north of the field targeted a group of three mounds which rise above the level of the field. These were thought to be evidence of a mill mound and associated works and were defined utilising LiDAR. These were clearly of archaeological interest rather than dumped modern ground, each having associated ditches.

The largest mound is in the northeast of the Site, adjacent to the entrance, and is formed of local clay and yellowish brown sandy, gravelly clay, and does not appear to have been much deformed in the areas examined. Dating evidence from the top of the mound suggested a medieval date, but this may be within an intrusive pit. South of the principal mound, two lower, smaller linear mounds are flanked by ditches. Again, dating evidence was minimal, but being formed of sandy, gravelly clay would suggest a date contemporary with the larger mound.

The dating of the mound and its function has been refined by the evaluation trenches and assessment, but its exact character and use is still unclear. The uppermost layer at the top of the mound is dated to the 11th to 13th century. This may represent an intrusive pit, a levelling layer, or finds from activities on top of the mound in the medieval period. It does show that the mound does not date to the post-medieval or modern period. Apart from 13 sherds of pottery of this date and one horseshoe from an accumulated fill in a surrounding ditch, there is a remarkable lack of finds or environmental evidence for anyone living or working on site, and where there are two smaller mounds, no finds evidence at all. Geoarchaeological boreholes have identified the original, pre-mound land surface, with one possible worked piece of chert or jasper; this shows that the underlying horizons contain evidence for prehistoric activity.

1. Introduction

This report provides results of an archaeological evaluation by East West Rail Alliance with an assessment of archaeological finds and samples. The evaluation comprised trial trenching of the Site on land to the west of the Bicester Bypass, Oxfordshire (NGR: SP 60076 23051) hereafter referred to as 'the Site'. The Site lies within the local authority administrative area of Cherwell District Council. Proposed development at the Site includes below ground works associated with utilities diversion, the temporary Charbridge Lane Overbridge Diversion, as well as provision for Ecological Compensation. These works may directly impact buried archaeological remains. These are of potential Roman and medieval date, with a large mound in the northeast of the Site initially thought to be part of a medieval windmill mound. Other dated features are shallow ditches or gullies. As such, trial trenching is required at the Site to further determine the presence or absence of buried archaeological remains and the requirement for mitigation.

The archaeological fieldwork followed earlier surveys of the Site: LiDAR data has suggested there are surviving remains of the mound in the north-east of the Site and geophysical magnetometry¹ and resistivity² survey, carried out within the evaluation area in 2018 and 2019 respectively, have further indicated the presence of archaeological remains associated with the mound.

All works were undertaken by a team of professional archaeologists and were recorded using current Chartered Institute of Archaeologists (CIfA) standards. The fieldwork took place in November 2019.

2. Planning Background

The local planning authority is Cherwell District Council. Archaeological advice to the Council is provided by Richard Oram, Planning Archaeologist for Oxfordshire County Council.

Prior to the works on the Site, a Written Scheme of Investigation (WSI)³ had been prepared by East West Rail Alliance. This evaluation report will help inform the need for any future programmes of mitigation works within the Site; the results and interpretation include the site narrative as well as assessment of the archaeological finds and environmental samples.

All works were carried out in accordance with the WSI and current best archaeological practice and local and national standards and guidelines.⁴

¹ EWR Alliance, 2018. *Land West of Bicester Bypass, Charbridge Lane Overbridge Diversion (Gradiometer): Archaeological Geophysical Survey*. Unpublished report.

² EWR Alliance, 2019a. *Land West of Bicester Bypass, Charbridge Lane Overbridge Diversion (Resistivity): Archaeological Geophysical Survey*. Unpublished report.

³ AOC Archaeology 2019. *East West Rail Phase 2; Land West of Bicester Bypass, Charbridge Lane Overbridge Diversion, Oxfordshire: A Written Scheme of Investigation for Archaeological Evaluation*. Unpublished Report

⁴ Historic England, 2015. *Archaeological Guidance Paper 3: Standards and Practices in Archaeological Fieldwork*; Campbell, G., Moffett, L., and Straker, S., 2011. *Environmental Archaeology: A guide to the theory and practice of methods, from sampling and recovery to post-excavation*; Chartered Institute for Archaeologists, 2014. *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives*; Chartered Institute for Archaeologists, 2014. *Code of Conduct*; Museum of London, 1994. *Archaeological Site Manual*; Chartered Institute for Archaeologists, 2014. *Code of Conduct*; Museum of London, 1994. *Archaeological Site Manual*; MHCLG, 2019. *National Planning Policy Framework*; RESCUE & ICON, 2001. *First Aid for Finds*; United Kingdom Institute for Conservation, 1983. *Conservation Guidelines No.2*; United Kingdom Institute for Conservation, 1990. *Guidance for Archaeological Conservation Practice*;

3. Site Location, Geology and Topography

The Site lies to the east of Bicester Trade Park, on land to the west and south of the A4421 (NGR: SP 60076 23051) and measures 3.42 ha (Figure 1). It is enclosed by hedgerows on the north-western and eastern boundaries and the modern railway forms the southern boundary. A river runs along the north-western field boundary. The Site is currently in use as pasture.

The Site is situated on generally level ground at approximately 72m above Ordnance Datum (aOD). The underlying bedrock geology throughout the Site is mapped as Kellaways Sand Member⁵ overlain with superficial alluvial clay, silt, sand, and gravel deposits recorded in the north and west of the Site corresponding with the river. These are overlain by slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils⁶.

4. Archaeological and Historical Background

The heritage appraisal produced as part of on-going works associated with EWR⁷ identified the potential for a mill mound within the Site. Oxford Archaeology were commissioned to undertake an independent heritage statement of the mound, as part of a reassessment of its significance following discussions as part of a public enquiry⁸.

The below information summarises both the heritage appraisal and heritage statement and provides a general archaeological background to the survey:

Prehistoric (500,000 BC – AD 43)

No remains of prehistoric date are known within the Site or immediate surroundings.

Within the wider landscape, Palaeolithic sites appear to be associated with rivers or other bodies of water, which may suggest a reason for the absence of Palaeolithic activity within the vicinity of the Site. Within the valley of the Langford Brook that forms the north-western boundary of the Site, extensive Mesolithic finds have been recorded. Several lithic scatters have also been found during archaeological investigations in the vicinity of the Site near Bicester.

No evidence for Neolithic activity is recorded close to the Site with the nearest remains located within the Thames valley close to the river's confluence with the River Thames approximately 18km

⁵ British Geological Survey, 2019. *Geology of Britain*. Available at: <https://www.bgs.ac.uk/>. Accessed: 1 October 2019.

⁶ Soilscales, 2019. *Soilscales Map*. Available at: <http://www.landis.org.uk/soilscales/>. Accessed: 1 October 2019.

⁷ Network Rail, 2018. *East West Rail Bicester to Bedford Improvements. Archaeological Fieldwork Strategy*.

⁸ Bray, D., 2018. *Possible medieval/post medieval mill mound to the north-east of Bicester, Oxfordshire*. Oxford: Oxford Archaeology South.

south-west of the Site⁹. The absence of known Neolithic sites may be a result of limited archaeological investigation rather than limited activity during this period.

Despite a wealth of Bronze Age settlement and burial evidence to the west and south of Bicester, there is no evidence of Bronze Age activity in proximity of the Site. This may be due to a lack of archaeological investigation in the area; much of the Bronze Age evidence around Bicester has been identified in recent years as part of archaeological works related to suburban residential development and the A421 Chesterton Lane Overpass/ Wendlebury-Bicester Dualling¹⁰. Excavations on the site of Tesco Bicester in 2013-14 adjacent to the A41 revealed seven Bronze Age houses next to a stream, overlooked by a cremation cemetery¹¹.

Probable Bronze Age barrows have also been recorded as cropmarks on aerial photographs within the wider area and a number of later prehistoric enclosures have also been recorded. The potential mill mound located in the north-east of the Site could have re-used prehistoric earthworks. Mill mounds have been known to re-use prehistoric barrows, whilst others were thrown up in the course of construction to purposefully support the windmill¹².

Romano-British (AD 43 – AD 410)

The Site is located in an area of archaeological interest, being located immediately north-west of a probable Iron Age and Romano-British settlement which was identified during road construction. A ditch and posthole were discovered, along with Iron Age and Roman pottery. 200m to the east, an evaluation by EWR Alliance in 2019 revealed features indicative of land management or agricultural activity e.g. land divisions; fields and paddocks of late Iron Age/ Roman date¹³. Further Iron Age and Romano-British sites have been recorded in the area including a settlement site 600m to the south¹⁴, comprising a farmstead and field system dating to the 2nd and 3rd centuries AD with trackways and field ditches as well as two wells.

Early Medieval (AD 410 – AD 1066)

The Site lies directly to the east of Bicester. Bicester as we see it today evolved on both sides of a ford over the River Bure, close to the Saxon Minster of St Edburg's. The first group of farms were established in the vicinity of what became the Manor of King's End followed by a later settlement on the east side of the Bure which became the Manor of Market End.

Late Medieval (AD 1066 – AD 1540)

The remains of a potential mill mound of likely medieval or early post-medieval date survive in the north-east of the Site¹⁵. The Oxfordshire Historic Environment Record (OHER) records the surviving

⁹ Network Rail, 2018. *Order Environmental Statement. Volume 2ii - Route Section 2*. Available at: <https://www.networkrail.co.uk/running-the-railway/railway-upgrade-plan/key-projects/east-west-rail/east-west-rail-western-section/>

¹⁰ Ibid.

¹¹ AOC Archaeology 2014. *Tesco Store, Oxford Road, Bicester, Oxfordshire: A Post-Excavation Assessment*. Unpublished Report

¹² Network Rail 2018

¹³ EWR Alliance 2019c. *Compound A1: Land East of Bicester Road, Oxfordshire: An Archaeological Evaluation Report*

¹⁴ Ibid.

¹⁵ OHER Reference: 12695; Environment Statement Reference: MOX5020

earthwork mound as the site of a medieval or post-medieval windmill mound, which it suggests might relate to a demesne windmill recorded in Launton in 1279.

The Site is mentioned on a map of Launton entitled 'Launton in Oxfordshire An(n)o.Domi 1607' which lists the field as 'Castall Meade'. Whilst the mound is not recorded on the map, the field name, which is derived from the Old English *Castel*, suggests the presence of an archaeological earthwork feature within the field. Castel, when used in field names, often alludes to earthworks, commonly being used in relation to earlier features.

Aerial photos show extensive ridge and furrow in the immediate vicinity of the Site and the mound appears to respect the medieval or post-medieval field boundaries and cultivation remains. It is therefore likely that the mound is of medieval or early post-medieval date¹⁶. Based on the remains of the ridge and furrow, the rest of the Site and the area surrounding the potential mill mound would have been agricultural land during the late medieval / post-medieval period¹⁷.

A feature identified through LiDAR survey, located c.40.00m south-west of the existing mound, was interpreted as a potential second mound¹⁸. Examples of mill mounds have been identified in other locations nationally and demonstrate that suitable sites were utilised over a long period¹⁹.

Post-Medieval (AD1540 – c.1750) and Industrial Period (c.1750 – 1901)

The Launton Inclosure Map published in 1814 shows many of the strip fields depicted within the Parish on earlier pre-enclosure maps. The Site known as Castell Meade in the earlier map remained the same in plan. There is no reference on the map to the mound within the field, which at the time was known as Hopyard Meadows, suggesting that at this time hops were grown within the field²⁰. However, the location of the mound was clearly marked on Ordnance Survey maps from the first edition until the 1930s.

The line of the London and North Western Railway (Oxford to Bletchley branch) was opened in the mid-19th century and runs along the southern boundary of the Site. It is possible that detritus from the construction of this may be present in the Site. This was not visible in the magnetometer survey previously undertaken, due to a large gas main running in the same location, which overwhelmed this section of the magnetometer results.

Modern Period (Post-1901)

Historical maps show that there have been some landscape changes, with the surrounding area staying relatively agricultural. More recent additions include the business park to the west, as well as the alteration of the Bicester Road, the construction of Charbridge Lane and a roundabout that may have damaged or destroyed the north-eastern half of the potential mill mound. Aerial photographs taken in 1944 and 1966 clearly show the truncation of the mound through alterations to Bicester Road between these two dates (HC Archive Refs 8221 and 11626)²¹.

¹⁶ Bray, D., 2018. *Possible medieval/post medieval mill mound to the north-east of Bicester, Oxfordshire*. Oxford: Oxford Archaeology South.

¹⁷ Ibid.

¹⁸ Ibid.

¹⁹ Ibid.

²⁰ Ibid.

²¹ Ibid.

Historic Landscape Character

The present character of the Site can be defined as rough unenclosed ground, reorganised by 18th – 19th century enclosure, and later interrupted by the 19th century railway line²².

5. Aims of the Investigation

The archaeological evaluation aims were defined as being²³:

- To establish the presence/absence and significance of archaeological remains within the Site.
- To determine the extent, condition, nature, character, quality and date of any archaeological remains encountered.
- To record and sample excavate any archaeological remains encountered.
- To assess the eco-factual and environmental potential of any archaeological features and deposits.
- To assess and investigate the palaeoenvironmental potential of the Site.
- To determine the extent of previous truncations of the archaeological deposits.
- To enable the Planning Archaeologist for Oxfordshire County Council to make an informed decision on the archaeological response to the TWAO approval and any requirement for mitigation.
- To make available to interested parties the results of the investigation.

The specific aims of the evaluation were defined as being²⁴:

- To establish the presence or absence of the potential mill mound and determine the mound's extent, nature, character, and condition.
- To establish a chronology of the potential mill mound, if possible, and determine whether any earlier remains are present.
- To better understand the character and organisation of medieval and post-medieval ridge and furrow and field systems.
- Identify the potential for archaeological remains which pre-date the medieval and post-medieval ridge and furrow and field systems.

6. Methodology

The trial trenching programme was devised to target areas of archaeological potential identified by the previous heritage appraisal and geophysical survey works as well as to provide coverage across the Site. This was to enable a better understanding and characterisation of the archaeological potential of the Site and enable, if necessary, an appropriate mitigation strategy to minimise the impact of development upon the archaeology. The scope of works was agreed with Richard Oram, Planning Archaeologist for Oxfordshire County Council prior to the fieldwork commencing.

A 4% sample of the Site equated to approximately 17 trenches measuring 50m x 1.60m. However, the presence of constraints posed by high and medium pressure gas mains, buried high voltage electrical cables and telecommunications reduced the area available for trenching. In addition, there were ecological constraints posed by hedgerows and watercourses which required 10m buffers. As a

²² Oxfordshire County Council, 2017. *Oxfordshire Historic Landscape Characterisation Project*.

²³ AOC 2019b

²⁴ Ibid.

result, 12 trenches measuring 30m x 1.60m were excavated, spread evenly across the south and centre of the Site (Appendix C, Figure 1). Due to ecological constraints, Trench 19 in the south, measured 15m x 1.6m. Due to the sensitivity of the potential mill mound, excavations to evaluate its form and date comprised one 20m x 1.6m trench, two trenches measuring 15m x 1m, one trench measuring 32m x 1.6m, one trench measuring 30m x 1.6m and one trench measuring 4m x 1m. A total of 19 trenches were excavated (Figure 2):

| | |
|------|------------|
| TR1 | 20m x 1.6m |
| TR2 | 15m x 1m |
| TR3 | 15m x 1m |
| TR4 | 32m x 1.6m |
| TR5 | 30m x 1.6m |
| TR6 | 4m x 1m |
| TR7 | 30m x 1.6m |
| TR8 | 30m x 1.6m |
| TR9 | 30m x 1.6m |
| TR10 | 30m x 1.6m |
| TR11 | 30m x 1.6m |
| TR12 | 30m x 1.6m |
| TR13 | 30m x 1.6m |
| TR14 | 30m x 1.6m |
| TR15 | 30m x 1.6m |
| TR16 | 30m x 1.6m |
| TR17 | 30m x 1.6m |
| TR18 | 30m x 1.6m |
| TR19 | 15m x 1.6m |

A WSI²⁵ defined the Site procedures for archaeological evaluation, in agreement with the Archaeology Officer at Oxfordshire County Council, who monitored the Site with a visit once all the trenches were open and cleaned. The document detailed how the evaluation would be undertaken. All work was carried out in accordance with local and national guidelines²⁶.

After the evaluation, two boreholes were excavated through the large mound in the northeast corner of the Site, as part of Site Investigation works. These were located adjacent to Trench 2 and Trench 3 on 13th December 2019. To further understand the archaeological character of the mound, a watching brief was undertaken on the works and the cores were retained for study.

A unique site code EWR19-A1 was assigned to the Site.

All trenches were located using GPS and were in the locations as stated in the WSI.

²⁵ AOC 2019b

²⁶ Chartered Institute for Archaeology, 2014. *Code of Conduct*.

The evaluation was carried out in November 2019 and was supervised by Les Capon, Project Manager, under the overall direction of Melissa Melikian (Operations Director).

7. Results

7.1 Positive Trenches

The majority of the archaeological features were located in the north of the Site, with less frequent features to the south and southwest. The principal features in the north were mounds in Trenches 2, 3 and 4. Trenches 2 and 3 targeted what appeared to be one large circular mound standing c.1.5m above the field, whereas Trench 4 revealed two parallel linear mounds. All mounds were bound by shallow ditches. The general archaeological activity in the rest of the field comprised shallow ditches and small pits. Finds are of Bronze Age, Roman, medieval, and post-medieval date

7.1.1 Trench 1

| Context Number | Thickness | Height of Deposit / aOD | Interpretation |
|----------------|-----------|-------------------------|--|
| 101 | 0.11m | 68.60m | Loose, mid greyish brown silty clay topsoil. |
| 102 | 0.08m | 68.49m | Friable, light yellowish brown silty clay subsoil |
| 103 | NFE | 68.37m | Compact, light yellowish brown silty clay geology. |

Trench 1, located at the north of the Site, was aligned east-west (Figures 3 and 4). The earliest deposit recorded was a compact natural deposit of yellow/ brown clay (103), lying generally level at a height of 68.37m aOD. This was overlain by a thin deposit of yellowish brown silty clay subsoil (102) that was just 0.05m thick.

The subsoil was cut by an irregular tree pit [105] on the northern side of the trench which retained roots, showing that it was a modern feature. The pit measured 1.70m by 1.05m and was 0.15m deep, with an irregular base. The fill was greyish brown silty clay (104). A trench for a land-drain was seen in the base of the tree pit.

The tree pit and subsoil were overlain by 0.11m depth of dark brown clayey silt topsoil (101), its surface lying at 68.60m aOD.

7.1.2 Trench 2

| Context Number | Thickness | Height of Deposit / aOD | Interpretation |
|----------------|-----------|--------------------------|--|
| 201 | 0.09m | 68.32m (NW), 69.31m (SE) | Loose, mid greyish brown silty clay topsoil. |
| 202 | 0.12m | 68.23m (NW), 69.22m (SE) | Friable, light yellowish brown silty clay subsoil |
| 206 | c.0.99m | 69.10m (SE) | Brownish yellow mottled clay mound |
| 203 | NFE | 68.11m (NW) | Compact, light yellowish brown silty clay geology. |

Trench 2, located to northeast of the Site, was aligned northwest-southeast and targeted the northern side of a mound at the entrance to the Site (Plate 1) (Figures 3 and 4). The mound was retained in situ: only topsoil and subsoil was removed. The earliest deposit recorded was a compact natural deposit of yellow/ brown clay (203), lying level where exposed at a height of 68.11m aOD.

The mound at the southeast end of the trench stands to 69.10m aOD, and the exposed mound deposit comprised stiff brownish yellow sandy clay (206), which was investigated with a geoarchaeological borehole outside the trench. No other excavation of the mound material was carried out, in order to retain as much potential archaeological material *in situ* as possible. The mound

has a shallow slope of c.15° and an uneven, but generally flat top, and is likely to have slumped since it was raised. No features were seen cutting into the mound, and no finds were present. At the base of the mound, a shallow ditch [205] encircled it. This was 2.85m wide and 0.14m deep with a flat base and had a single fill of mid greyish brown silty clay (204) with iron mineralisation. A column sample through this ditch fill <8> revealed no archaeological or environmental material. One abraded piece of 11th to 13th century pottery and a horseshoe were collected from this fill. Abrasion to the pottery would indicate that it has eroded from its primary context, whilst the horseshoe was hand-forged. Its form and size are consistent with a type of shoe that came into use in the latter half of the 14th century and saw little modification throughout the later medieval and post-medieval periods, so it could be as late as 19th century in date.

The mound and associated ditch were overlain by a deposit of soft yellowish brown silty clay subsoil (202) that was 0.12m thick. This was overlain by 0.09m depth of soft dark brown clayey silt topsoil (201), its surface lying at 69.31m aOD at the mound, and at 68.32m aOD at the north-western end of the trench. Fragments of medieval roof tile, tobacco pipe, post-medieval brick and window glass were present in the topsoil. A horseshoe nail in the topsoil may have come from the horseshoe in the ditch fill below. The varied date of the finds is likely to be the result of reworking of the topsoil under damp conditions, with the more modern finds being incorporated by gravity and bioturbation.



Plate 1: Trench 2 Overview looking Northeast

After backfilling, a borehole sample was taken adjacent to the southeast end of Trench 2, to determine the character of the lower parts of the mound. A more detailed assessment is provided in Appendix B.

| Stratum | Description | Depth | Level/ aOD | Same as | Interpretation |
|---------|---|---------|------------|-------------|---------------------------|
| 2.8 | Sandy clay with a distinct colour graduation as | 0-1.37m | 69.31m | 201 and 206 | Topsoil and mound deposit |

| | | | | | |
|-----|---|------------|--------|--|---------------------------------|
| | observed in Cornbrash formation (warm yellow to buff orange clay) | | | | |
| 2.7 | Rich brown loamy clay and a visible root system. Jasper? | 1.37-1.46m | 67.94m | | Buried Topsoil |
| 2.6 | (10YR-5/2) showing bioactivity with alive earth worms. This horizon was composed of fine-grained sandy clay. | 1.46-1.87m | 67.85m | | Possible subsoil interface |
| 2.5 | Very small fragments of charcoal have been observed within a sandy clay matrix. | 1.87-2.34m | 67.44m | | Possible feature |
| 2.4 | Blue clay (7-6/10GY) with decayed sandstones and traces of decayed vegetation, most probable roots with Fe traces. | 2.34-3.17m | 66.97m | | Natural, root disturbed deposit |
| 2.3 | A pocket of fine-grained coarse mineral has been observed. The blueish coloration of the coarse mineral material (7/5G) is interpreted as decaying clay minerals. Also present were light brown mottles typical to gley soils | 3.17-3.25m | 66.14m | | Natural deposit |
| 2.2 | Small to very small shell fragments and another pocket of clay minerals (8-10GY) | 3.25-4.36m | 66.06m | | Natural deposit |
| 2.1 | Very small round gravels and decayed sandstones were observed together with animal holes (clay worms). | 4.36-4.50m | 64.95m | | Natural deposit |

Borehole 2 was located immediately south of the southeastern end of Trench 2, and targeted the material of the mound. The lower strata in the borehole were naturally-lain, geological deposits. The lowest stratum in the borehole lay at 64.95m aOD, and comprised gravel and decayed sandstone (2.1). This was overlain by a deposit of yellowish brown clay with shell fragments (2.2), its surface at 66.06mOD. The third naturally-lain layer was decayed blue clay minerals with brown mottled patches (2.3), its surface at 66.14m aOD.

The fourth stratum was blue clay (2.4), with remains of decayed roots, its surface at 66.97mOD. This may be the first evidence of nearby anthropogenic activity, since the layer above this was sandy clay (2.5) that contained charcoal, and could therefore represent human activity, at an uppermost level of 67.44m aOD. This lies 0.67m deeper than the natural clay horizon recorded in the middle of Trench 2, and may therefore imply the presence of a cut feature below the mound. This layer with charcoal was overlain by 0.41m depth of yellowish brown sandy clay (2.6), its surface at 67.85m aOD, overlain by

0.09m depth of loamy clay (2.7), which represents a buried topsoil, lying at 67.94m aOD. Within this layer was a group of 11 angular stones, either jasper or chert. One of the pieces is very similar to an irregular core showing blade scars, and would suggest occupation of the landscape in the prehistoric periods.

The mound was raised over this buried soil horizon. The deposit comprised yellowish brown sandy clay (2.8=206) that was 1.37m deep; the topsoil was not differentiated in the borehole. The top of the sequence lies at 69.31mOD.

The borehole sequence has therefore revealed that parts of the old land surface that was buried when the mound was raised survives, and that the mound at this location appears to be of a single phase, made of clay that is of likely local origin. Whether the charcoal that was retrieved from horizon 2.5 relates to the mound, or is from an earlier, unrelated feature is not proved by the borehole results.

7.1.3 Trench 3

| Context Number | Thickness | Height of Deposit / aOD | Interpretation |
|----------------|-----------|-------------------------|--|
| 301 | <0.17m | 69.63m (N), 68.93m (S) | Loose, mid greyish brown silty clay topsoil. |
| 302 | 0.10m | 69.50m (N), 68.76m (S) | Friable, light yellowish brown silty clay subsoil |
| 304 | c.1.30m | 69.40m (N) | Stony yellowish brown sandy clay silt; North mound deposit |
| 307 | c.0.56m | 68.66m (S) | Yellowish brown sandy clay silt; South mound deposit |
| 303 | NFE | 68.10m | Compact, light yellowish brown silty clay geology. |

Trench 3, located to the northeast of the Site, was aligned north-south and was located to investigate the south side of the mound at the entrance to the Site, which is identifiable on historic maps, and to investigate part of another, lower mound to its south (Plates 2 and 3) (Figures 3 and 4). The earliest deposit recorded was a compact natural deposit of yellow/brown clay (303), seen at the base of the higher of the two mounds, in the centre of the trench, at 68.10m aOD. There was no evident subsoil between the natural horizon and the deposits used to create the mounds.

In the north of the trench, the mound rises with a slope of c.15° to a flat but uneven top and is formed of very compact light yellowish brown sandy clay silt and gravel (304), which resembles pale cornbrash. The top of this mound material lay at 69.40m aOD and was retained *in situ*. A shallow pit at the top of the mound [309] appeared to be a cut feature rather than part of the made ground, and was present at the north end of the trench for 1.68m. It was 0.14m deep with a flat base, and had a fill of friable pale greyish brown silty clay (308). Pottery from this fill includes one base sherd of a Romano-British jar, and 12 later sherds of 11th to 13th century Oxford Ware, placing the top disturbance or deposition at the mound at the north of Trench 3 to the late Saxon–medieval period. The 11th to 13th century sherds include two jar rims and a dish/bowl rim with finger-impressions. Two fragments of sheep bone and two of pig bone from this layer are probably remnants of food items. This is the only dating evidence from the mound, and although in small quantity, indicates that the mound is unlikely to be post-medieval in date. Whether it is an intrusion into an earlier mound, or an active occupation horizon, the top part of the mound in Trench 3 is of 11th-13th century date.

South of the mound, a ditch was 2.24m wide and 0.40m deep [306], with an outer edge dropping at 45° to a flat base. A single fill of pale bluish yellow-brown silty clay was present (305), and contained no finds. A monolith sample through the ditch fill <7> showed that the fill was very fine-grained, and contained shells from small snails, but no archaeological finds or other environmental evidence.

At the southern end of the trench, a second, lower mound oriented north-south was formed with a deposit of sandy clay silt (307) to a maximum height of 68.66m aOD within the trench. This too has been retained *in situ*, and was further examined in Trench 4. Small fragments of baked clay in the deposit were of undiagnostic form and function. They indicate the anthropogenic origin of the mound,

but were too fragmentary to provide a date, or to determine whether they were building materials or fragments of deliberately fired objects.

Both of the mounds and the infilled ditch were overlain by a 0.10m deep layer of yellowish brown silty clay subsoil (302), in turn overlain by up to 0.17m depth of dark brown clayey silt topsoil (201). Its surface lay at 69.63m aOD over the principal mound, at 68.93m aOD over the lower mound, and at 68.19m aOD above the ditch, which is still visible at the surface.



Plate 2: Trench 3 Overview Looking Northeast



Plate 3: Trench 3 Overview Looking Southeast

After backfilling, a window sample was taken adjacent to Trench 3, to determine the character of the lower parts of the principal mound at the northern end of the trench. A more detailed assessment is provided in Appendix B.

| Stratum | Description | Depth | Level/ aOD | Same as | Interpretation |
|---------|---|------------|------------|---------|-------------------|
| 3.8 | Topsoil | 0-0.10m | 69.63m | 301 | Topsoil |
| 3.7 | Loamy clay (10YR-7/8) showing a thin root system from the topsoil. | 0.10-0.40m | 69.53m | 302/307 | Subsoil/ pit fill |
| 3.6 | Sandy clay (10YR-7/8-7.5YR-6/3) with decayed sandstone which gives the variations in chroma and value, there were traces of charcoal (Figure 2) but the high level of water in the sample indicates that these fragments were probable translocated from their primary location and/or bioturbated. | 0.40-0.90m | 69.23m | 304 | Mound |
| 3.5 | Sandy clay (10YR-7/6) and fewer decayed sandstone | 0.90-1.50m | 68.73m | | Lower mound |

| Stratum | Description | Depth | Level/ aOD | Same as | Interpretation |
|---------|--|------------|------------|---------|-----------------|
| 3.4 | Rich brown clayey loam with a system root. Its boundary with the following layer is sharp and cannot be attributed to environmental changes unless it was an extremely rapid one | 1.50-1.63m | 68.13m | | Buried topsoil |
| 3.3 | Light yellowish brown and orangey sandy clay with no intrusion | 1.63-1.83m | 68.00m | | Buried subsoil |
| 3.2 | Light yellowish brown very fine-grained silty clay | 1.83-2.18m | 67.80m | | Natural deposit |
| 3.1 | Pure blue greyish clay | 2.18-4.50m | 67.45m | | Natural deposit |

The borehole at the northern end of Trench 3 showed a sequence of naturally-lain geological deposits that varied from Borehole 2, which was also seen in the variable natural deposits in the evaluation trenches. The lowest deposit was over 2.3m depth of bluish grey clay (3.1), at an upper level of 67.45m aOD. This was overlain by 0.35m depth of yellowish brown silty clay (3.2). The third deposit was 0.20m depth of light yellowish brown sandy clay (3.3), which may represent subsoil, since it was overlain by 0.13m depth of rich brown clayey loam with a root system (3.4) that represents topsoil that was buried when the mound was raised. This lay at 68.13mOD, and together with the level shown in Borehole 2, indicates that the mound was raised within a shallow hollow in the topography of the field.

The mound appeared to be formed of more deposits than that revealed in Borehole 2, although this does not prove that the mound has more than one phase: it may be evidence that the mound was raised with a series of layers from different local sources. The lowest part of the mound in Borehole 3 was 0.60m depth of sandy clay and limestone (3.5), probably cornbrash, overlain by a further 0.50m of stony sandy clay (3.6=304), which formed the larger part of the mound. Charcoal was recorded in the borehole sample of this deposit, but the saturated character of the Site when the sample was taken, meant that the provenance could not be confirmed. The uppermost deposit in the borehole was 0.40m depth of pale loamy clay (3.7), which may be equated with the deposit with pottery (308) in Trench 3. The current topsoil in the trench (3.8) lay at 69.63mOD, showing the mound to be 1.50m high above the buried topsoil.

7.1.4 Trench 4

| Context Number | Thickness | Height of Deposit / aOD | Interpretation |
|----------------|-----------|--------------------------|--|
| 401 | 0.20m | 68.56m (SE); 68.32m (NW) | Loose, mid greyish brown silty clay topsoil. |
| 402 | 0.14m | 68.36m (SE); 68.12m (NW) | Friable, light yellowish brown silty clay subsoil |
| 406 | c.0.71m | 68.66m | Eastern Mound |
| 414 | c.0.39m | 68.34m | Western Mound |
| 403 | NFE | 67.95m | Compact, light yellowish brown silty clay geology. |

Trench 4, located to the northeast of the Site, was aligned northwest-southeast and targeted two broadly parallel low mounds (Figures 3 and 4). The earliest deposit recorded was a compact natural deposit of yellow/ brown clay (403), lying at a height of 67.95m aOD. Two mounds, each with flanking ditches were present in the trench. The eastern mound was also investigated in Trench 3. Both mounds are retained *in situ*.

The eastern of the two mounds is 5.5m wide and c.0.56m high, with a gentle rounded profile, and is formed of compacted friable yellowish brown sandy clay silt with frequent gravel inclusions (406) (Plate 4). To its southeast was a ditch [410], which was 0.86m wide and 0.25m deep, with a rounded base. A primary fill in the ditch was soft yellowish grey sandy clay silt (413), overlain by an upper fill of mottled grey and brown silty clay (409). A monolith sample was taken through this ditch <5>, and suggested that the fill was of anthropogenic origin, containing iron minerals, manganese and fragments of sandstone, but no finds or identifiable environmental evidence.

On the northwest side of the mound, a ditch [412] was 1.65m wide and 0.42m deep, with a rounded base. Only a single fill was present on this side of the mound; of light greyish blue silty clay (411), and contained two of few pieces of pig bone from the excavations,

A second mound was centred 11.5m to the northwest, and was 3.80m wide and 0.39m high, and therefore smaller than the southeast mound. This too was composed of mid yellowish brown sandy silt with frequent gravel inclusions (414), and was flanked by ditches. The associated ditch [408] lying to the southeast edge of the smaller mound was 1.60m wide and 0.30m deep, with a flattish base and a fill of greyish blue clayey silt (407). A monolith sample here <6> showed minor animal holes; worms and snails, but no evidence of archaeological activity.

The ditch to the northwest of this smaller mound was 1.15m wide and 0.14m deep, again with a flat base. The fill was greyish blue silty clay (404), and contained no evidence for dating of the mound, nor activities associated with it.

The mounds and filled ditches were overlain by a layer of 0.10m thick yellowish brown silty clay subsoil (402). This was sealed by a 0.20m thick dark brown clayey silt topsoil (401), its surface lying at 68.56mOD at the southeast end of the trench, and at 68.32mOD at the northwest end. Within the soft topsoil over the eastern end of the trench was a complete cup; with a backstamp MADDOCK / MADE / IN / ENGLAND / VITRIFIED HOTEL WARE / ELEGANCE, probably borrowed from a local hotel in the last decade. Its presence shows the soft character of the topsoil, and that modern materials sink to become buried.



Plate 4: Trench 4 Overview Looking Northeast

7.1.5 Trench 5

| Context Number | Thickness | Height of Deposit / aOD | Interpretation |
|----------------|-----------|-------------------------|--|
| 501 | 0.13m | 68.42m | Loose, dark brown silty clay topsoil. |
| 502 | 0.11m | 68.29m | Friable, yellowish brown silty clay subsoil |
| 504 | 0.13m | 68.18m | Greyish brown silty alluvium |
| 503 | NFE | 68.05m | Compact, light yellowish brown silty clay geology. |

Trench 5 located to the northwest of the Site, was aligned northwest-southeast (Figures 3 and 4). The earliest deposit recorded was a compact natural deposit of yellow/ brown clay (503), dropping from 68.26m aOD at the northwest end to 68.00mOD at the southeast lying level throughout the trench at a height of 67.94m aOD.

The natural clay was cut by a large pit with collapsed edges [510] measuring 2.2m by 1.00m and continuing beyond the limit of excavation. This was rectangular in plan, and was 0.41m deep with a curved profile. The lowest fill derived from the collapsed edges and was yellowish brown clay (508 and 509). The upper fill was dark grey silty clay (505), with a high proportion of sandstone inclusions, as well as fragments of burned clay and charcoal. One find within the fill was a large flint blade with regular parallel retouch along both lateral edges, and is either Neolithic or Bronze Age in date. This deposit was sampled <9>, to enhance its characterisation and was shown to contain 1.3g of coke fuel, a hard porous fuel, which is the result of heating coal, and was used from the end of the 16th century until the 20th century. These results show that the flint is likely to be residual, unless the coke itself is intrusive.

The pit and its fills were overlain by a widespread layer of dark grey silty clay (504) which had accumulated within the hollow formed by the subsidence of the pit. This may be an alluvial, flooding deposit. Cement fragments in the layer suggested a post-1850 date. Fragments of modern clay pigeon target showed that falling fragments were penetrating this deposit, buried beneath 0.16m depth of topsoil.

This was overlain by a thin deposit of yellowish brown silty clay subsoil (502) that was just 0.05m thick.

The subsoil was cut by a tree throw [507] in the centre of the trench that measured 1.09m by 0.74m and was approximately oval with a straight north-western edge and an uneven base. The pit was 0.16m deep and had a single fill, of light brownish grey silty clay (506). This is undated.

The uppermost deposit in the trench was 0.16m depth of soft dark brown clayey silt topsoil (501), lying at 68.58m aOD in the northwest, dropping to 68.28m at the southeast end. Although clearly the uppermost deposit, a sherd of 18th century redware indicates general post-medieval disturbance to the soils, and further fragments of modern clay pigeon target showed that falling fragments were penetrating up to 0.16m below the current ground surface. Undatable mortar fragments were also collected.

7.1.6 Trench 7

| Context Number | Thickness | Height of Deposit / aOD | Interpretation |
|----------------|-----------|-------------------------|--|
| 701 | 0.16m | 68.48m | Dark brown greyish brown silty clay topsoil. |
| 702 | 010m | 68.32m | Friable, yellowish brown silty clay subsoil |
| 703 | NFE | 68.22m | Compact, yellowish brown silty clay geology. |

Trench 7, located near the centre of the Site, was aligned north-south (Figures 5 and 7). The earliest deposit recorded was a compact natural deposit of yellow/ brown clay (703), lying level throughout the trench at a height of 68.22m aOD.

Two shallow ditches cut the natural clay, both oriented east-west, parallel to each other and 4.25m apart. The more northern of the two was 0.71m wide and just 0.09m deep, with a shallow concave profile and a flattish base [707]. The fill was light yellowish brown silty clay (706) and has been sampled to aid interpretation. One tiny sherd of Roman greyware was collected from the sample <2>, but a fragment of 19th century whiteware and coke fuel would indicate that this is a far more recent event. Additionally, two fragments of glass from this fill collected are of post-medieval date. One is a shard from a 16th century diamond scored goblet, the other a possible jewellery fragment. The southern ditch of this pair was 1.15m wide and 0.08m deep, with a broadly concave profile and flattish base [709]. The fill was light yellowish brown silty clay (708). The similar character of these ditches suggests that they are contemporary, but their shallow form may be an indication of past horizontal truncation.

These two features were overlain by a thin, 0.05m thick, deposit of yellowish brown silty clay subsoil (702). A third ditch cut through this, oriented northwest-southeast [705], towards the northern end of the trench (Plate 5). This was slightly curvilinear in plan, and was 0.61m wide and 0.25m deep, with sides dropping at 45° to a rounded base. The ditch had a single fill, of brownish yellow silty clay, containing occasional small gravel (704), and a find of a flint flake, suggesting a prehistoric date for the feature. The fill was sampled <1> to help determine character and confirm dating, and included uncarbonised weed seeds and worm eggs. Fragments of post-medieval brick, a fragment of coke fuel and clay pigeon in the top of the fill indicate that this is of modern date, although they could be intrusive.

The filled ditch was overlain by 0.16m depth of dark brown clayey silt topsoil (701) across the trench, its surface lying at 68.47m aOD. Finds from the topsoil included modern brick, coke fuel and cement, and also medieval tile. As in Trench 5, fragments of modern clay pigeon target showed that falling fragments were penetrating up to 0.16m below the current ground surface.



Plate 5: Ditch 705 Looking West

7.1.7 Trench 10

| Context Number | Thickness | Height of Deposit / aOD | Interpretation |
|----------------|-----------|-------------------------|---|
| 1001 | 0.26m | 68.52m | Dark brown silty clay topsoil. |
| 1002 | 0.08m | 68.24m | Friable, yellowish brown silty clay subsoil |
| 1009 | 0.03m | 68.16m | Brownish yellow silty clay alluvium |
| 1003 | NFE | 68.13 | Compact, light yellowish brown cornbrash geology. |

Trench 10, located to the centre west of the Site, was aligned northeast-southwest (Figures 6 and 7). The earliest deposit recorded was a compact natural deposit of yellow/brown rubbly limestone with clay cornbrash (1003), lying at a height of 68.13m aOD. At the southwestern end of the trench, this was overlain by a thin deposit of yellowish brown silty clay alluvium (1009). Two pieces of Romano-British pottery were collected from this layer; it is likely to represent alluvium deposited next to the river.

Two features cut the cornbrash; neither contained finds. One feature towards the centre of the trench had an irregular, linear, shape, and was either a ditch or a tree-throw. The cut was oriented northwest-southeast [1008], with a sharp break of slope dropping to a rounded base. This was 0.99m wide and 0.22m deep, with a single fill of dark grey silty clay (1007) with inclusions of stone from the cornbrash. The finds assemblage has a heavily abraded body sherd an early Bronze Age collared urn that is likely to be redeposited, and a fragment of sheep bone. Assessment of a sample from this deposit <3> revealed unidentifiable charcoal fragments, too fragmentary to be identified to species.

The second feature lay towards the northeast end of the trench, and had an irregular shape with one straight, vertical edge [1006] (Plate 6). The pit was 1.95m long, 0.65m wide and 0.31m deep with a rounded base. Two fills lay within the pit. The lower fill was dark grey silty clay (1005) and contained charcoal and burnt clay. This was sampled, to help determine its character. The upper fill was greyish yellow clayey silt (1004), either dumped or accumulated through alluvial action. This was also sampled, to help determine its character <4>, and the sample contained coke fuel of post-medieval date.

The features were overlain by 0.08m depth of light yellowish brown silty clay subsoil (1002), and the subsoil was sealed by 0.26m depth of dark brown clayey silt topsoil (1001), its surface lying at 68.14m aOD. Fragments of modern clay pigeon target showed that falling fragments were penetrating the current ground surface. Two fragments of modern brick were also present.



Plate 6: Pit [1006] Looking Northeast

7.1.8 Trench 17

| Context Number | Thickness | Height of Deposit / aOD | Interpretation |
|----------------|-----------|-------------------------|--|
| 1701 | 0.16m | 68.14m | Loose, mid greyish brown silty clay topsoil. |
| 1702 | 0.05m | 67.99m | Friable, light yellowish brown silty clay subsoil |
| 1705 | NFE | 67.94m | Compact, light yellowish brown silty clay geology. |

Trench 17, located to the south of Site, was aligned northeast-southwest (Figures 8 and 9). The earliest deposit recorded was a compact natural deposit of yellow/brown clay (1703), lying generally level throughout the trench at a height of 68.03m aOD. This was overlain by a thin (0.06m) thick deposit of yellowish brown silty clay (1702).

The subsoil was cut by a narrow, shallow, ditch or gully [1705] oriented northwest-southeast with a curved profile (Plate 7). The ditch was 1.30m wide and just 0.20m deep. A single fill of mid greyish brown silty clay (1704) in the feature contained no dating evidence or finds. This ditch aligns with a ditch recorded in Trench 17.

The filled ditch was overlain by 0.11m thick dark brown clayey silt topsoil (1701) across the trench, its surface lying at 68.20m aOD. A single sherd of Romano-British grog-tempered pottery was collected from this topsoil.



Plate 7: Ditch [1705], Looking East

7.1.9 Trench 18

| Context Number | Thickness | Height of Deposit / aOD | Interpretation |
|----------------|-----------|-------------------------|--|
| 1801 | 0.16m | 68.14m | Loose, mid greyish brown silty clay topsoil. |
| 1802 | 0.05m | 67.99m | Friable, light yellowish brown silty clay subsoil |
| 1805 | NFE | 67.94m | Compact, light yellowish brown silty clay geology. |

Trench 18, located to the south of Site, was aligned northeast-southwest (Figures 8 and 9). The earliest deposit recorded was a compact natural deposit of yellow/ brown clay (1805), lying level throughout the trench at a height of 67.94m aOD. This was overlain by a thin (0.05m thick) deposit of yellowish brown silty clay (1802).

The subsoil was cut by a narrow, shallow, ditch or gully [1804] oriented northwest-southeast with a curved profile (Plate 8). The ditch was 0.70m wide and just 0.11m deep. A single fill of mid greyish brown silty clay (1803) in the feature contained no dating evidence. This ditch aligns with a ditch recorded in Trench 17.

The filled ditch was overlain by 0.11m depth of dark brown clayey silt topsoil (1801) across the whole trench, its surface lying at 68.14m aOD.



Plate 8: Ditch [1804], Looking Northwest

7.2 Negative Trenches

Of the 19 trenches that were excavated, 10 lacked finds or features of archaeological character (Trenches 6, 8, 9, 11, 12, 13, 14, 15, 16 and 19) (Figure 9).

The natural topography within the negative trenches showed a general fall from north to south, with a high point of 68.27m aOD in Trench 6, falling gently southwards to 68.05m aOD in Trench 12 and then more notably lower, at 67.80m aOD in Trenches 13 and 14.

A second slightly higher area of clay natural was identified in Trench 15, at 68.15mOD, before the clay dropped away south-westwards to 67.80m aOD in Trench 19. The lowest point of the Site, in Trenches 13-14 may be indicative of a previous meander of the river. The change in level is slight, but does indicate which parts of the Site were drier in times of flooding.

Each trench showed the same depositional sequence of yellowish brown silty clay, overlain by varying depths of yellowish brown clayey silt subsoil. This varied from 0.22m in the centre of the Site at Trenches 8, 11 and 13, and only 0.09m depth of subsoil in the south, in Trench 19. The subsoil was deepest in the lowest of these trenches, which may be indicative that it has partial fluvial or alluvial origins. The subsoil was overlain by dark brown clayey silt topsoil.

8. Finds and Samples

Finds were recovered from a fill on top of the principal mound, and from shallow ditches or gullies around the Site. The finds assemblage is small, and comprises pottery, building material, flint, glass, metal objects and includes finds from the prehistoric, Roman, medieval and post-medieval periods.

The earliest finds are Bronze Age flint tools from a pit in Trench 7 and part of an urn from Trench 10. These are residual in later features. A possible struck piece of jasper or chert in a buried topsoil

beneath the mound in Borehole 3 also indicates prehistoric activity on the Site prior to the raising of the mound.

Roman pottery fragments from the evaluation trenches is generally residual in later features, and is worn and eroded, showing that it has all been moved from its primary location, either by erosion or by anthropogenic redistribution. The best and unvaried assemblage of pottery is from a deposit at the top of the mound in Trench 3, where 12 pieces of medieval pottery come from vessels manufactured between the 11th and 13th centuries. An additional sherd lay in a ditch at the edge of the mound in Trench 2.

The post-medieval finds are common items, and indicate a general use of the land in between the 16th century and the present day, with the finds typical of debris incorporated through loss, discards and manuring.

The soil samples showed very little archaeological material in the form of carbonised or environmental evidence; those with the most archaeological evidence showed post-medieval fragments of brick, glass and industrial materials. Where charcoal was present in the samples, its small size and condition reduces its potential for further species identification or C₁₄ dating. The most recent finds assemblage included fragments of clay pigeon targets, some surprisingly deep in the soft topsoil.

The ditches around the mounds were notably lacking in finds. This may be an indication of scouring by floodwaters on this soft, low lying Site, but may also be an indicator of low levels of habitation and use of the Site, and/or a feature that was in use for only a restricted period of time.

9. Conclusions

The archaeological evaluation of land to the west of the Bicester Bypass, Oxfordshire provided an insight into the character of the archaeological remains present.

The natural horizon shows a general slope from north to south with occasional lower areas which may be indications of former meanders of the river that forms the western boundary of the field. This showed a drop from 68.37m OD in Trench 1 in the north, to 67.80mOD in Trench 19 in the south of the Site; a drop of 0.57m over a distance of 275m. Where boreholes were excavated to characterise a mound in Trenches 2 and 3 the levels show that the mound may be raised above shallow hollow in the landscape, with buried topsoil lying at 67.85 to 68.13m aOD.

Prehistoric activity is represented on the Site by a small assemblage of finds that were residual in later features. These are of Bronze Age date and comprise two reworked flint blades and part of a collared urn. A piece of struck or worked jasper or chert in a layer of buried topsoil in the north of the Site could be evidence that the mound was raised directly over the prehistoric landscape, but a single piece could be residual. It is one piece amongst a small assemblage of similar, seemingly unretouched stones. The urn fragment is from a tree pit or ditch, and is the only find within. It is abraded and therefore likely to be redeposited in a later feature rather than proving the date of the feature.

Roman activity is represented by pottery sherds, also residual among later features, and as infrequent finds in subsoil and topsoil. One piece from topsoil in Trench 17 may indicate that a shallow ditch which crosses Trench 17 and 18 is of Roman date, but they had no dating evidence. Two pieces of Romano-British pottery in Trench 10 were in a thin layer thought likely to represent fluvial reworking

and scouring. The Site lies 200m west of the Compound A1 site²⁷, where an evaluation by EWR Alliance in 2019 revealed features of late Iron Age/Roman date indicative of land management or agricultural activity and the Roman activity west of Bicester Bypass may be related to the same land use.

This low-lying land west of Bicester Bypass is dominated by the mound in the northeast of the Site, which rises to 69.63m OD. Two trenches which targeted this mound showed two very different materials in its formation, as did the two geoarchaeological boreholes which were excavated once the trenches had been backfilled. The northwest side of the mound was formed of a deposit of sandy clay with no inclusions (Trench 2, Borehole 2), whereas the southern part of the mound showed two principal layers of made up ground, each with sandstone, cornbrash inclusions, neither containing anthropogenic materials. Charcoal in one borehole was considered intrusive due to the saturated conditions of the Site during sampling.

The difference in the construction of the mound offers several potential interpretations. If it is assumed that the mound is a single unit, raised as a single event, then the difference in materials can be interpreted as the sequence deriving from upcast of natural geological layers: first, yellowish brown clay deposited in the northwest, with subsequent excavations for mound material encountering stonier layers of cornbrash, as the mound was built up south-westwards.

It is possible that the mound is the result of two distinct phases, with what was a shallow, perhaps prehistoric mound in the first instance being enhanced with different stony soils to enable the use of the mound as a mill mound, as suggested in The Oxfordshire Historic Environment Record (OHER) which records the surviving earthwork mound as the Site of a medieval or post-medieval windmill mound.

The mound may also represent two mounds, which have slumped due to the clay character of the soils, and are now deformed so as to appear to be a single feature.

Whatever the original character of the principal mound, a layer at the top of Trench 3, where the mound is generally level, is securely dated to the 11th-13th century by the presence of pottery sherds from jars, which would indicate that the last impact on the mound was of medieval date, whether it be an intrusive pit or construction deposit. A LiDAR scan of the Site shows a tempting partial cross-shape crop mark, which could be an indicator that this once held a cruciform foundation for a windmill trestle, but it does also closely align with a worn track into the field from the gate and a recent water main.

The ditch around the principal mound is a shallow ditch, and does not have the breadth or depth to have been the source of the deposits which form the mound. Excavations by hand through this ditch revealed one piece of medieval pottery and one horseshoe, which is a low finds assemblage for a Site which may have been occupied by a working mill from the medieval period. There were also no finds or environmental evidence from the samples collected from the excavations in the ditch. Whatever the function of the mound may have been, the lack of finds would suggest only minor activity, or an event that has removed and scoured fill from the ditch. It is possible that erosion through flooding has removed expected accumulated silts and all finds through repeated inundation, but it is expected that an occupied working mill, for example, would have generated debris that would have collected in the ditch. It is unlikely that the ditch is a post-mound erosion product, yet a ditch would not be a necessity for a mill mound: the structure is already raised 1.5m above the original horizon.

The two parallel shallow mounds to the south of the principal mound are undated features but are likely to have an association with the principal mound. Unfortunately, the excavations have not

²⁷ EWR Alliance 2019c. *Compound A1: Land East of Bicester Road, Oxfordshire: An Archaeological Evaluation Report*

revealed their true function. They are formed of fine-grained cornbrash, in the character of the southern side of the mound, yet are no higher than 0.56m and 0.39m each. They are rectangular mounds. It was considered that they may represent domestic rabbit warrens. However, the intact character of the soil matrix indicated that this was not the case, despite their pillow like appearances. The ditches which define each appear to be more than erosion channels along the edges, so must have been deliberately excavated. These ditches were also notably clear of finds except for a modern teacup in the topsoil in one hollow.

Overall, the lack of finds associated with the group of mounds would therefore indicate only limited activity on the Site associated with them. The only secure dating evidence is the medieval pottery sherds from the top of the mound, which shows that the latest activity is of 11th-13th century date, yet its exact character has not been proved, except to show that fragments of broken jars were deposited. Typically, household objects, together with animal bones, the finds assemblage is suggestive of minor dwelling and consumption but the lack of finds in the ditches remains uncharacteristic of dwelling and rubbish disposal patterns.

The other features across the Site were shallow ditches, and tree pits with few finds, and probably represent field boundaries. The shallowness was a typical characteristic of all features, and may indicate that some of their original depth has been lost to agriculture or to fluvial erosion.

The latest features include residues of coke fuel, post-dating the 17th century and used into the 20th century. Their presence in this agricultural field, while showing a post-medieval date for the features, may represent either dumping of industrial waste in the field since the 1600s, or even brought in by seasonal flooding or represents railway detritus. The most recent finds appear to have been incorporated into the topsoil and tops of features by a mixture of gravity and softness of the topsoil, including a modern cup and pieces of clay pigeon.

10. Publication and Archive Deposition

The Site archive will comprise all artefacts, ecofacts and written and drawn records. It is to be consolidated after completion of the whole project, with records and finds collated and ordered as a permanent record. Archaeological finds rarely have any monetary value, but they are an important source of information for future research, included in museum exhibits and teaching collections. The Chartered Institute of Archaeologists²⁸ and the Society of Museum Archaeologists²⁹ recommend that finds are publicly accessible and that landowners donate archaeological finds to a local museum. The receiving museum will be the Oxfordshire County Museum.

On completion of the project arrangements for the archive to be deposited with Oxfordshire County Museum and with the consultant/developer/landowner will be discussed. The paper and digital archive will be security copied via the Archaeology Data Service (ADS) under an OASIS ID – to be completed for the full report.

In the event of the legal owner(s) resolving to retain all or part of the Site archive, they shall be responsible for the future preservation and maintenance of any material element of that archive. That

²⁸ Chartered Institute for Archaeologists (2014e). *Standards and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives*.

²⁹ Society of Museum Archaeologists (1993). *Selection, Retention and Dispersal of Archaeological Collections*; Society of Museum Archaeologists (1995) *Towards an Accessible Archaeological Archive – The Transfer of Archaeological Archives to Museums: Guidelines for use in England, Northern Ireland, Scotland and Wales*.

part of the Site archive in question, shall be transferred to the legal owner only after; all necessary processing, research, analysis and investigative/stabilising conservation and correct packing necessary to prepare the archive for preservation and in a usable, accessible form, and to produce a full report for publication, has been completed. The owner shall ensure that all necessary provision is made for the long-term preservation of the archive in a satisfactory environment, and that it is accessible for future research. A proper record of material kept by the landowner shall be included in the written archive and public record. The explicit (written) permission of the owner shall be obtained in order that the Data Protection Act 1984 is not contravened. In the case where finds are retained, landowner consent will be required to allow transfer of the finds to Oxfordshire County Museum. A Deed of Transfer will be drawn up for signing by the landowner. The complete finds inventory and further finds information can be provided to the landowner, on request.

The Site archive will be deposited with Oxfordshire County Museum within one year of the completion of fieldwork (if no further work is required). It will then become publicly accessible.

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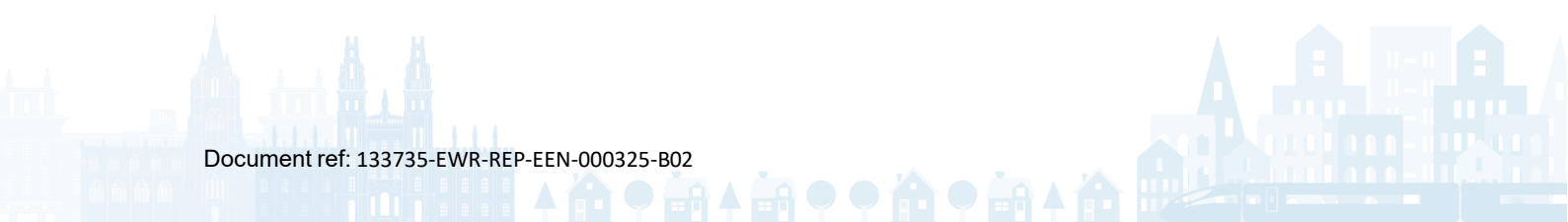
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Appendices



Appendix A. Context Register

| Context | Description | Interpretation | Length | Width | Depth |
|---------|---|---|--------|-------|---------|
| 101 | DEPO - Loose, mid greyish brown, silty clay | NS - Topsoil Deposit | 22m | 1.60m | 0.20m |
| 102 | DEPO - Friable, yellowish brown, silty clay | NS - Subsoil Deposit | 22m | 1.60m | 0.22m |
| 103 | DEPO - Compact, light yellowish brown silty clay. | N - Natural Substrate | 22m | 1.60m | 0.03m+ |
| 104 | FILL - Loose, mid greyish brown, silty clay with heavy rooting | TH - Fill of [105] | 1.70m | 1m | 0.15m |
| 105 | CUT - Shallow feature, gentle and gradual slopes with a flat base | TH - Possible tree throw ? | 1.70m | 1m | 0.15m |
| 201 | DEPO - Loose, dark brown, silty clay | NS - Topsoil Deposit | 16.40m | 1m | 0.09m |
| 202 | DEPO - Yellowish brown, Silty clay | NS - Subsoil Deposit | 16.40m | 1m | 0.12m |
| 203 | DEPO - Compact, light yellowish brown silty clay. | N - Natural Substrate | 9.25m | 1m | 0.12m |
| 204 | FILL - Firm, mid greyish brown, silty clay | D - Fill of ditch [205] at base of mound | 1m | 2.85m | 0.14m |
| 205 | CUT - Linear with a sharp slope, gentle sides and a concaved base. | D - Cut of a ditch at base of the mound in Trench 2 | 1m | 2.85m | 0.14m |
| 206 | DEPO - stiff yellowish brown clay | D - Made ground forming mound | 7.15m | 1m | 1.90m |
| 301 | DEPO - Friable, dark greyish brown silty clay with occasional small rounded stones. | NS - Topsoil Deposit | 16.80m | | 0.17m |
| 302 | DEPO - Friable, mid yellowish brown silty clay with no inclusions. | NS - Subsoil Deposit | 16.80m | 2m | 0.10m |
| 303 | DEPO - Compacted, bluish yellow clay. | N - Natural Substrate | 16.80m | 2m | NFE |
| 304 | DEPO - Mid yellowish brown with frequent gravel inclusions | ED - Mound deposit | 3m | 1m | (3.45m) |

| Context | Description | Interpretation | Length | Width | Depth |
|---------|--|-----------------------------------|--------|-------|-------|
| 305 | FILL - Moderately compacted, light blueish grey silty clay | D - Ditch fill | 2m+ | 1m | 0.42m |
| 306 | CUT - Northwest-southeast linear with gradual breaks of slope with moderate to steep sides and concave base. | D - Ditch cut | 2m+ | 1m | 0.42m |
| 307 | DEPO - Moderately compact, mid yellowish brown sandy silt | ED - Mound deposit | 9.55m | 1.00m | 0.25m |
| 308 | FILL - Friable, light greyish brown silty clay with occasional pot and animal bone | D - Pit | 1m | 1.68m | 0.14m |
| 309 | CUT - Diffuse cut with gradual slopes. | D - Pit | 1m | 1.68m | 0.14m |
| 401 | DEPO - Friable, dark greyish brown silty clay. | NS - Topsoil Deposit | 33.80m | 2m | 0.20m |
| 402 | DEPO - Friable, light greyish brown silty clay. | NS - Subsoil Deposit | 33.80m | 2m | 0.14m |
| 403 | DEPO - Compact, light bluish grey clay. | N - Natural Substrate | 33.80m | 2m | 0.12m |
| 404 | FILL - Moderately compacted, light greyish blue silty clay. | D - Fill of mound ditch | 2m+ | 1.15m | 0.14m |
| 405 | CUT - Northeast-southwest linear with gradual breaks of slope, gentle sides and a concave base. | D - Cut of mound ditch | 2m+ | 1.15m | 0.14m |
| 406 | DEPO - Compacted and friable, mid yellowish reddish brown sandy silt with frequent gravel inclusions. | ED - Mound deposit | 2m+ | 2.7m | 1.02m |
| 407 | FILL - Moderately compacted, light greyish blue silty clay. | D - Fill of mound ditch | 2m+ | 1.60m | 0.30m |
| 408 | CUT - Northeast-southwest linear with gradual top break of slope and a sharp bottom break of slope, gradual to sharp sides and a narrow V-shaped base. | D - Cut of mound ditch | 2m+ | 1.60m | 0.30m |
| 409 | FILL - Firm, mid yellowish brown silty clay, with grey mottling. | D - Secondary fill of mound ditch | 2m+ | 0.86m | 0.12m |
| 410 | CUT - Northeast-southwest linear with sharp top break of slope and a gradual bottom break of slope, moderate to shallow sides and a slightly concave base. | D - Cut of mound ditch | 2m+ | 0.86m | 0.25m |

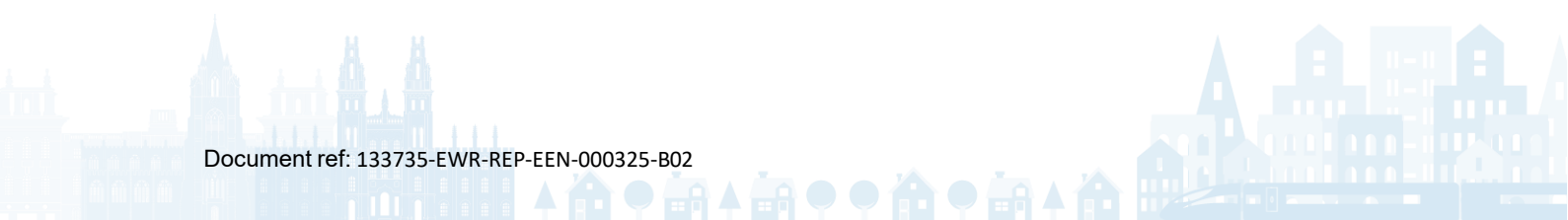
| Context | Description | Interpretation | Length | Width | Depth |
|---------|---|--|--------|--------|--------|
| 411 | FILL - Moderately compacted and friable, light greyish blue silty clay. | D - Fill of mound ditch | 2.50m+ | 2m | 0.42m |
| 412 | CUT - Northeast-southwest linear with gentle breaks of slope with moderate to shallow sides and a concave base. | D - Cut of mound ditch | 2.50m+ | 2m | 0.42m |
| 413 | FILL - Moderately soft, mid yellowish grey sandy silt with very frequent small shell fragments. | D - Primary fill of mound ditch [410] | 2m+ | 0.86m | 0.13m |
| 414 | DEPO - Friable, mid yellowish brown sandy silt with frequent gravel inclusions. | ED - Mound deposit | 12.60m | 2.00m | 0.61m |
| 501 | DEPO - Loose, mid greyish brown silty clay. | NS - Topsoil Deposit | 25m | 2m | 0.13m |
| 502 | DEPO - Friable, light yellowish brown silty clay. | NS - Subsoil Deposit | 25m | 2m | 0.11m |
| 503 | DEPO - Compact, light yellowish brown silty clay. | N - Natural Substrate | 25m | 2m | 0.07m+ |
| 504 | DEPO - Firm, dark grey silty clay with small rounded stones. | NO - Flooding deposit | 1.80m | 3.70m+ | 0.13m |
| 505 | FILL - Firm, dark grey silty clay with very frequent medium angular stones with very occasional flint and CBM. | D/P - Redeeposited natural fill of [510] | 2.20m | 1.00mm | 0.16m |
| 506 | FILL - Firm, light brownish grey silty clay with occasional shell and very occasional charcoal. | TH - Fill of tree pit | 0.74m | 1.09m | 0.05m |
| 507 | CUT - Sub-circular tree pit cut with gentle breaks of slope rounded sides and a flat base. | TH - Cut of tree pit | 0.74m | 1.09m | 0.05m |
| 508 | FILL - Firm, mid brownish yellow silty clay with occasional stone. | D/P - Redeeposited natural fill of [510] | 1m | 0.37m | 0.16m |
| 509 | FILL - Firm, mid brownish yellow silty clay with occasional stone. | D/P - Redeeposited natural fill of [510] | 1m | 0.63m | 0.18m |
| 510 | CUT - East-west oriented cut with a diffuse break of slope into moderate sides and a rounded moderate break of slope to a concave base. | D/P - Ditch terminus/pit cut | 2.20m | 1.00m | 0.41m |
| 601 | DEPO - Loose, mid greyish brown silty clay. | NS - Topsoil Deposit | 5.6m | 1m | 0.18m |

| Context | Description | Interpretation | Length | Width | Depth |
|---------|--|-----------------------|--------|-------|--------|
| 602 | DEPO - Friable, light yellowish brown silty clay. | NS - Subsoil Deposit | 5.6m | 1m | 0.09m |
| 603 | DEPO - Compact, light yellowish brown silty clay. | N - Natural Substrate | 5.6m | 1m | 0.05m |
| 701 | DEPO - Loose, mid greyish brown silty clay with occasional CBM inclusions. | NS - Topsoil Deposit | 31m | 1.60m | 0.16m |
| 702 | DEPO - Friable, light yellowish brown silty clay. | NS - Subsoil Deposit | 31m | 1.60m | 0.10m |
| 703 | DEPO - Compact, light yellowish brown silty clay. | N - Natural Substrate | 31m | 1.60m | - |
| 704 | FILL - Firm, light brownish yellow silty clay | D - Ditch fill | 1.80m | 0.62m | 0.25m |
| 705 | CUT - East-west oriented cut | D - Ditch | 1.80m | 0.62m | 0.25m |
| 706 | FILL - Firm, light brownish yellow silty clay | D - Gully fill | 1.80m | 0.71m | 0.09m |
| 707 | CUT - East-west oriented cut | D - Gully cut | 1.80m | 0.71m | 0.09m |
| 708 | FILL - Firm, light brownish yellow silty clay | D - Gully fill | 1.80m | 1.15m | 0.08m |
| 709 | CUT - East-west oriented cut | D - Gully cut | 1.80m | 1.15m | 0.08m |
| 801 | DEPO - Loose, mid greyish brown silty clay. | NS - Topsoil Deposit | 31.50m | 1.60m | 0.22m |
| 802 | DEPO - Friable, light yellowish brown silty clay. | NS - Subsoil Deposit | 31.50m | 1.60m | 0.21m |
| 803 | DEPO - Compact, light yellowish brown silty clay. | N - Natural Substrate | 31.50m | 1.60m | 0.09m |
| 901 | DEPO - Loose, mid greyish brown silty clay. | NS - Topsoil Deposit | 30m | 1.60m | 0.17m |
| 902 | DEPO - Friable, light yellowish brown silty clay. | NS - Subsoil Deposit | 30m | 1.60m | 0.18m |
| 903 | DEPO - Compact, light yellowish brown silty clay. | N - Natural Substrate | 30m | 1.60m | 0.05m+ |
| 1001 | DEPO - Loose, mid greyish brown silty clay. | NS - Topsoil Deposit | 31.5m | 1.80m | 0.28m |

| Context | Description | Interpretation | Length | Width | Depth |
|---------|---|-----------------------|--------|-------|--------|
| 1002 | DEPO - Friable, light yellowish brown silty clay. | NS - Subsoil Deposit | 31.5m | 1.80m | 0.08m |
| 1003 | DEPO - Compact, light yellowish brown silty clay. | N - Natural Substrate | 31.5m | 1.80m | NFE |
| 1004 | FILL - Firm, greyish yellow silty clay | P - Pit fill | 1.95m | 0.65m | 0.31m |
| 1005 | FILL - Firm, dark grey silty clay | P - Pit fill | 1.00m | 0.28m | 0.26m |
| 1006 | CUT - Rectangular Cut | P - Pit cut | 1.95m | 0.65m | 0.31m |
| 1007 | FILL - Firm, greyish yellow silty clay | D - Ditch fill | 2.01m | 0.99m | 0.22m |
| 1008 | CUT - Northwest-southeast ditch | D - Ditch cut | 2.01m | 0.99m | 0.22m |
| 1009 | DEPO - Friable, light yellowish brown silty clay. | NS - Subsoil Deposit | 31.5m | 1.80m | 0.06m |
| 1101 | DEPO - Loose, mid greyish brown silty clay. | NS - Topsoil Deposit | 30.50m | 1.60m | 0.18m |
| 1102 | DEPO - Friable, light yellowish brown silty clay. | NS - Subsoil Deposit | 30.50m | 1.60m | 0.22m |
| 1103 | DEPO - Compact, light yellowish brown silty clay. | N - Natural Substrate | 30.50m | 1.60m | NFE |
| 1201 | DEPO - Loose, mid greyish brown silty clay. | NS - Topsoil Deposit | 29.80m | 1.60m | 0.22m |
| 1202 | DEPO - Friable, light yellowish brown silty clay. | NS - Subsoil Deposit | 29.80m | 1.60m | 0.12m |
| 1203 | DEPO - Compact, light yellowish brown silty clay. | N - Natural Substrate | 29.80m | 1.60m | 0.09m+ |
| 1301 | DEPO - Loose, mid greyish brown silty clay. | NS - Topsoil Deposit | 31.50m | 1.60m | 0.27m |
| 1302 | DEPO - Friable, light yellowish brown silty clay. | NS - Subsoil Deposit | 31.50m | 1.60m | 0.26m |
| 1303 | DEPO - Compact, light yellowish brown silty clay. | N - Natural Substrate | 31.50m | 1.60m | 0.08m+ |
| 1401 | DEPO - Loose, mid greyish brown silty clay. | NS - Topsoil Deposit | 30.50m | 1.60m | 0.21m |
| 1402 | DEPO - Friable, light yellowish brown silty clay. | NS - Subsoil Deposit | 30.50m | 1.60m | 0.20m |

| Context | Description | Interpretation | Length | Width | Depth |
|---------|---|-----------------------|--------|-------|--------|
| 1403 | DEPO - Compact, light yellowish brown silty clay. | N - Natural Substrate | 30.50m | 1.60m | NFE |
| 1501 | DEPO - Loose, mid greyish brown silty clay. | NS - Topsoil Deposit | 32.50m | 1.60m | 0.14m |
| 1502 | DEPO - Friable, light yellowish brown silty clay. | NS - Subsoil Deposit | 32.50m | 1.60m | 0.08m |
| 1503 | DEPO - Compact, light yellowish brown silty clay. | N - Natural Substrate | 32.50m | 1.60m | 0.18m+ |
| 1601 | DEPO - Loose, mid greyish brown silty clay. | NS - Topsoil Deposit | 31m | 1.60m | 0.12m |
| 1602 | DEPO - Friable, light yellowish brown silty clay. | NS - Subsoil Deposit | 31m | 1.60m | 0.09m |
| 1603 | DEPO - Compact, light yellowish brown silty clay. | N - Natural Substrate | 31m | 1.60m | 0.07m+ |
| 1701 | DEPO - Loose, mid greyish brown silty clay. | NS - Topsoil Deposit | 30.70m | 1.60m | 0.11m |
| 1702 | DEPO - Friable, light yellowish brown silty clay. | NS - Subsoil Deposit | 30.70m | 1.60m | 0.06m |
| 1703 | DEPO - Compact, light yellowish brown silty clay. | N - Natural Substrate | 30.70m | 1.60m | 0.05m+ |
| 1704 | DEPO - Loose, mid greyish brown silty clay. | D - Ditch fill | 2.00m | 1.30m | 0.20m |
| 1705 | CUT - East-west ditch | D - Ditch cut | 2.00m | 1.30m | 0.20m |
| 1801 | DEPO - Loose, mid greyish brown silty clay. | NS - Topsoil Deposit | 31m | 1.60m | 0.16m |
| 1802 | DEPO - Friable, light yellowish brown silty clay. | NS - Subsoil Deposit | 31m | 1.60m | 0.05m |
| 1803 | DEPO - Loose, mid greyish brown silty clay. | D - Ditch fill | 2.00m | 0.70m | 0.11m |
| 1804 | CUT - East-west ditch | D - Ditch cut | 2.00m | 0.70m | 0.11m |
| 1805 | DEPO - Compact, light yellowish brown silty clay. | N - Natural Substrate | 31m | 1.60m | 0.05m+ |
| 1901 | DEPO - Loose, mid greyish brown silty clay. | NS - Topsoil Deposit | 15.6m | 1.60m | 0.20m |

| Context | Description | Interpretation | Length | Width | Depth |
|----------------|---|-----------------------|---------------|--------------|--------------|
| 1902 | DEPO - Friable, light yellowish brown silty clay. | NS - Subsoil Deposit | 15.6m | 1.60m | 0.08m |
| 1903 | DEPO - Compact, light yellowish brown silty clay. | N - Natural Substrate | 15.6m | 1.60m | 0.14m+ |



Appendix B. Specialist Reports

Pottery and Building Material

By *Lorraine Mepham*

Introduction

A small assemblage of finds was recovered from the Site, largely ceramic. The assemblage ranges in date from possible prehistoric to post-medieval/modern.

All finds have been quantified by material type within each context and are listed in Table B1.

Pottery

The pottery assemblage amounts to 24 sherds, weighing 887 g (three tiny ceramic crumbs recovered from sieved soil sample 1 have not been included). It ranges in date from prehistoric to post-medieval/modern. Condition ranges from fair to good; apart from one complete modern vessel the assemblage is fragmentary, but levels of surface and edge abrasion are relatively low. Excluding the complete vessel, mean sherd weight is 27.3 g.

The assemblage has been quantified (sherd count and weight) by ware type within each context. The presence of vessel forms has been recorded where identifiable, as well as other diagnostic features such as decoration and the presence of glaze. Estimated Vessel Equivalents (EVEs) have not been calculated in this instance as there are no rim sherds with measurable diameters. The level of recording corresponds to the 'basic record' recommended for rapid analysis to inform an understanding of the Site, as well as the significance of the pottery assemblage (Prehistoric Ceramics Research Group *et al* 2016, section 2.4.5).

Prehistoric

One small, heavily abraded body sherd from ditch 1008 (fill 1007) has been tentatively dated as prehistoric. This appears to be grog-tempered, externally oxidised with an unoxidized black core and traces of oxidisation on the interior surface. The sherd is completely undiagnostic, but fabric and firing conditions are characteristic of certain Late Neolithic and Early Bronze Age ceramic traditions in southern England. While Grooved Ware and Beaker cannot be entirely ruled out, the most likely interpretation here is that this sherd belongs to an early Bronze Age collared urn.

This sherd provides the only dating evidence for ditch 1008, but its condition suggests that it was redeposited in this context, and its use for dating purposes should therefore be treated with caution.

Romano-British

Five sherds are dated as Romano-British. These came from pit 309 (fill 308, 1 sherd), gully 707 (fill 706, 1 sherd), subsoil 1009 (2 sherds) and topsoil 1701 (1 sherd). One of the sherds from 1009 could be an oxidised fineware, an Oxfordshire colour coated ware, but no traces of any colour coat survive. The other five sherds are all coarsewares, two sandy greywares, two grog-tempered and one calcareous. One of the greyware sherds is a tiny sherd retrieved from a sieved soil sample (from gully 707) and the identification is provisional.

None of these five sherds is diagnostic, and none can be dated more closely within the period. All are likely to be redeposited (occurring in topsoil and subsoil, and with later wares in pit 309 and gully 707).

Medieval

Medieval sherds were recovered from two contexts, pit 205 (fill 204, 1 sherd) and pit 309 (fill 308, 12 sherds). All sherds are in sandy wares. These are characteristic of several ceramic traditions in Oxfordshire, but in this instance an identification as Late Saxon–Medieval Oxford ware (OXY) is most likely. This fabric is characterised by abundant sub-angular quartz and dominates central, east and north-east Oxfordshire, and a source north of Oxford, close to Deddington and Middleton Stoney has been suggested (Mellor 1994, 63–71); the current site lies approximately 7 km east of Middleton Stoney. The sherds from pit 309 include two jar rims (one finger impressed) and a dish/bowl rim (also finger-impressed). The date range is mid–late 11th to mid–late 13th century.

Post-medieval/modern

The remaining five sherds are post-medieval/modern. Apart from a complete late 20th-century tea/coffee cup (with a backstamp of John Maddock & Sons of Burslem, Staffordshire), these include three refined whitewares (all brown-glazed over a red slip) and one black-glazed redware. One sherd of refined whiteware provides the latest dating evidence for gully 707; other sherds came from topsoil.

Ceramic Building Material

The ceramic building material (CBM) comprises 13 fragments. These include brick and roof tile; two fragments are of cement, and three small fragments are so heavily abraded that their identification as CBM is provisional, although on textural grounds they are likely to be brick fragments.

The roof tile includes five fragments from handmade tiles in poorly wedged fabrics (giving a ‘marbled’ effect); one preserves part of a nail-/peg-hole (201, 701 and 1001). These are dated as medieval (most probably 13th-century or later). The bricks are all post-medieval; only one piece preserves a measurable dimension (thickness 55 mm). Two further fragments could belong either to brick or tile but on textural grounds are likely to be post-medieval.

CBM was recovered from mound deposit 307, ditch terminal/pit 510, and ditch 705 as well as topsoil. Fragments from 510 and 705 are post-medieval. The three from 307 are the heavily abraded fragments provisionally identified as post-medieval brick (they are relatively hard-fired), but an identification as fired clay (which is not closely datable) cannot be ruled out.

Mortar

Six fragments of mortar were recovered. All are of sandy texture, ranging in colouring from off-white to red-orange and brown-grey. Three fragments came from pit 205, and the rest from topsoil. The mortar cannot be closely dated.

Other finds

Twenty-three ceramic fragments (in contexts 501, 504 701, 704 and 1001) are from clay targets used in clay pigeon shooting.

| Context | Sample | Material | No | Wt | Description | Date |
|---------|--------|----------|----|----|--|---------|
| 201 | | pottery | 2 | 7 | refined whiteware; brown glazed (over red slip); handle & body sherd | C19/C20 |
| 204 | | mortar | 3 | 5 | off-white, sandy; red-orange surfaces; 2 pieces conjoining | undated |

| Context | Sample | Material | No | Wt | Description | Date |
|---------|--------|----------|----|-----|--|------------|
| 204 | | pottery | 1 | 16 | sandy ware (OXY); body sherd | medieval |
| 201 | | CBM | 1 | 3 | abraded and undiagnostic, on hardness probably post-med | ? post-med |
| 201 | | CBM | 2 | 23 | roof tile, poorly wedged fabrics; one with peg hole | medieval |
| 307 | | CBM | 3 | 5 | small abraded and undiagnostic fragments; could just be fired clay, though on hardness possibly post-med brick | undated |
| 308 | | pottery | 1 | 10 | calcareous ware; flat basal angle | RB |
| 308 | | pottery | 12 | 91 | sandy ware (OXY); 2 jar rims (1 finger impressed), 1 dish/bowl rim (finger-impressed) | medieval |
| 401 | | pottery | 1 | 259 | refined whiteware; complete cup; backstamp MADDOCK / MADE / IN / ENGLAND / VITRIFIED HOTEL WARE / ELEGANCE | late C20 |
| 501 | | ceramic | 1 | 2 | clay pigeon | C20 |
| 501 | | mortar | 1 | 2 | orange-brown, sandy | undated |
| 501 | | pottery | 1 | 26 | redware; base sherd, internally black-glazed | C18+ |
| 504 | | ceramic | 1 | 4 | clay pigeon | C20 |
| 505 | | CBM | 2 | 40 | cement | post-med |
| 701 | | CBM | 1 | 3 | small surface flake, hard-fired, brick or tile | post-med |
| 701 | | CBM | 1 | 23 | roof tile, poorly wedged fabric | medieval |
| 701 | | mortar | 2 | 95 | 1 off-white, 1 brown-grey, both sandy | undated |
| 704 | | CBM | 1 | 125 | brick fragment; coarse, poorly wedged fabric (thickness 55mm) | post-med |
| 704 | 1 | ceramic | 3 | 1 | unidentified | undated |
| 704 | | ceramic | 1 | 3 | clay pigeon | C20 |
| 706 | 2 | pottery | 1 | 1 | refined whiteware; tiny body sherd, brown-glazed (over red slip) | C19/C20 |
| 706 | 2 | pottery | 1 | 1 | greyware; tiny body sherd | RB |
| 701 | | ceramic | 4 | 7 | clay pigeon | C20 |
| 1001 | | CBM | 2 | 27 | roof tile, poorly wedge fabrics | medieval |
| 1001 | | ceramic | 16 | 24 | clay pigeon | C20 |
| 1007 | | pottery | 1 | 4 | grog-tempered, soft-fired, externally oxidised; body sherd, very abraded | ? EBA |

| Context | Sample | Material | No | Wt | Description | Date |
|---------|--------|----------|----|----|--|------|
| 1009 | | pottery | 1 | 1 | fine oxidised ware; body sherd; Oxfordshire? | RB |
| 1009 | | pottery | 1 | 3 | grog-tempered; body sherd | RB |
| 1701 | | pottery | 1 | 76 | grog-tempered; body sherd | RB |

Table B1: All pottery and building materials finds by context

BIBLIOGRAPHY

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Lithics

Rob Engl

Introduction

The data was derived from an initial macroscopic study of material retrieved from the archaeological works.

The entire assemblage was macroscopically examined, and a catalogue was produced. The general terminology and definitions used in the creation of the catalogue followed the characterisations of Ballin (2000) and Butler (2005).

Quantity/Provenance

A total of five lithic items were recovered during the archaeological works, these were all made on flint most probably derived from the Berkshire Downs or Chiltern Hills;

Retouched Blade. Large flint blade with regular parallel retouch along the right lateral edge. Faint, low, inverse scaled retouch along the distal left lateral edge. Patinated cream flint most probably from the Berkshire Downs. Context (505). Dimensions: 66mm x 17.2mm x 7mm.

Regular Flake. Patinated cream flint with pronounced bulb and crushed platform (Context 704). Dimensions: 36.7mm x 20.8mm x 3.8mm

Chips. Three small chips of patinated flint.

The assemblage though small is most probably Late Neolithic to Early Bronze Age in date.

Discussion

Though little prehistoric activity is known within the immediate locale, proposed Mill mounds such as the one occupying the north-east of the Site have been known to re-use prehistoric barrows (Hey et al forthcoming; Bray 2018), and it is possible that the two lithic artefacts may relate to such prehistoric activity. However, the heavy patination present on all of the lithic artefacts suggests exposure over a considerable length of time. It is therefore equally plausible that the material represents residual material accidentally incorporated within later features.

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Metal finds

Dawn McLaren

Introduction

A total of three metal objects were recovered as bulk finds during excavations at Mill Mound, Oxfordshire. All of these objects, a distorted and damaged item of white metal, an intact but damaged iron horseshoe and a damaged horseshoe nail, were recovered from stratified contexts (contexts 401, 205 and 201 respectively).

Methodology

The metal finds have been subject to macroscopic study at AOC's laboratory located in Loanhead, Midlothian, Scotland. Visual examination of the objects was aided by x-radiography, both to assist in identification of the form and function but also to provide a stable archive record of the condition of the metals following excavation. This report presents a summary of the metal finds with the aim of providing identifications for the function and possible date of the individual artefacts, recording their current condition and a consideration of the archaeological significance of the objects, as well as providing recommendations for further work.

Classifications

Iron

Two artefacts made of iron are present in the assemblage. These comprise a substantially intact horseshoe from context (205) and a damaged horseshoe nail which came from the topsoil of Trench 2 (201).

The horseshoe is intact although damaged as the result of extensive wear and it is in good condition with only moderate surface corrosion. The detail of the surviving nail holes is obscured by layers of rust, but x-radiography has enabled identification of four small rectangular nail holes on the inner branch and three holes of similar dimensions on the outer branch, two of which retain the head of the nails in situ. The inner branch and heel of the shoe are significantly worn resulting in thinning of the metal, particularly on the exterior edge which has worn through to the nail holes and likely caused the shoe to be detached from the horse's hoof. No calkin is present and the thinness of the heel of the inner branch displays no trace feathering; a manufacturing technique which prevents the horse from damaging the opposite leg if they are prone to rubbing (Clark 1986, 3).

From the texture of the metal observed via X-radiography, it is certain that the shoe was hand-forged. Its form and size are consistent with a type of shoe that came into use in the latter half of the 14th century and saw little modification throughout the later medieval and post-medieval periods, and later

in some areas (Clark 1986, 3). The lack of fullering around the nail holes suggests, however, that it is not 20th century in date suggesting a date bracket of late 14th to around c.19th century.

The second iron object is a horseshoe nail with a damaged head. Although the head form is the chronologically diagnostic component of this type of nail and in this instance it is damaged, enough remains to identify it as a simple form with a tall rectangular head which is intended to stand proud of the surface of the shoe when *in situ* (as can be seen on the surviving examples from the horseshoe just described). Like the horseshoe described above, this nail is not closely datable but shares the same chronological range as the shoe type from context (201).

Stainless-steel

A damaged and distorted segmented collar or rim made of a sheet of uncorroded stainless steel (magnetic) was recovered from context (401). This is a crushed and incomplete fragment of machine-made ring-shaped collar which would have fitted around the rim of the central bore of a modern wheel (tire) which encircles the hub or axle of the vehicle. It is late 20th century in date.

Catalogue descriptions

(205) **Horseshoe**. Intact but damaged through wear around the outer edge of the toe and inner branch resulting in a thinning of the metal and a bowed curvature of the web. Surfaces are moderately corroded and in fairly good condition, but surface details are obscured by a build-up of iron oxide. X-radiography reveals four regularly spaced rectangular nail holes on the inner branch edge and three on the outer which average 7.3 mm in length and 5 mm in width. Two holes on the outer branch retain the nail heads *in situ* whilst all four holes on the opposite edge are worn through. L 110 mm; surviving W 104 mm; T 4 – 7 mm; web W 26.3 mm; web W (at heel) 13.5 – 15.2 mm.

(401) **Modern wheel collar**. Machine-cut stainless-steel sheet metal collar, originally ring-shaped but now broken and distorted. Rounded stamped or moulded rim (H 3.5 mm) below which is a narrow plain collar (H 8.5 mm) into which has been cut regularly spaced wide rectangular ‘teeth’ which curve inwards at an acute angle at the blunt rounded tip to fit around the central bore of a spoked wheel. The surviving original end has two indentations on the plain collar where it had been welded to the opposite end, now lost. Original diameter unknown. Current L 131.5 mm; H 23 mm; T 0.7 mm.

(201) **Horseshoe nail**. Substantially intact but head damaged. Rectangular sectioned shank, tapers to narrow point, straight with minimum distortion from use. Head is damaged but is rectangular in section and does not expand in height suggesting it is a rectangular or square shaped head. L 46.7 mm; head: W 11 mm, T 4 mm; shank: W 5.2 mm, T 5 mm.

Context

The intact but extensively worn horseshoe was recovered from the fill (204) of ditch [205] at the base of the mound in Trench 2. The horseshoe nail also came from Trench 2, in topsoil (201).

The modern wheel collar was recovered from topsoil (401) in Trench 4.

Statement of significance

The intact horseshoe is of archaeological interest due to its substantially intact condition and its recovery from a stratified deposit. The shoe and nail are by no means unusual and are artefact types commonly encountered during excavations on medieval to modern sites across Britain. Based on the date of the shoe and its recovery from the fill of ditch [204], this implies that the *terminus post quem* of the infill of the ditch is late medieval or later.

The modern stainless-steel wheel hub collar is commonplace and has no archaeological significance.

Recommendations

Although the horseshoe is of archaeological interest in terms of helping to provide a terminus post quem for the infill of ditch [204] it does not merit publication in its own right. The same can be said for the horseshoe nail and modern wheel collar. If other aspects of the Site or the assemblage merit publication (either as a summary article or more extensive excavation report), it is recommended that a short description of the horseshoe and nail is provided and could be accompanied by a hand drawn illustration of the shoe. If that is the case, no further study of the object is required but a revision to this report to provide a short summary for publication would be recommended.

The finds are currently packed in a sealable plastic container with silica gel to inhibit corrosion with a humidity indicator strip which is clearly visible without opening the box. This packing is suitable for moderate-term storage but will need regular monitoring and occasional refreshing of the silica gel to maintain conditions long-term. No conservation of any of the objects is recommended in this instance.

No further work is recommended on the horseshoe nail or modern wheel collar.

Retention of the horseshoe and the accompanying x-ray as part of the site archive is recommended; the horseshoe nail (unstratified) and the wheel component (modern) do not merit retention and should be discarded.

References

Clark, J (1986) 'Medieval Horseshoes', *Finds Research Group 700-1700: Datasheet 4*. Norwich: Finds Research Group.

The Industrial Residues

Dawn McLaren

Overview

A very limited quantity (59 fragments; 24.5g) and restricted range of industrial residues were recovered during archaeological evaluations at Mills Mound, Oxfordshire. All of the industrial residues were collected as the result of soil sample processing; no hand-retrieved examples were recovered in the field.

The industrial residues were subject to visual examination at AOC Archaeology Group's Loanhead premises with the aim of classifying the type and form of the material and to provide an assessment of their archaeological significance. A catalogue of the material is presented in Appendix A and the material is classified and discussed below.

Classification

Macroscopic examination with the aid of a binocular microscope has allowed the residues to be identified as fragments of coke fuel. Coke is a hard, porous fuel made by heating coal or oil in a reducing environment (absence of air). This produces a fuel that is high in carbon and of particular use in high-temperature pyrotechnic industrial processes such as metalworking. In Britain, coke has traditionally been made from bituminous coal which produces amorphous and random shaped pieces of dense and hard, low-density, porous material which can range be pale to mid-grey, dark brown or black in colour, with patches of glassy sheen.

The first recorded attempt to produce coke for the purposes of metalworking are known from the last decade of the 16th century in Britain and its use, not limited to application in ironworking, was the

subject of widespread experimentation thought the 17th century. It was not until the beginning of the 18th century that the development of a coke-fuelled blast furnace for smelting cast iron was successful and as a result became the favoured fuel-type for many industrial processes. Coke continued to be used throughout the 19th century and 20th century in association with metalworking processes as well as fuelling steam powered machinery such as locomotives. Although use today is more limited, coke is still used across the World for metalworking, distilling and the production of synthetic gases.

Context

The coke derives from five contexts across the excavated area: (505), (701), (704), (706), (1004).

Trench 5: Eleven fragments weighing 1.3g came from the redeposited natural fill (505) of ditch terminal [510]

Trench 7: One fragment weighing 4.2g came from the infill (704) of ditch [705] and a further piece (11.2g) was recovered from the overlying topsoil (701). Thirty-seven fragments (6.1g) also came from the fill (706) of a gully or ditch [707] in this area.

Trench 10: Nine fragments weighing 1.7g were recovered from the upper fill (1004) of pit [1006].

The quantities of material involved here are so small that they are unlikely to derive from deliberate dumps of material nor can they be considered to be evidence of in situ activity. Rather, the coke has probably been incorporated into the fills of these cut ditches and pits incidentally or are intrusive later materials infiltrating an earlier feature.

Summary of archaeological significance and potential

All of the industrial residues discussed here have been identified as fragments of coke, a type of fuel produced from heating bituminous coal to produce a fuel with a high carbon content, a factor useful in many industrial processes. Common use of coke for various industrial purposes was widespread and firmly established by the beginning of the 18th century and continued in common use into the 20th century. The recovery of coke from archaeological sites, both urban and rural, is commonplace and not unexpected. Such small quantities, all recovered from secondary contexts and probably intrusive in character results in the conclusion that this material is of low archaeological significance.

Recommendations for further work

No further work is recommended;

Discard of this material is recommended as it is of low archaeological significance and holds minimum potential for further study.

-

| Box | S. No. | Context No. | Short Description | Description | Spot date | Q | Weight/g | Magnetic | Notes (1) | Retain/Discard |
|-----|--------|-------------|-------------------|--|---------------------|----|----------|----------|--------------|----------------|
| | | 701 | Fuel residues | Angular fractured fragment of dense but low-density, light-weight and porous, heavily vitrified coke or cinder; surfaces are rough and mid-red-brown in colour; core where surface is chipped is dark grey-black with a glassy sheen | 17th - 20th century | 1 | 11.2 | N | | Discard |
| | | 704 | Fuel residues | Sub-rectangular fractured fragment of heavily vitrified coke or cinder; low-density, light-weight and porous, heavily vitrified with rough surfaces and dark brown-black core with a semi-glassy sheen | 17th - 20th century | 1 | 4.2 | N | | Discard |
| | 2 | 706 | Fuel residues | Small fractured angular flecks and rounded amorphous pebbles of heavily vitrified coke or cinder, coal and natural stones | 17th - 20th century | 37 | 6.1 | N | | Discard |
| | 9 | 505 | Fuel residues | Small fractured angular flecks and rounded amorphous pebbles of heavily vitrified coke or cinder, coal and natural stones | 17th - 20th century | 11 | 1.3 | N | | Discard |
| | 4 | 1004 | Fuel residues | Small fractured angular flecks and rounded amorphous pebbles of heavily vitrified coke or cinder, coal and natural stones | 17th - 20th century | 9 | 1.7 | N | 2/9 magnetic | Discard |

Table B2: Archive Catalogue of the Industrial Residues

Glass

Dawn McLaren

Overview

Only three very small sherds of glass were recovered during archaeological evaluations at Mills Mound, Oxfordshire. All of the glass sherds were collected as the result of soil sample processing; no hand-retrieved examples were recovered in the field. Initial examination suggests that all three sherds are likely to be early post-medieval in date and include a sherd of window glass, tableware and a possible inlay tile.

The glass was subject to visual examination at AOC Archaeology Group's Loanhead premises with the aim of classifying the type and form of the material and to provide an assessment of their archaeological significance. A catalogue of the material is presented in Appendix A and the material is classified and discussed below.

Classification

Macroscopic examination of individual sherds with the aid of a binocular microscope suggests that all of the glass is likely early post-medieval in date. This has been determined principally due to the colour, quality, surface corrosion of the metal but the sherds are so small and fragmentary that caution must be exercised in lending too much weight to this interpretation without the benefit of scientific chemical analysis or closely-datable artefactual associations from the contexts of recovery.

The glass has been found to consist of a single sherd of window glass from context (201), a fragment of a small rectangular inlay tile, perhaps from a piece of jewellery from context (706), and a small sherd of decorated glass, possibly deriving from some form of tableware also came from context (706). The possible window glass consists of a translucent but green-tinted metal. The general lack of corrosion beyond a very fine bloom on the surfaces is suggestive of potash and likely to be early post-medieval in date (Willmott 2002, 5). The other two sherds from context 706 are very similar in appearance suggesting a similar composition and date.

The most significant of these sherds is a small triangular sherd of fine potash glass with the remnants of engraved decoration on one face in the form of a series of scored lines, likely made by scoring the surface of the glass whilst cold with a diamond tipped instrument (Willmott 2002, 18). The sherd is unfortunately too small to determine with confidence what sort of object it might derive from, but a possible drinking glass or goblet is a possibility.

Context

The glass derives from two contexts: (201) and (706)

Trench 2: A small fragment of window glass came from topsoil (201)

Trench 7: A fragment of decorated glass, possibly from a drinking vessel, and a fragment of square glass inlay tile came from the fill (706) of a gully or ditch [707] in this area.

Summary of archaeological significance and potential

These small sherds of glass were recovered from topsoil deposits and the infill soils within a gully or ditch and likely represent incidental inclusions or later intrusive material in an existing archaeological feature. All of the sherds represent only a tiny proportion of their original form and likely represent domestic refuse. As

outlined above, the date of the glass has been assessed on the basis of the condition of the metal, its colour and macroscopic composition which together imply an early post-medieval date this is not certain based on such small fragments. Comparison of this suggested date with any more closely datable finds from the same contexts (e.g. ceramics) may help to refine this assertion more confidently. Such small quantities, all recovered from secondary contexts and possibly intrusive in character results in the conclusion that this material is of low to moderate archaeological significance. Discovery of sherds of window glass are commonplace and there is little merit here in further study or retention; the decorated glass and possible inlay tile fragment are of more interest and should be retained within the assemblage but due to their small size and fragmentary condition, there is limited potential for further study.

Recommendations for further work

No further work is recommended;

Discard of the window glass prior to archiving;

Retention of the decorated glass and possible inlay tile sherds is recommended.

| S. No. | Context. | Short Description | Description | Spot date | Q | Weight/g | Retain /Discard |
|--------|----------|-------------------|---|------------------------|---|----------|-----------------|
| | 201 | Window glass | Small triangular sherd of translucent green-tinted (potash) glass, thin and flat along both long and short axis; probably a sherd of post-medieval window glass. Dimensions: L 23.3 x W 11.2 x T 1 mm. | post-medieval | 1 | 0.6g | Discard |
| 2 | 706 | Decorated glass | Small triangular sherd of translucent green-tinted (potash) glass, too small to determine with confidence what it may have derived from. One face has remnants of cold engraved decoration in the form of the tips of a series of short scored parallel? diagonal lines along one edge and a longer, more strongly scored line which runs parallel to the longest broken edge of the sherd. Possibly from a piece of engraved tableware? Dimensions: L 12.7 x W 3.3 x T 0.6 mm. | probably post-medieval | 1 | <0.1g | Retain |
| 2 | 706 | Possible inlay | Small flat rectangular sherd of translucent green-tinted (potash) glass, thin and flat along both long and short axis. Three original squared cut (? or clipped) edges survive, the fourth is broken. Possible inlay for decorative item such as a piece of jewellery or furniture. Dimensions: L 4.8 x W 4.1 x T 1 mm. | probably post-medieval | 1 | <0.1g | Retain |

Table B3: Archive Catalogue of the Glass

Clay Tobacco Pipe

Kylie McDermott

A single clay tobacco pipe stem (3g) was recovered from the topsoil (201) of Trench 2. The stem has a bore hole of 5/64", suggesting a date range of late 17th century onward.

The pipe stem is of little further research value and is therefore recommended for discard.

Animal Bone

Matilda Holmes.

Methods

All bones and teeth were recorded, although for some elements a restricted count was employed to reduce fragmentation bias: vertebrae were recorded when the vertebral body was present, and maxilla, zygomatic arch and occipital areas of the skull were identified from skull fragments. A basic recording method was undertaken to assess the potential of the animal bone assemblage. The number of bones and teeth that could be identified to taxa were noted, as well as those used to age the major domesticates (tooth wear and bone fusion). The quantity of bones likely to be useful for metrical data were also recorded. Other information included condition and the incidence of burning, gnawing and butchery marks. All fragments were recorded by context including those that could not be identified to taxa. Recording methods and analysis are based on guidelines from Baker and Worley (2014).

Summary of Findings

A very small assemblage of animal bone was recovered. Preservation was generally fair, with a single piece of burnt bone coming from context 706. A few fragments of sheep (ctx 308, 411 and 1004) and pig bones (308) came from hand-collected material, but the majority of the identified assemblage were land snails produced from the environmental samples (Table 1). Glass snails (Oxychilidae) were most common, probably the cellar glass snail which is found in a range of habitats from forests to gardens, and amber snails (Succineidae) from context 706, which prefer damp habitats. Most of the land snails were very young, and there is nothing to suggest they were anthropogenic in origin.

The assemblage is too small to warrant further investigation, though there is potential for bone to be preserved well enough to require assessment following any further excavation.

Bibliography

Baker, P and Worley, F (2014). *Animal Bones and Archaeology: Guidelines for Best Practice*. Portsmouth: English Heritage

Soil and sediments analysis of six bulk samples and four monoliths from Mill Mound, Oxfordshire (EWR19-A1)

By Val Dufeu

Introduction

Six 'bulk' samples and 4 monoliths were sampled during the excavations at Mill Mound in Oxfordshire. The bulk samples were extracted as boreholes and removed in sleeves. BH2 and BH3 samples consist of 3 tubes (0-1.50m, 1.50-3.00m, 3.00-4.00m) each with depth ranging from ground level to 4m depth (m will be changed to cm in the present report). BH2 was sampled 1m south of SE end of Trench 2 and BH3 was sampled at 0.5m north of North end of Trench 3.

Monoliths were sampled from Trench 2 (monolith 8), Trench 3 (monolith 7), and Trench 4 (monoliths 5 and 6).

Method

Monoliths

The soils and sediments were sampled in monolith tins from Trench 2 (monolith 8), Trench 3 (monolith 7) and Trench 2 (monolith 5 and 6). The monoliths were cleared from the wrapping and each of them were levelled to the tin. Monolith 5 was in a very rusty tin, the dampness of the soil and sediments may have caused Fe inclusions on the side of the sample, the soils and sediments at the bottom of the monoliths were very loose. Monolith 8 was sampled using a hard plastic 'tin'. As a result of the sampling, the soil and sediments showed fractures and mottles which might have happened during extraction.

Bulk samples

The samples were slid off their tube whenever possible. Three tubes had to be cut due to heavy wet clay sticking inside their tube: BH2-T2-GI-1.50 and BH2-T2-1.50-3.00; BH3-T3-1.50-3.00. The soils were studied on a clean sheet of Tarpaulin to prevent intrusion, with clear weather and no direct sun and no wind. For a better understanding of the following soil morphology analysis, bulk samples have been numbered as follows:

BH2 - T2/GL-150: BH2 – 1

BH3 - T3/GL-150: BH3 - 1

BH2 - T2/150-300: BH2 – 2

BH3 - T3/150-300: BH3 - 2

BH2 - T2/300-450: BH2 – 3

BH3 - T3/300-450: BH3 - 3

All the soil and sediments were described using a Munsell Colour chart (1994).

Results, Discussion & Recommendation

The four monoliths are quite similar in colour and texture with the exception of monoliths 5 and 6 that show potential anthropogenic presence *in situ*.

Monolith 5 consists of 4 strata. Stratum 1 is of very fine-grained sandy clay (2.5YR-6/4) with no inclusions or vegetation (made ground). There is a sharp boundary with stratum 2 that is of loamy clay very plastic (10YR-4/4) with grass (401) which indicated that this stratum has been buried quickly under the previous clay stratum. This is consistent with the remaining strata (402 and 409) (38cm thick in total) that are both sandy clay (2.5YR-6/3-6/6) and with the presence of Fe, manganese and fragments of sandstones. This would indicate that stratum 2 might be anthropogenic in nature.

Monolith 6 consists of 3 strata. Stratum 1 consists of sandy clay (10/2.5YR-6/4) (made ground). Stratum 2 is very sticky silty loamy clay (2.5YR-5/3-4/3) (401), with the stickiness potentially due to highly decayed and not fully transformed of vegetal material. The reddish chroma most probably comes from the decayed vegetation and the release and precipitation of Fe. The Stratum 3 shows a thin root system, sandy clay (2.5YR-6/6) and very small animal holes which might also explain the presence of Fe turbated and translocated (402 and 407). The boundary between 2 and 3 is smooth. Overall, strata 1 and 3 are very similar which would confirm that stratum 2 has a potential different origin than environmental accumulation due to the presence of both silt and sand grains. It also suggests that human activity potentially participated in the formation of stratum 2 unless the variation in grains' size can be attributed to climatic and overall environmental changes with aeolian deposition of thinner coarse materials. There was no visible inclusion.

Monolith 7 consists of 2 strata with a smooth transition between them. The first stratum is fine-grained sandy clay (10YR-4/4) with a thin root system and small round gravels (301). Stratum 2 is made of very plastic very fine silty clay (7.5YR-6/6) (305). Small shells have been observed.

Monolith 8 consists of 3 strata, Stratum 1 (10YR-4/6) consists of silty-loamy clay with a root system (201). Strata 2 (10YR-5/6) (204) and 3 (10YR-6/8) (203) are very similar in texture which is silty clay. The variation in chroma is mostly due by presence of decayed roots and the release of Fe in the sediments. Note also the presence of sub-angular gravels and mottles have been observed in stratum 8. Mottles present at the bottom of stratum 2 and in stratum 3; the mottles might have happened during *in situ* sampling as this monolith is in a hard plastic 'tin'.

All the bulk samples mainly consist of fine-grained sandy clay layers which is interpreted as having accumulated in a low-laying, shallow depression. The texture and colours correspond to the local Cornbrash formation being warm yellow/light brown to buff orange bioclastic limestone, sandy ironstone and oolite. They are mostly made of an accumulation of sandy clay and pure clay to gley at the bottom.

Borehole 2

BH2-1 distinctly varied in colour and texture from the other samples. The first horizon GL to 137cm was made of sandy clay with a distinct colour graduation as observed in Cornbrash formation (warm yellow to buff orange clay). At 137cm down there was a clear boundary with the next stratum made of rich brown loamy clay and a visible root system (Plate B1). This stratum measures 9cm. The boundary to the next stratum at 146cm is clear and smooth. This is interpreted as anthropogenic since none of the other samples show a similar soil development. This is confirmed in monolith 5 which shows a rich loamy clay horizon similar in texture and colour to the one from BH2-1. 11 coarse materials were retrieved between 138cm -145cm and are very distinct from the limestone and sandy ironstone found in all the other samples. They are very similar to red and yellow 'jasper' (Plate B2) but this should be confirmed by further study. 1 of them is very similar to an irregular core showing blade scars. The presence of a rich loamy clay soil with this group of 11 fragments is interpreted as a buried palaeosol.

BH2-2 consists of 3 horizons with the first one (10YR-5/2) showing bioactivity with alive earth worms. This horizon was composed of fine-grained sandy clay. At 204cm depth, very small fragments of charcoal have been observed within a sandy clay matrix. The last horizon was made of blue clay (7-6/10GY) with decayed sandstones and traces of decayed vegetation, most probable roots with Fe traces.

BH2-3 consists of 3 horizons and had to be cut open due to high water retention and the sediments sticking to the tube. The horizons were difficult to identify since there was no clear boundary between them and their colour varied from Gley 7-6G/10GY to 8-10Y. A pocket of fine-grained coarse mineral has been observed, in the first horizon at 317cm depth. The blueish coloration of the coarse mineral material (7/5G) is interpreted as decaying clay minerals. Also present were light brown mottles typical to gley soils. At 325cm depth, several small to very small shell fragments and another pocket of clay minerals (8-10GY) were observed. At 436cm depth, very small round gravels and decayed sandstones were observed together with animal holes (clay worms).

Borehole 3

BH3-1 consists of 4 horizons including the Topsoil. The topsoil (GL to 10cm) is a clayey loam (7.5YR-5/2) and contained a bee still alive which shows that water retention and minerals are present to sustain animal life. The next horizon (10cm-40cm) is a loamy clay (10YR-7/8) showing a thin root system from the topsoil. From 40cm to 90cm down, the root system still present is thinner, this layer is sandy clay (10YR-7/8-7.5YR-6/3) with decayed sandstone which gives the variations in chroma and value, there were traces of charcoal (Plate B2) but the high level of water in the sample indicates that these fragments were probable translocated from their primary location and/or bioturbated. The last layer from 90cm to 135cm is very similar to the previous one and made of sandy clay (10YR-7/6) and fewer decayed sandstone that have reached an advanced degree of decaying. Few animal holes have been observed in this sample which confirms active bioturbation.

BH3-2 consists of 4 horizons. The first horizon (150cm-163cm) presents the same soil characteristic as BH2-1 from 150cm to 161cm down. It has a rich brown clayey loam with a system root. Its boundary with the following layer is sharp and cannot be attributed to environmental changes unless it was an extremely rapid one. From 161cm down to 163cm, the soil and sediments texture is changing gradually to a sandy clay layer showing angular stones and fragments of shells. These inclusions can be attributed to an environmental change in the landscape or an adjunct of coarse material prior to the addition of loamy clay. The roundness of the small stones being angular to slightly sub-angular indicate that they are in their primary depositional layer and have not been weathered and translocated. From 163cm to 183cm down, the layer is a light yellowish brown and orangey sandy clay with no intrusion. From 183cm to 218cm down, the layer is composed of very fine-grained silty clay, same colour as the previous layer. The very last layer from 218cm to 300cm is pure blue greyish clay.

BH3-3 consists of 3 horizons. There is no visible disturbances or inclusions. The last horizon is similar to **BH2-3** that is heavily gleyed (Gley 8-10Y) (Plate B3). As gleys are terrestrial sediments and soils that undergo significant periods of anaerobic waterlogging and can be interpreted as a lodgement till. Yet as there is no sample below 450cm down, and to date, it is not possible to say that this layer sits on top of Forest Marble formation.

Overall, the presence of rich brown silty and loamy clay together with the 11 'jasper' like stones are interpreted as anthropogenic presence/activity at Mill Mound and should be researched further. This could be done through boreholes covering the area of Trench 2 to Trench 5 and soil micromorphology analysis. As for the landscape formation, the presence of blue clay – gley soils indicate that the area has been constantly waterlogged. There is also the possibility of a buried river or anabranches of the present river and that it may have changed its course over the centuries either naturally or via human engineering. Furthermore, such study would allow to identify the origin of the grey clay either a riverine deposit or a lodgement till sitting on top of Forest Marble formation.

References

Munsell Soil Color Charts (1994), *Revised edition*. New York: Macbeth Division of Kollmorgen Instruments Corporation.

Summerfield, M. (1991), *Global Geomorphology: An introduction to the study of landforms Paperback*. London: Routledge.

Schaetzl, R.J and Anderson, S. (2005), *Soils Genesis and Geomorphology*. Cambridge: Cambridge University Press.

Plates



Plate B1: Loamy clay at 137cm depth in BH2-1



Plate B2: Jasper-like coarse material from BH2-1



Plate B3: Traces of charcoal on BH3-1



Plate B4: BH3-3 blue clay

Environmental assessment of five samples from Mill Mound, Oxfordshire (EWR19-A1)

By Julie-Anne Bouchard-Perron

Introduction

Five whole earth samples between 7 and 30 litres in volume were collected during the excavations at Mill Mound in Oxfordshire. They came from different ditches and linear/curvilinear features (Table B4) excavated in three adjacent mounds located in the northern portion of the Site. These features were tentatively dated to the Middle Ages but dating evidence is scarce.

The samples were floated by AOC Archaeology Group team. The plant remains extracted from the heavy residues and the flots were submitted for environmental assessment.

Method

All the material submitted for assessment was scanned using a stereomicroscope between 2x and 40x magnification with the aim of recording the representation of different plant categories (grains, chaff, other plants) on an abundance scale (Table B5). At the same time, the occurrence of taxa that could be identified quickly was noted. The presence of charcoal, bones, molluscs and finds was also noted.

The results of the assessment are presented in Table B6. The taxa discussed in the text are designated by their English name first and by their scientific name in brackets. Nomenclature follows Stace (1997) for wild plants and Zohary and Hopf (2000, tables 3 and 5 - traditional classification) for cereals.

Results and discussion

Overall, the Mill Mound samples comprise very little organic material. The carbonised plant assemblage from the Site is small. It comprises limited quantities of charcoal which are not sufficient in any given sample for their analysis to foster significant results (Veal, 2019). No further analysis of this material is recommended.

A handful of unburnt elder (*Sambucus* sp.), bugle (*Ajuga* sp.) and buttercup (*Ranunculus* sp.) remains were identified in the five samples assessed. These taxa have robust seeds which can be preserved even in poor waterlogging conditions. The assemblage is, however, too small to determine their depositional pathways. No further analysis of this material is recommended.

Gastropods were identified in all samples. Between 100 and 150 of them were present in samples 1, 2 and 4. They included few remains of *Cecilioides*, a genus of small burrowing land snails which can be intrusive. Gastropods can provide valuable insights regarding site formation processes. However, given their likelihood to be intrusive and their relatively low numbers here, their study is not recommended at present. It is however recommended to archive samples 1, 2 and 4 as further analysis on the gastropod remains may prove relevant at a later stage.

It seems likely that the worm identified in sample 4 and the earthworm eggs present in samples 1 and 2 are intrusive. No further analysis of this material is recommended.

References

Stace, C (1997) *New Flora of the British Isles*. 2nd edition. Cambridge: Cambridge University Press

Veal, R J (2019) 'Charcoal and Wood Analysis' in López Varela, S L (ed.) *The Encyclopaedia of Archaeological Sciences*. London: Wiley.

Zohary, D, and Hopf, M (2000) Domestication of plants in the Old World, 3rd edition, Oxford: Oxford University Press

| Sample | Context | Description | Volume (L) |
|---------------|----------------|--------------------------------|-------------------|
| 1 | 704 | Curvilinear feature [705] | 26 |
| 2 | 706 | Shallow Linear feature [707] | 30 |
| 3 | 1007 | Possible Ditch [1008] | 17 |
| 4 | 1004 | Possible Ditch/Pit [1006] | 18 |
| 9 | 505 | Latent fill of ditch/pit [510] | 7 |

Table B4: Sample provenience

| Abundance scale | Number of items | |
|------------------------|------------------------|---------|
| x | Rare | 1-5 |
| xx | Frequent | 6-25 |
| xxx | Common | 26-100 |
| xxxx | Abundant | 101-500 |
| xxxxx | Super abundant | 500+ |

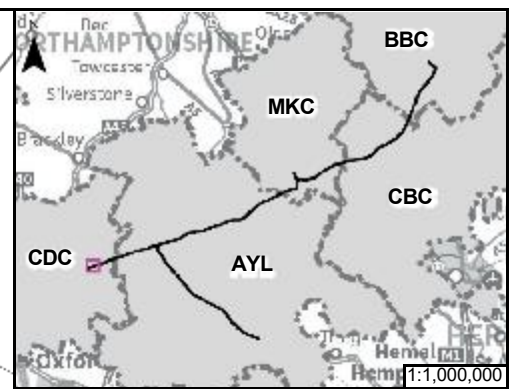
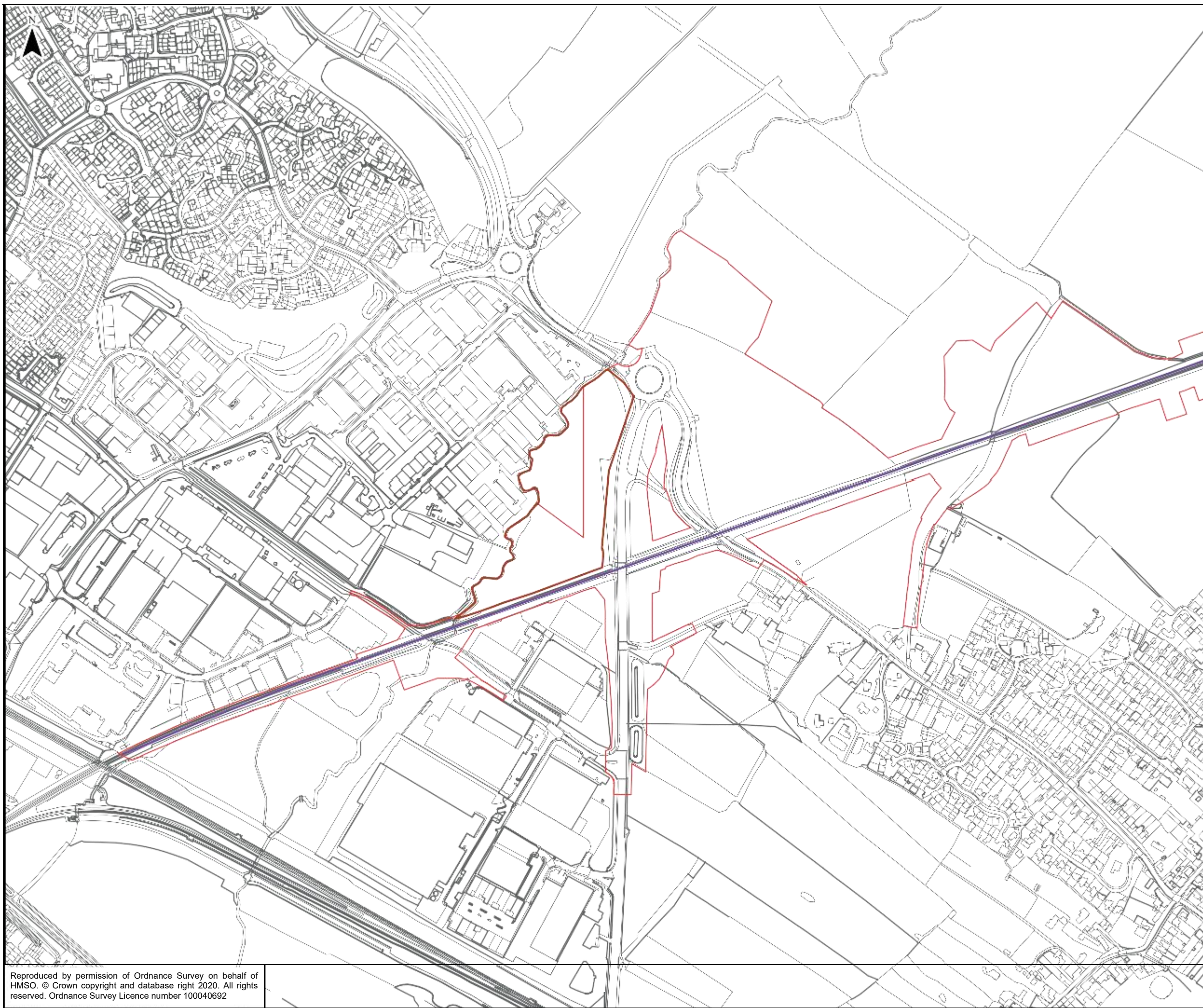
Table B5: Abundance scale used

| Sample | | Charcoal | Carbonised Organic Matter | Uncarbonised Plant Remains | Gastropods | Notes |
|--------|---------|----------|---------------------------|----------------------------|------------|--|
| 1 | Residue | | | x | | 1 x uncarbonised seed frag. 5 x Ignota; Earthworm egg x 2; |
| | Flot | x | x | x | xxx | Uncarbonised elder (<i>Sambucus</i> sp.) seed; Less than 150 gastropods remains including some <i>Cecilioides</i> . |
| 2 | Residue | xx | | | | Earthworm egg x 2; |
| | Flot | xx | | x | xxx | Uncarbonised bugle (<i>Ajuga</i> sp.) seed; Less than 150 gastropods remains including some <i>Cecilioides</i> . |
| 3 | Residue | xx | | | | Uncarbonised leaf frags; |
| | Flot | | x | | xx | Uncarbonised bugle (<i>Ajuga</i> sp.) seed; Less than 150 gastropods remains including some <i>Cecilioides</i> . |
| 4 | Residue | x | x | | | 1 x worm; 1 x uncarbonised Ignota; |
| | Flot | x | | x | xxx | Uncarbonised bugle (<i>Ajuga</i> sp.) and buttercup (<i>Ranunculus</i> sp.) seeds; Less than 150 gastropods remains including some <i>Cecilioides</i> ; Lots of soil clusters. |
| 9 | Residue | xx | x | | | |
| | Flot | | | | x | |

Table B6: Assessment results

Appendix C. Figures





- eastwestrail2_static_env_ewa_5155888_prop...
- eastwestrail2_shared_hyd_eag_5155888_ma...
- PROJECT EXTENTS
- DEVELOPMENT STAGE 2A1
- SCHEME BOUNDARY
- LOCAL AUTHORITY BOUNDARY
- SITE BOUNDARY



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| P01 | 13/11/18 | 1ST ISSUE (TA) SCHEME BOUNDARY 04/06/2018 | KS | RS | SR |
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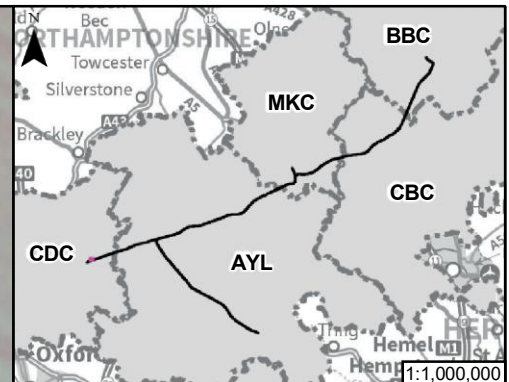
Drawing Title
FIGURE 1: SITE LOCATION

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| Scale(s) | 1:5,000 | ELR & Project Chainage | N/A |
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- PROJECT EXTENTS
- DEVELOPMENT STAGE 2A1
- SCHEME BOUNDARY
- - - LOCAL AUTHORITY BOUNDARY
- WATERCOURSE BUFFER (10M)
- SITE BOUNDARY
- EVALUATION TRENCH
- ARCHAEOLOGICAL FEATURE
- FIELD DRAIN

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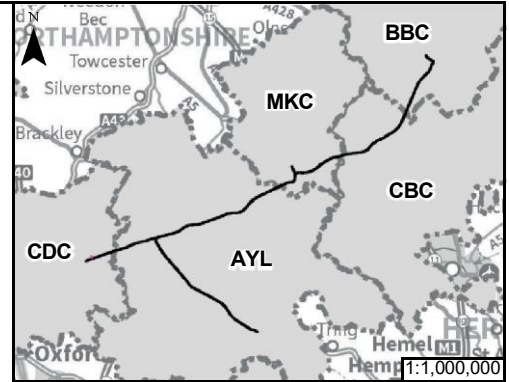
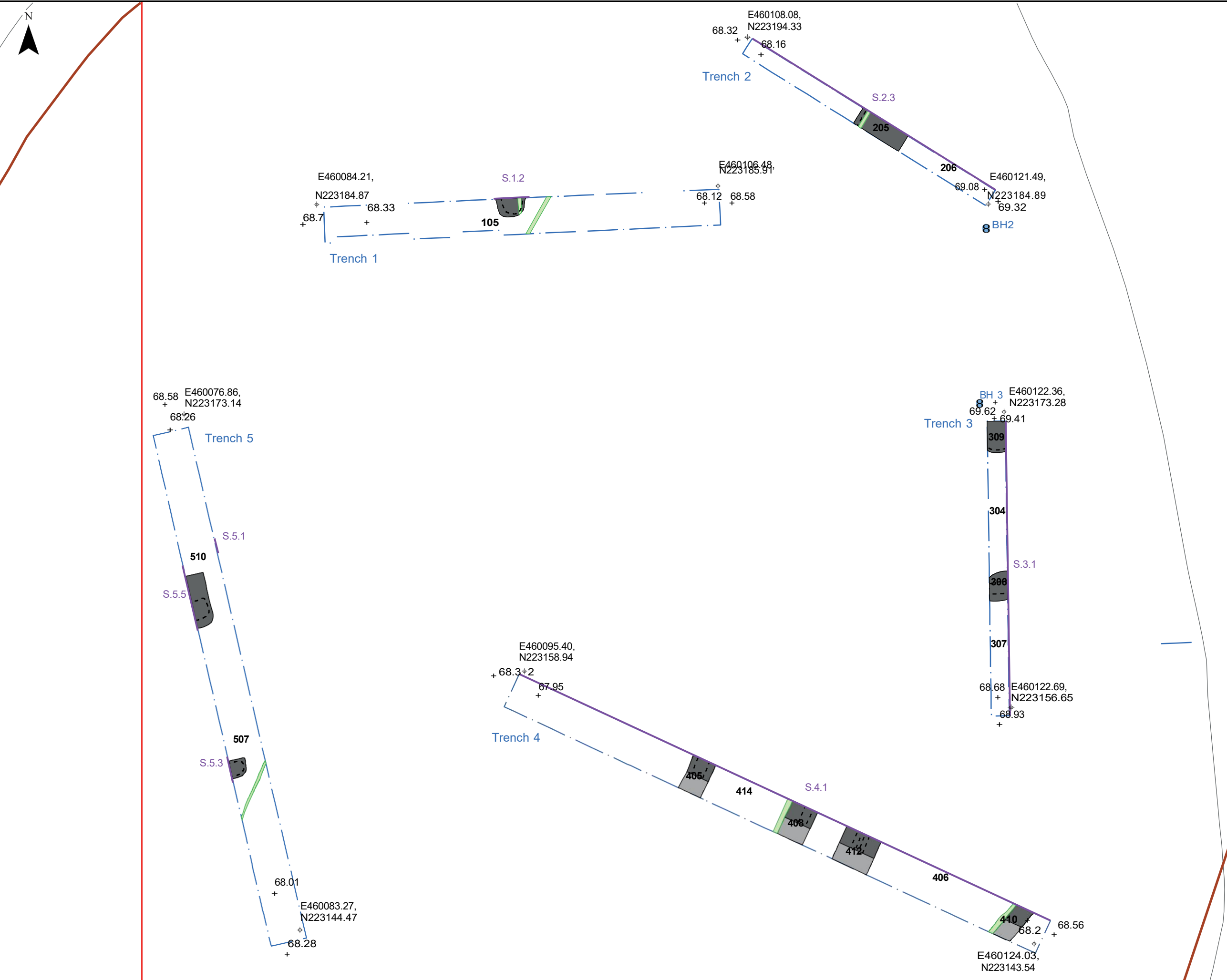
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Drawing Title
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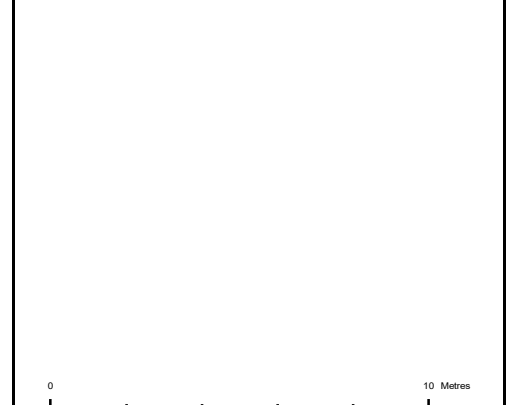
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| | ARCHAEOLOGICAL FEATURE |
| | ARCHAEOLOGICAL INTERVENTION |
| | FIELD DRAIN |
| | SECTION LOCATION |
| | BOREHOLE |
| | ELEVATION |
| | OS COORDINATES |



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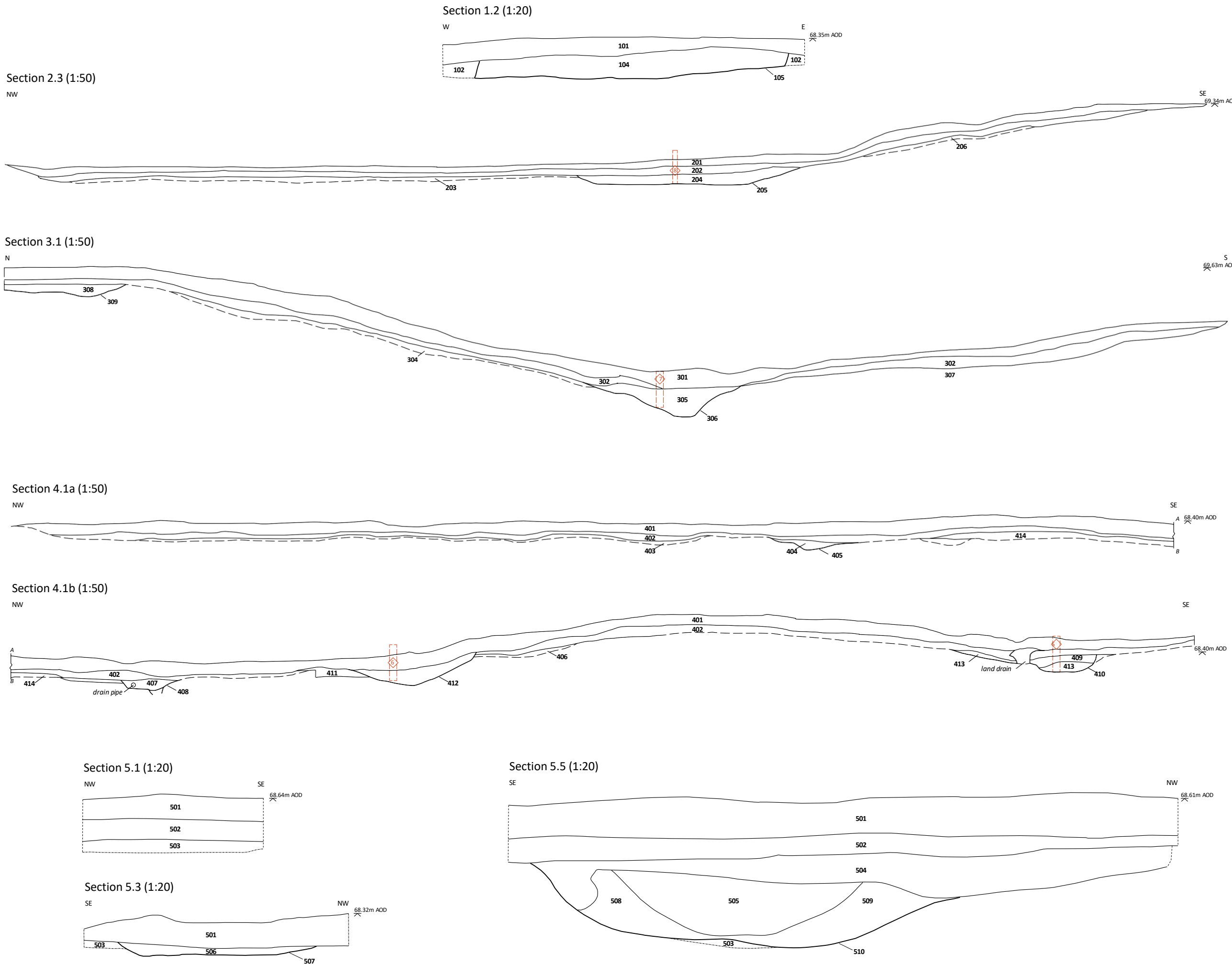
Drawing Title
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TRENCHES 1, 2, 3, 4 AND 5, PLANS

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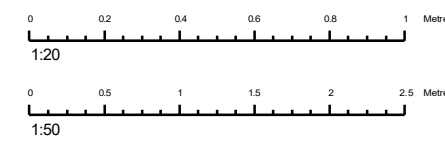
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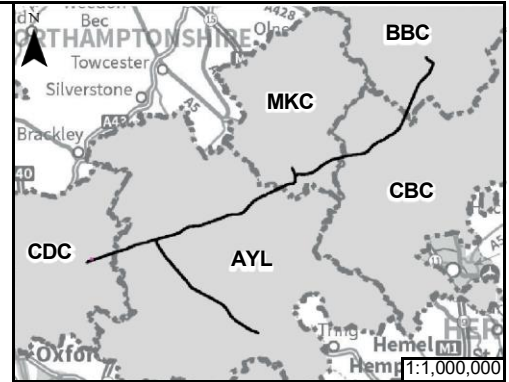
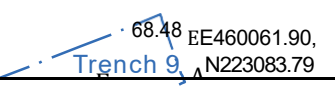
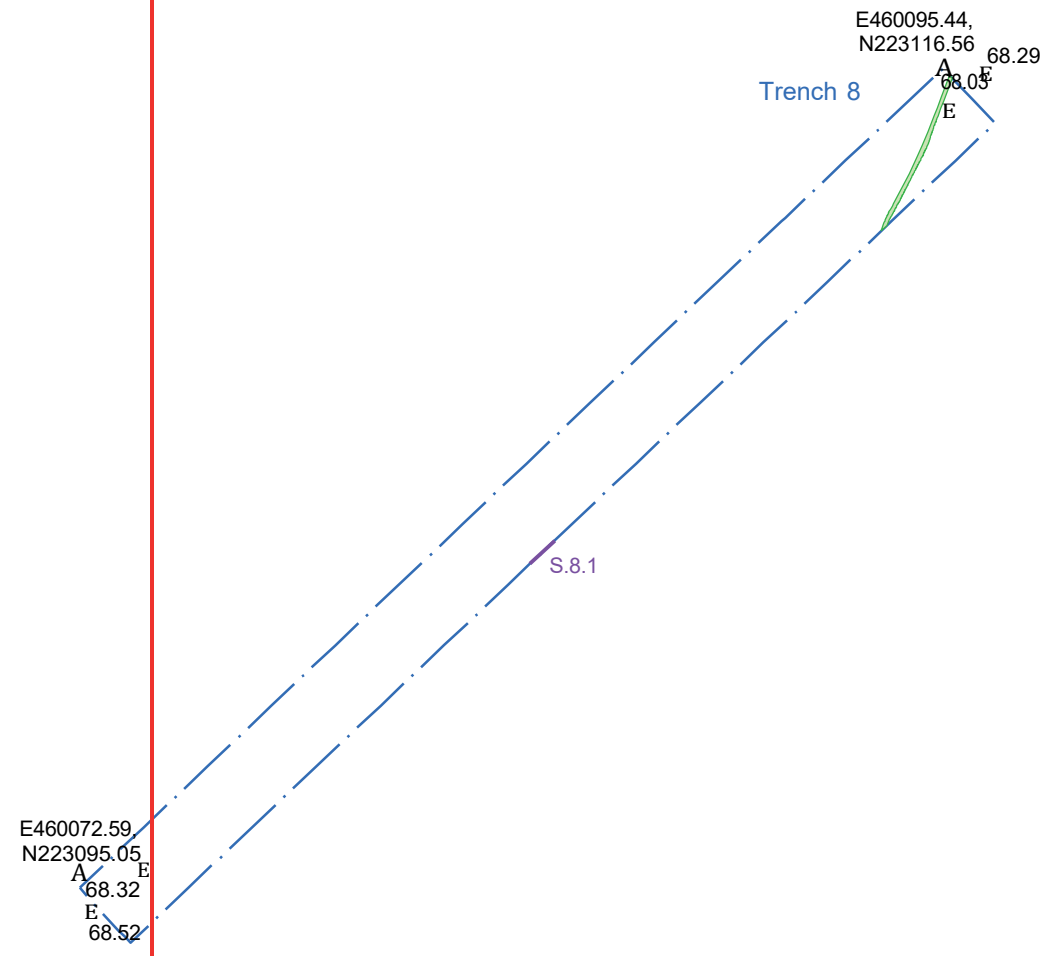
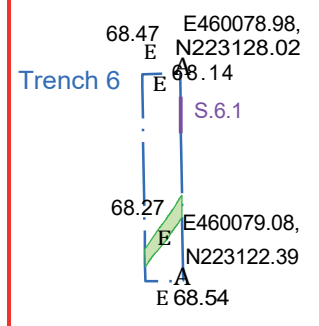
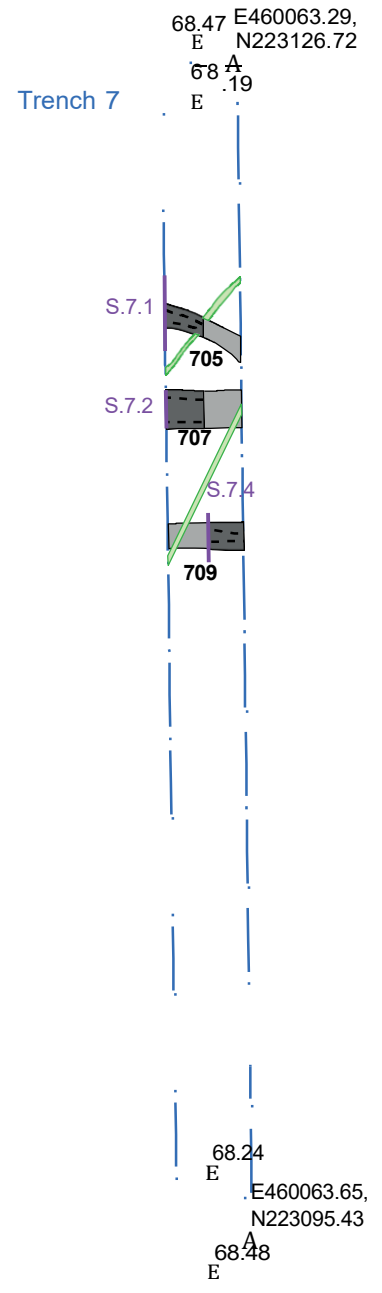
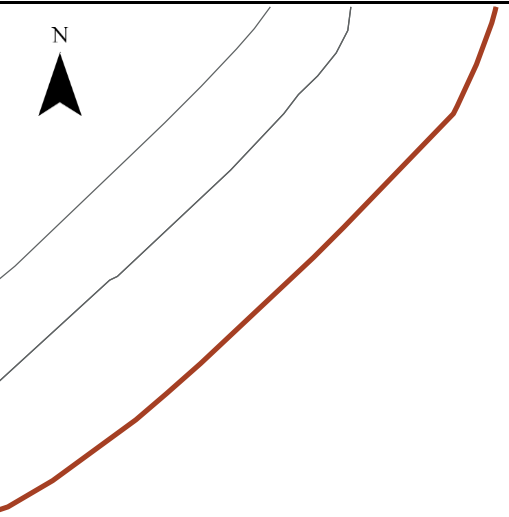


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Drawing Title
**FIGURE 4:
TRENCHES 1, 2, 3, 4 AND 5, SECTIONS**

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- ▭ ARCHAEOLOGICAL INTERVENTION
- ▭ FIELD DRAIN
- SECTION LOCATION
- E ELEVATION
- A OS COORDINATES



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Project: **THE NETWORK RAIL (EAST WEST RAIL BICESTER TO BEDFORD IMPROVEMENTS) ORDER**

Drawing Title: **FIGURE 5: TRENCH 7, PLAN**

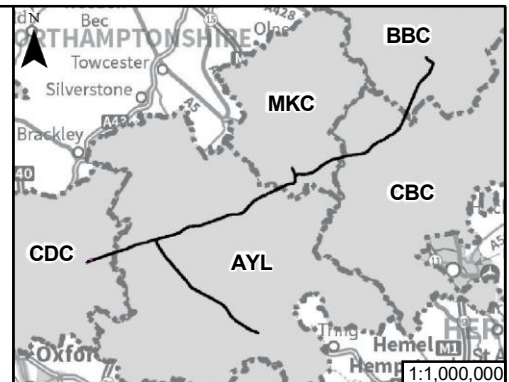
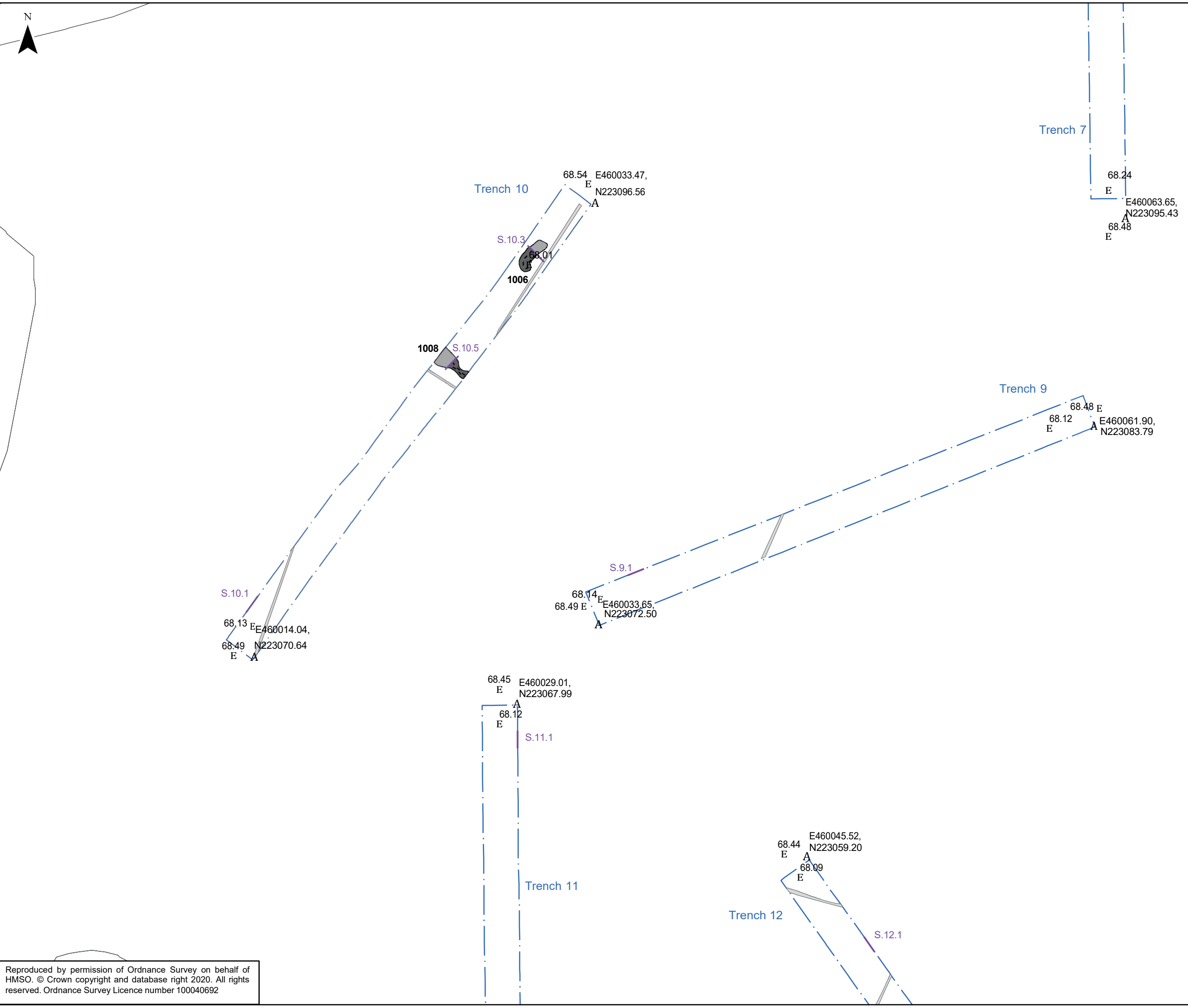
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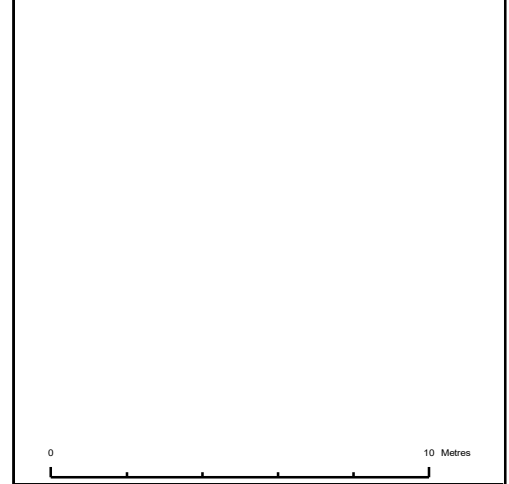
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Alternative Reference: **Alternative_Ref** Revision: **P01**

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| | ARCHAEOLOGICAL INTERVENTION |
| | FIELD DRAIN |
| | SECTION LOCATION |
| E | ELEVATION |
| A | OS COORDINATES |



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Project
THE NETWORK RAIL (EAST WEST RAIL BICESTER TO BEDFORD IMPROVEMENTS) ORDER

Drawing Title
FIGURE 6: TRENCH 10, PLAN

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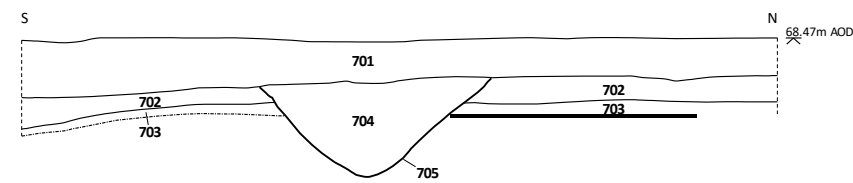
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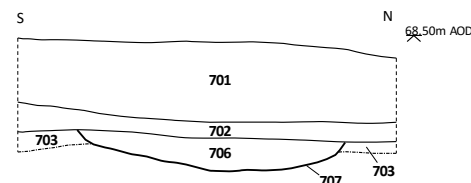
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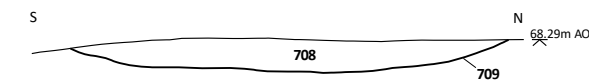
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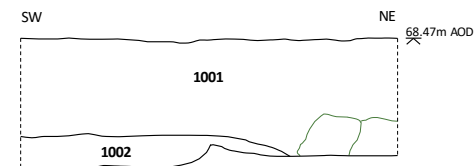
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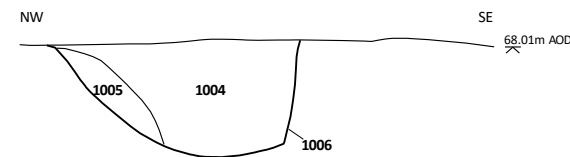
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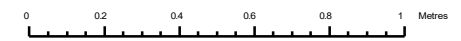
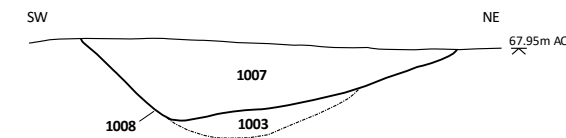
Section 10.1



Section 10.3



Section 10.5



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Project
THE NETWORK RAIL (EAST WEST RAIL BICESTER TO BEDFORD IMPROVEMENTS) ORDER

Drawing Title
**FIGURE 7:
 TRENCHES 7 AND 10, SECTIONS**

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Scale(s)
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ELR & Project Chainage
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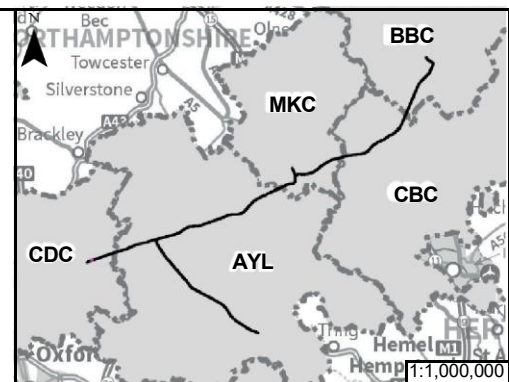
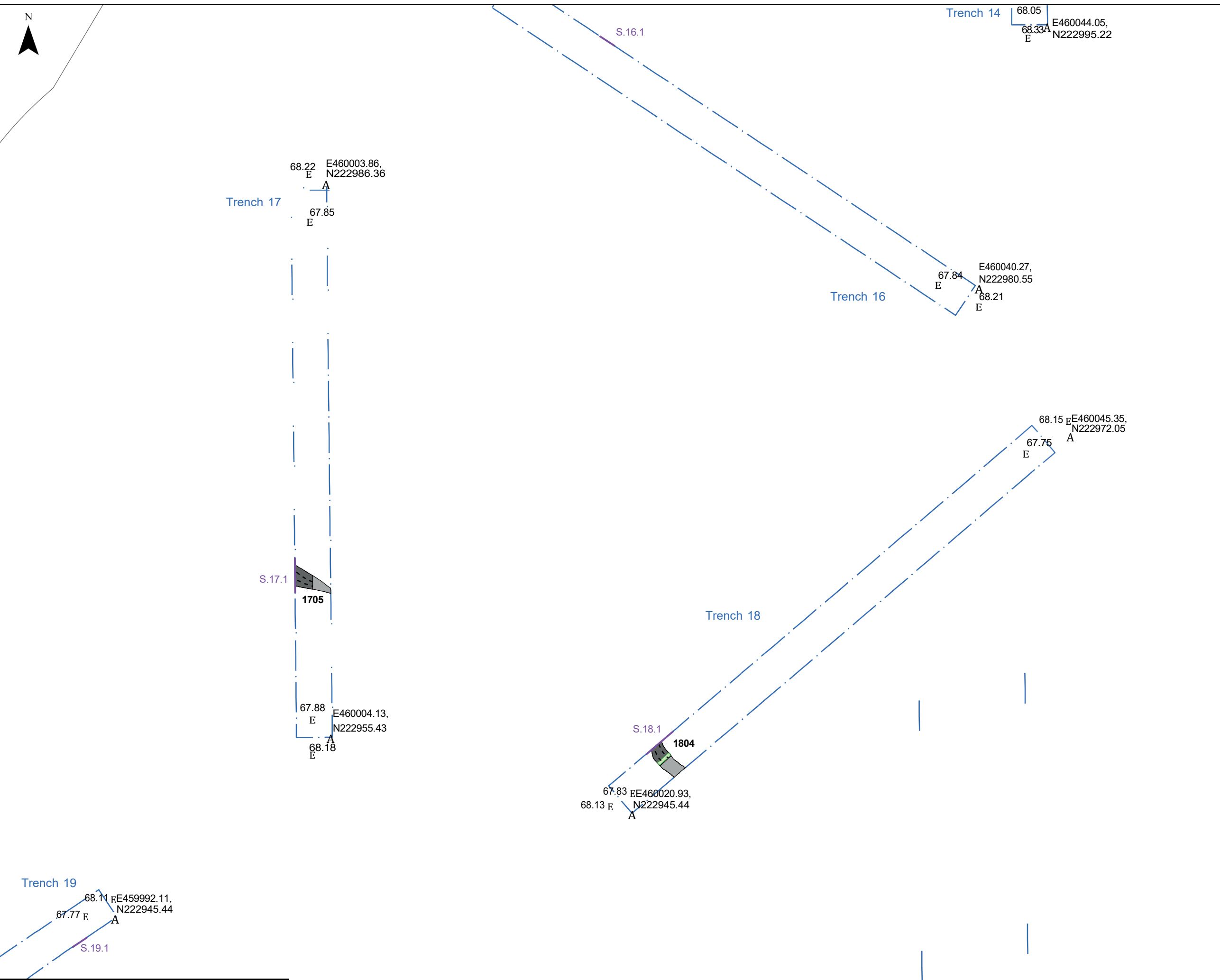
Design Package Risk Classification
NORMAL

Sheet
 7 of 9

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- ▒ ARCHAEOLOGICAL INTERVENTION
- ▒ FIELD DRAIN
- SECTION LOCATION
- E ELEVATION
- A OS COORDINATES



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Project
THE NETWORK RAIL (EAST WEST RAIL BICESTER TO BEDFORD IMPROVEMENTS) ORDER

Drawing Title
**FIGURE A
 TRENCHES 17 AND 18, PLANS**

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|----------|-----------------|--------|---|------|------------|
| Designed | Andrej Celovsky | Signed | | Date | 31/01/2020 |
| Drawn | Andrej Celovsky | Signed | | Date | 31/01/2020 |
| Checked | - | Signed | - | Date | 31/01/2020 |
| Approved | - | Signed | - | Date | 31/01/2020 |

Scale(s)
1:200 ELR & Project Chainage
 N/A

Design Package Risk Classification
NORMAL Sheet
 8 of 9

Alternative Reference
Alternative_Ref Revision
P01

Drawing Number
133735_RW-EWR-XX-XX-DR-LH-010728

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East West Rail Alliance

Land West of Bicester Bypass, Charbridge Lane Overbridge Diversion
An Archaeological Evaluation Report



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