East Leeds Orbital Route
Leeds
West Yorkshire

Post-excavation Assessment and
Updated Project Design

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Summary

Wessex Archaeology was commissioned by Atkins Ltd, on behalf of Balfour Beatty, to undertake archaeological works along the East Leeds Orbital Route (ELOR), a 7 km-long road connecting the A6120 Outer Ring Road at Red Hall in the north-west to the new Manston Lane Link Road at Thorpe Park in the south-east (the 'Scheme'). The route extends from NGR 434320 438569 (SE 34320 38569) to 438323 434624 (SE 38323 34624).

Planning permission (App. No.: 17/04351/LA) for the Scheme was granted by Leeds City Council, based on the assessment criteria, assumptions and commitments set out in an Environmental Statement (ES) prepared by Mouchel (now WSP in the UK) in 2017.

The Scheme was divided into 25 areas but following the results of a preceding archaeological evaluation it was deemed that no mitigation works would be undertaken for Areas 10, 22 and 12. The archaeological mitigation works, comprising archaeological strip, map and sample excavation in the 22 remaining areas, was undertaken between 4 May 2020 and 6 July 2021. This report presents the results of the mitigation excavations in Areas 1–9, 11, 13–21 and 23–25, assesses the potential of these results to address a series of research aims outlined in the written scheme of investigation (WSI) for the project, and recommends a programme of work for further analysis.

The earliest find was an Early Neolithic leaf shaped flint arrowhead, recovered as a residual find from a medieval furrow in Area 19, whilst the earliest feature excavated was a probable prehistoric eaves drip gully for a roundhouse that predated a series of Romano-British features in Area 14. Two Romano-British enclosure systems were located in Areas 14 and 23, both dated through modest pottery assemblages. In addition, a small dark blue glass bead of Late Roman date was recovered from a ditch in Area 14.

Late pre-Conquest pottery, dating to the period between the mid-9th and mid-10th centuries, was recovered from an enclosure in Area 8. Other features in this area contained pottery dated throughout the medieval period and into the post-medieval period. These remains were probably associated with the deserted medieval village at Morwick, alongside ridge and furrow cultivation that extended into Areas 7, 9 and 19. Medieval ditches were also excavated in Areas 14 and 23.

Post-medieval structures in Area 8 are also probably associated with the settlement of Morwick and then the establishment of Morwick Hall. A large irregular pit in Area 14 is perhaps related to coal extraction or quarrying.

Modern ditches, pits and postholes were excavated in many of the areas but of note were a range of horticultural planting features in Area 15. These are connected to the nearby Red Hall estate's use for public recreation and council nurseries. A range of features including pits, postholes and ditches which could not be securely dated were also excavated in many of the areas.

A total of 931 bulk sediment samples and one monolith sample were taken from a range of late prehistoric, Romano-British, medieval, post-medieval, modern, and undated features. The flots varied widely in size and composition, with very low to high concentrations of charred plant remains and wood charcoal present across the different areas. A small proportion of the samples contained material preserved in waterlogged (anoxic) conditions.

The charred plant remains from Area 8 support the notion that this area was at the periphery of the medieval village of Morwick. A lack of plant remains from Area 23 shows that the Romano-British enclosures here were not used for settlement, whilst those from Area 14 indicate the nearby presence of a Romano-British settlement. The environmental results also raise the possibility that pits in Area 24 were associated with charcoal production.

The archive is currently held at the offices of Wessex Archaeology in Sheffield, under the project codes 224020, 224022, 224023, 224024, 224025 and 224028. In due course, this will be deposited with Leeds Museum and Galleries under an accession number to be determined.

Acknowledgements

Wessex Archaeology would like to thank Atkins Ltd for commissioning the archaeological mitigation, on behalf of Balfour Beatty. Wessex Archaeology is also grateful for the advice of West Yorkshire Archaeology Advisory Service (WYAAS), who monitored the project for Leeds City Council.

East Leeds Orbital Route, Leeds, West Yorkshire

Post-excavation Assessment and Updated Project Design

1 INTRODUCTION

1.1 Project and planning background

1.1.1 Wessex Archaeology was commissioned by Atkins Ltd ('the Client'), on behalf of Balfour Beatty, to undertake archaeological mitigation works comprising excavation, investigation and recording along the East Leeds Orbital Route (ELOR), a 7 km-long road connecting the A6120 Outer Ring Road at Red Hall in the north-west to the new Manston Lane Link Road at Thorpe Park in the south-east (the 'Scheme'). The route will extend from NGR 434320 438569 (SE 34320 38569) to 438323 434624 (SE 38323 34624) (Fig. 1) and will form a dual carriageway with pedestrian and cycle infrastructure. The area of the Scheme totals approximately 69.6 ha (696000 m²).

1.1.2 Planning permission (App. No.: 17/04351/LA) for the Scheme was granted by Leeds City Council, based on the assessment criteria, assumptions and commitments set out in an Environmental Statement (ES) prepared by Mouchel (now WSP in the UK) in 2017 (Mouchel 2017). A programme of geophysical survey (ASWYAS 2016) was undertaken as part of the ES.

1.1.3 For the purposes of the project, the Scheme was divided into 25 areas (Fig. 1). Archaeological investigation undertaken in advance of the mitigation work comprised archaeological evaluation via both targeted and randomized trial trenching, a single area of shovel test pitting, a topographic survey (in addition to trenching) at the former First World War National Filling Factory, Barnbow, and a metal detecting survey (Wessex Archaeology 2020a; Wessex Archaeology 2020b).

1.1.4 Following the results of the archaeological evaluation it was deemed that no mitigation works would be undertaken for Areas 10, 22 and 12. Mitigation works, comprising strip, map and sample excavation, were therefore undertaken in Areas 1, 15, 16, 17, 3, 2, 4, 6, 5, 18, 7, 8, 19, 9, 20, 21, 11, 23, 24, 13, 25 and 14 (sequence of areas from north-west to south).

1.1.5 Excavation was undertaken in accordance with a written scheme of investigation (WSI), which detailed the aims, methodologies and standards to be employed for both the fieldwork and the post-excavation work (Wessex Archaeology 2020c). Mitigation areas were agreed with the Client and West Yorkshire Archaeological Advisory Services (WYAAS) based on the results of the evaluation trenching. WYAAS approved the WSI on behalf of the Local Planning Authority (LPA), prior to fieldwork commencing.

1.1.6 Addendums to the overall WSI were produced for each mitigation area: these detailed the results of the trenching in that area and the area-specific aims, objectives and methodologies for the mitigation works (Wessex Archaeology 2020d–w).

1.1.7 The excavations were undertaken between 4 May 2020 and 6 July 2021.

1.1.8 The works were overseen by a 'Scheme Archaeologist' provided by Atkins Ltd and monitored by WYAAS.

1.2 Scope of the report

1.2.1 The purpose of this report is to provide the provisional results of the excavations, and to assess the potential of the results to address the research aims outlined in the WSI. Where appropriate, it includes recommendations for a programme of further analysis, outlining the resources needed to achieve the aims (including the revised research aims arising from this assessment), leading to dissemination of the archaeological results via publication and the curation of the archive.

1.3 Location, topography and geology

1.3.1 The Scheme is located on the north-eastern and eastern side of Leeds, between NGR SE 34320 38569 and SE 38323 34624 (Fig. 1).

1.3.2 Existing ground levels vary from 88 m above Ordnance Datum (OD) at the south-east of the Scheme to 138 m OD at the north-western end.

1.3.3 The underlying geology also varies across the Scheme, comprising Rough Rock and Elland Flags sandstone at the north, with mudstone, siltstone and sandstone of the Pennine Lower Coal Measures Formation in the centre. Both the northern and central sections are overlain by deposits of Harrogate Till Formation (British Geological Survey 2020).

1.3.4 At the southern end of the Scheme, the underlying geology comprises Slack Bank rock and Thick Stone Sandstone, as well as Pennine Lower Coal Measures Formation (mudstone, siltstone and sandstone). No superficial deposits are recorded above these formations (British Geological Survey 2020).

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

2.1 Previous works related to the development

Environmental statement (2017)

2.1.1 An Environmental Statement, including walkover survey and a geophysical survey was previously carried out for the Scheme by Mouchel (now WSP in the UK) in 2017 (Mouchel 2017).

2.1.2 These works identified anomalies suggestive of the following:

- Iron Age/Roman field systems, enclosures and track;
- areas of industrial activity;
- field systems, enclosures, ditches and pits;
- medieval ridge and furrow;
- post-medieval quarry;
- former field boundaries correlating to historic OS maps; and
- modern field drains, areas of magnetic disturbance and service pipes.

Evaluation trenching (2020)

2.1.3 During 2020 Wessex Archaeology conducted a programme of trial trenching (Wessex Archaeology 2020a). Areas are discussed in order running from north-west to south in the following sequence: Area 1, 15, 16, 17, 3, 2, 4, 6, 5, 18, 7, 8, 19, 9, 20, 21, 10, 11, 22, 23, 12, 24, 13, 25 and 14.

2.1.4 Two evaluation trenches (1 and 2) were excavated in Area 1. Archaeological features comprised three undated, shallow ditches, two of which ran parallel to each other, around 1.5 m apart.

2.1.5 Thirteen evaluation trenches (3–15) were excavated in Area 15. Archaeological features comprised 10 ring-shaped features interpreted as post-medieval horticultural features, six undated probable drainage ditches and seven undated pits.

2.1.6 Sixteen evaluation trenches (16–31) were excavated in Area 16. Three contained archaeological features, comprising an undated ditch, thought to be the earlier continuation of an existing field boundary, and two undated pits.

2.1.7 Seven evaluation trenches (32–38) were excavated in Area 17. Archaeological features comprised four probable field boundary ditches and two pits or possible ditch terminals. No artefactual evidence was recovered.

2.1.8 Five evaluation trenches (39–43) were excavated in Area 3. Three undated pits, two of which contained charcoal and fire-cracked stones, a field boundary ditch and a drainage ditch were recorded.

2.1.9 Six evaluation trenches (44–49) were excavated in Area 2. Two undated pits and a modern, machine-cut ditch were revealed. No artefactual evidence was recovered.

2.1.10 Fourteen evaluation trenches (50–63) were excavated in Area 4. All were archaeologically blank except for one which contained a probable drainage ditch.

2.1.11 Two evaluation trenches (64 and 65) were excavated in Area 6. One contained archaeological remains, comprising three pits, which are thought to relate to the recently demolished Bramley Grange Farm (ES Asset 46) which stood adjacent to Area 6.

2.1.12 Thirty evaluation trenches (66–95) were excavated in Area 5. Archaeological features comprised two pits, a ditch and two probable ditch terminals. No dating evidence was recovered.

2.1.13 Twenty-five evaluation trenches (96–120) were excavated in Area 18. Archaeological remains comprised a ditch and three pits, all undated.

2.1.14 Twelve evaluation trenches (121–125, 127–133) were excavated in Area 7. Three undated ditches and single pit were revealed.

2.1.15 Sixteen evaluation trenches (136–146, 149–153) were excavated in Area 8. Archaeological features recorded in the trenches comprised eight furrows, 23 ditches and three pits. A significant assemblage of medieval and post-medieval pottery was recovered.

2.1.16 Four evaluation trenches (154–157) were excavated in Area 19. All contained archaeological features. These comprised five furrows, two ditches and two pits. A single sherd each of medieval and post-medieval pottery were found in one furrow.

2.1.17 Fourteen evaluation trenches (158–171) were excavated in Area 9. Archaeological features comprised 16 furrows, four ditches, one of which corresponded with a linear geophysical anomaly, and two pits. Area 9 produced a small assemblage of medieval and post-medieval pottery.

2.1.18 Twelve evaluation trenches (172–183) were excavated in Area 20. Twelve ditches, mostly corresponding with linear geophysical anomalies, were excavated, as well as three pits and a possible hearth. The only artefactual evidence comprised a sherd of post-medieval pottery recovered from a possible sump or soakaway.

2.1.19 Twelve evaluation trenches (184–195) were excavated in Area 21. Thirteen linear features, one interpreted as a hedgerow, were recorded. A single sherd of post-medieval pottery was recovered. Some ditches correlated with geophysical anomalies, but some did not. An undated pit was also recorded.

2.1.20 Five evaluation trenches (198–202) were excavated within Area 11. A possible pit and a ditch were the only archaeological features observed. Neither contained artefacts.

2.1.21 Three evaluation trenches (203–205) were excavated within Area 22. No archaeological features were observed, and no artefacts were recovered.

2.1.22 Twelve evaluation trenches (206–217) were excavated within Area 23. Archaeological features comprised 13 ditches and a possible pit. No dating evidence was recovered from any of the features.

2.1.23 One evaluation trench (218) was excavated in Area 12. No archaeological features were observed, and no artefacts were recovered.

2.1.24 Two evaluation trenches (260 and 270) were excavated on the site of the former First World War National Filling Factory, Barnbow, a scheduled monument (List entry: 1415057). Both revealed layers of redeposited modern material that may represent landscaping activity taking place after the demolition of the filling factory.

2.1.25 A programme of shovel test pitting was undertaken in Area 25 to test for the presence of Mesolithic activity alongside the Cock Beck. One hundred and fifty-seven test pits on a 10 m grid were excavated. No lithic artefacts were found but other finds included pottery, glass, a clay pipe stem and ceramic building material (CBM). With one exception – a single sherd of medieval coarseware pottery from the topsoil – all datable finds are post-medieval/modern.

2.1.26 Areas 13, 14 and 24 were not included within the archaeological evaluation, whilst Area 10 was not subject to trenching partly due to asbestos contamination and partly because of a badger sett exclusion zone.

Metal detecting survey (2020)

2.1.27 A metal detecting survey took place to identify any evidence for the Battle of Winwaed, which took place in 655 AD. The exact location of the battle is unknown, but the area of the survey is one of three possible sites. The metal detecting survey was undertaken between the A6120 Outer Ring Road at Red Hall, NGR 434693 438665 (SE 34693 38665), and Wood Lane, NGR 437055 436445 (SE 37055 36445), covering Areas 1, 15, 16, 2, 4, 6, 5, 18, 7, 8, 9 and 20 of the Scheme (Wessex Archaeology 2020b).

2.1.28 A total of 2216 artefacts were recovered during the survey, with the overwhelming majority being of confirmed or probable post-medieval/modern date. The single exception is a Bronze Age flat axe, found in Area 18, close to the site of a possible Bronze Age ring ditch identified on aerial photographs (ES Asset 50).

2.2 Archaeological and historical context

2.2.1 The archaeological and historical background for the Scheme and its environs were assessed as part of the ES and are summarized below.

Palaeolithic (250,000 to 10,000 BC)

2.2.2 There are no known sites from the Palaeolithic period within the Scheme; however, there remains the potential for the presence of sites of this period.

Mesolithic (10,000 to 4000 BC)

2.2.3 There are no known sites dating to the Mesolithic period within the Scheme. A small number of Mesolithic sites are known in the wider Leeds area.

Neolithic (4000 to 2000 BC)

2.2.4 There is very little evidence of Neolithic activity in the vicinity of the Scheme. A polished Neolithic axe head has been found in the village of Scholes, to the east.

Bronze Age (2000 to 700 BC)

2.2.5 Four sites relating to the Bronze Age are recorded within the area of the Scheme. These comprise cropmark evidence for a possible ring ditch (close to Area 18 as mentioned above) and findspots of flint tools. The period is represented in the wider landscape by burial monuments at Colton, Adel, Tinshill and Bramham.

Iron Age (700 BC to AD 43)

2.2.6 There are nine sites within the Scheme, all known from aerial photography, that are thought to date to the Iron Age. These consists of field systems, enclosures and ditches (ES Assets 29, 37, 38, 39, 42, 47, 63, 78 and 92). The clearest of the sites, ES Asset 92 (Area 14), located at Lazencroft Farm, has been subject to a geophysical survey. This provided evidence for a ditched trackway alongside a complex system of enclosures, field systems and potential pits. The strong responses of the geophysical survey suggested that the site was well preserved.

Romano-British (AD 43 to 410)

2.2.7 The A64, which crosses the Scheme, is probably on the route of the former Roman road 712 which crossed Leeds on the way from York to Manchester (Margary 1973). A possible further Roman road located about 350 m to the north is evident from a visible agger (bank). This may represent an offshoot to the Roman fort at Ilkley, passing the Roman settlement at Adel .

2.2.8 Six skeletons, several urns and coins dating to the 4th century were found at a limestone quarry in Whinmoor prior to 1855 (near to Area 7).

Early medieval (AD 410 to 1066)

2.2.9 Ridge and furrow earthworks, which could also date to the medieval period, are present within the area of the Scheme (Area 11). The possible location of the Battle of Winwaed, which dates to AD 655, may also be in the local area.

Medieval (AD 1066 to 1540)

2.2.10 Leeds emerged as important town during the medieval period. Small villages and manors surrounded by ridge and furrow earthworks and enclosures developed in the landscape around it.

2.2.11 Several medieval settlements and a moated manor site lie close to the Scheme. One of these is the deserted settlement of Morwick, which was first documented in 1182 and subsequently recorded in the 13th and 14th centuries. It is thought to be located beneath Morwick Farm just to the west of Area 8.

2.2.12 Faint traces of a medieval settlement first recorded in 1304 are known at Lazencroft. Structures probably representing a staircase were found during an excavation in 2007 on the grounds of the present farm. Clinker also found during the excavation gives evidence for industrial activity in the vicinity. Further portions of the settlement might have been removed during the construction of the former First World War Filling Factory at Barnbow.

2.2.13 The majority of a former medieval manor site of Manston to the west of Lazencroft has been removed; however, a dovecote dating to *c.* 1500 and other farm buildings remain. A hollow-way and house platforms associated with a shrunken village located at Shippen House Farm have also survived. Parts of the settlement were destroyed by later ploughing and the filling factory.

2.2.14 To the east of the Scheme, Scholes moated site consisted of a manor house and a moat. The manor house was demolished in 1628 and the moat dried up. Earthworks of the moat, ridge and furrow, possible building platforms and a fishpond are still visible, parts of which survive to the north of Leeds Road. A geophysical survey in 2012 identified the location of the moat and several linear ditches. Associated structures were identified during an excavation at the adjacent Scholes Lodge Farm, including three buildings, ditches, pits and a drain. A further boundary ditch which is also present within the moated site was also recorded.

2.2.15 The suggested site of a medieval pottery production site lies close to Red Hall at the north-western end of the Scheme. The location is based on the 15th century documentary source mentioning the place name ‘Potters Brecks’. Further locations of medieval activity are represented by the early grange of Kirkstall Abbey, which could also be the site of the ‘lost’ Domesday village of Wheatcroft.

Post-medieval (AD 1540 to 1900)

2.2.16 Built heritage dating to the post-medieval period dominates the assets within the area surrounding the Scheme. A few sites provide evidence for industrial activity during this time, such as clay extraction and brick production at the junction of Wetherby Road and Whinmoor Lane, and a Brick and Tile works immediately west of Scholes.

2.2.17 The site of Manston Colliery, first shown on the 1850 Ordnance Survey map, lies south of Lazencroft Farm. It consists of a colliery building north of the railway line and earthwork remains of bell pits to the south. Outside the Scheme lies Brown Moor Colliery, represented by shafts and trackways. Excavations for the development of Thorpe Park recorded shallow workings, shafts and horizontal galleries.

2.2.18 Two very large ashpits containing large amounts of 18th century slipware (whole vessels, mainly kiln wasters) were recorded during an excavation carried out in 2009 in a field immediately west of Lazencroft Kennels.

2.2.19 The Leeds and Selby Railway, to the north of Manston Lane, crosses the southern end of the Scheme. It was opened in 1834 and remains in use. The remains of the Wetherby Branch, opened in 1876, and closed and dismantled in 1964, are still visible in the landscape (Area 10).

Modern (AD 1900 to present)

2.2.20 Assets from the modern era relating to the Scheme are two searchlight emplacements and the scheduled monument of Barnbow, the National Filling Factory (List entry: 1415057). The filling factory was opened in 1915 as a response to a 'shell shortage' crisis in the First World War. This was the first purpose-built factory for the filling of quick-firing shells and cartridges, and it became a model for further filling factories nationally. It was designed using the logical flow of modern factories. Due to the pressure on labour during wartime 90% of the work force were female.

2.2.21 Munition filling work was carried out in buildings constructed of lightweight wood which could blow apart easily. The most serious accident occurred in December 1916 when one of the shell fusing rooms exploded and killed 35 women.

Unknown

2.2.22 A burial ground of unknown date is noted on the historic Ordnance Survey mapping to the immediate north of Red Hall.

2.2.23 Several cropmark sites (Areas 4, 5 and 9) were mapped within the area of the Scheme and are of unknown date and function. One represents diffuse, irregular lines probably created by a former stream. In the area of Scholes Park, cropmarks of two linear ditches are present between the stream and the former Wetherby Branch railway line. A probable modern rectangular feature was recorded in a field on the south side of Cock Beck, and a circular ditch with a diameter of approximately 16 m was mapped east of Barnbow Wood.

3 AIMS AND OBJECTIVES

3.1 Aims

3.1.1 The general aims (or purpose) of the mitigation works, as set out in the brief for the works (Atkins Ltd 2019) and repeated in the project WSI (Wessex Archaeology 2020c), and in compliance with the Chartered Institute for Archaeologists' *Standard and guidance for archaeological excavation* (CIfA 2014a), were:

- to expose surviving archaeology at the mitigation areas, through the application of an archaeologically controlled soil strip using plant equipped with a toothless bucket;
- to archaeologically excavate and record all significant archaeological features within the mitigation area, in order to clarify the nature, date, extent and survival of any remains revealed and thus contribute to the understanding of their heritage significance;
- to carry out post-excavation assessment and analysis of recovered material;
- to publish the results of the mitigation to bring the findings into the public and academic domain; and
- to produce a site archive for deposition with Leeds Museums and Galleries.

3.2 Area-specific research objectives

3.2.1 Following consideration of the archaeological potential and the questions and priorities set out in the Research Agendas for West Yorkshire (Chadwick 2009; Wrathmell 2018; WYAAS 2005), area-specific aims and research objectives were included in each mitigation area addendum (Wessex Archaeology 2020d–w). These were subject to prior consultation and approval by WYAAS and Atkins Ltd and are set out below.

Areas 2, 3, 4 – Romano-British roads

3.2.2 Future developer-funded and research projects should give some thought to identifying the physical traces of past human and animal movement through the landscape.

Areas 8, 11, 19 – medieval settlement/ridge and furrow

3.2.3 Whatever the type of dispersed settlement – whether an ordinary farm, or a grange or a seigneurial enterprise – its significance can best be understood in its relation to the wider landscape, the lands and other resources its occupants exploited. Therefore, documentary research is essential to place them in their social and economic setting.

3.2.4 If evidence for possible medieval settlement activity is located, attention should focus particularly (but not exclusively) on attempting to establish the date of settlement origin and whether there is any evidence for settlement planning.

3.2.5 The date of transition from posthole constructed medieval structures to buildings with stone foundations is undated in West Yorkshire and there are no excavated peasant houses of 13th and 14th century date to compare to surviving farmhouses and barns of the 15th and 16th centuries.

3.2.6 One of the greatest gaps is our understanding of the lives of ordinary medieval farmers and the forms, construction and functions of their buildings. The general level of material culture still needs to be established and attempts made to relate such evidence to that of their successors in the 16th and 17th centuries.

3.2.7 Sealed contexts containing medieval and/or post-medieval pottery and animal bone etc. are particularly important (Ian Sanderson pers. comm.).

Area 7 – Romano-British burials

3.2.8 What was the genetic contribution to the existing indigenous population by non-British people during the Romano-British period? Will archaeologists ever be able to identify individuals from specific areas of Europe, Africa or the Middle East?

3.2.9 In addition to general information about age and health, can archaeologists identify different dietary habits and lifestyle information from skeletal remains?

3.2.10 Why was cremation not more common during the earlier Romano-British period? Does this reflect the persistence of local beliefs and traditions?

3.2.11 For how long did later Roman burial traditions persist into the post-Roman period? At what point did burial traditions change?

Areas 3, 4, 5, 8, 9, 13, 14, 16, 17, 18, 19, 20, 21, 23, 24 – Iron Age/Roman-British field systems and enclosures

3.2.12 The reasons for the many variations in the form, shape and size of field systems and fields are not yet understood, and it is not clear if functional or social factors (or both) were important to this.

3.2.13 The purpose of most Iron Age and Romano-British fields is not yet known, and the concomitant extent of pasture or arable regimes.

3.2.14 The nature of land tenure and/or ownership during the Iron Age and Romano-British periods is not known.

3.2.15 Were some enclosures and fields inhabited or utilized year-round, and others seasonally or even more episodically (and is there unenclosed activity adjacent to the prehistoric/Romano-British enclosures)?

3.2.16 Linear field and trackway ditches need to be more intensively sampled on excavation projects, both to retrieve more artefacts and radiocarbon (^{14}C)/optically-stimulated luminescence (OSL) samples for dating purposes, but also for potential palaeo-environmental information through pollen and soil micromorphology analyses.

3.2.17 Linear field systems generally have a mid–late Iron Age origin with small-scale 'organic' fields; later, in the Romano-British period, there is significantly increased land-take with larger sub-rectangular field systems. The few dated examples that exist have shown that the field systems go out of use in the post-Roman period, possibly as late at the 6th–7th century, but this is based on few examples. The following research aims were added for linear field systems in which excavations should consider:

- their date and initial construction;
- their morphology, i.e., evidence for accompanying banks and hedges;
- evidence of re-cutting;
- how were they used (e.g., drainage, boundary markers, animal management) and;
- the date they go out of use.

Areas 13 and 25 – post-medieval quarries

3.2.18 Priority should be given to identifying surviving sites where working had ceased by the 1880s. This is a high priority, as sites of this type are particularly vulnerable both to legitimate landfill and illegal tipping.

Areas 20, 21, 14, 23 – enclosures

3.2.19 Rectangular and sub-rectangular enclosures are the most commonly identified enclosures seen on aerial photographs across eastern West Yorkshire. Typically they are identified as the location for farms inhabited by family units engaged in mixed agriculture (stock and cereals) and seem to date from the Late Iron Age and extend into the Romano-British period, possibly beyond; although dating can be problematic due to the rarity of identifying Iron Age pottery in West Yorkshire and the apparent relative late adoption of Romano-British pottery in rural West Yorkshire (Ian Sanderson pers. comm.).

3.2.20 The following research aims were added for the investigation of enclosure complexes and associated features:

- identify enclosure complexes' date of origin, functions (which may be multiple), phasing and date of abandonment;
- investigate chronological and functional relationships with adjacent trackways and field systems;
- investigate evidence for possible external enclosure-related activity and structures;
- identify if possible different uses for different internal compartments (whether for stock holding, residential, crop storage etc.);

- define the nature of construction and their uses for internal structures; different surfaces and the different morphologies of possible entrances considered and what this might have meant for stock handling;
- environmental evidence should be sought as should any evidence for metal-working or other industrial activity;
- the possibility of internal and external fence lines should be considered, and possible evidence for remaining banks, palisades or hedges and bridging points across ditches sought;
- previously excavated examples have produced evidence for selective and differential deposition of querns, often broken, and human and animal burials in ditch terminals and pits (internal and external), and if present, what this reveals about the nature of the belief systems needs to be considered.

4 METHODS

4.1 Introduction

4.1.1 The programme of mitigation works comprising strip, map and sample excavation was undertaken in Areas 1, 15, 16, 17, 3, 2, 4, 6, 5, 18, 7, 8, 19, 9, 20, 21, 11, 23, 24, 13, 25 and 14.

4.1.2 All works were undertaken in accordance with the detailed methods set out within the overall project WSI (Wessex Archaeology 2020c) and in general compliance with the standards outlined in CIfA guidance (CIfA 2014a). The post-excavation assessment and reporting followed advice issued by the Association of Local Government Archaeological Officers (ALGAO 2015). The methods employed are summarized below.

4.2 Fieldwork methods

General

4.2.1 The excavation areas were set out using a Global Navigation Satellite System (GNSS), in the same positions as proposed in the project WSI (Fig. 1). The topsoil/overburden was removed in level spits using a 360º excavator equipped with a toothless bucket, under the constant supervision and instruction of the monitoring archaeologist. Machine excavation proceeded in level spits until the archaeological horizon or the natural geology was exposed.

4.2.2 Where necessary, the surfaces of archaeological deposits were cleaned by hand. A sample of archaeological features and deposits was hand-excavated, sufficient to address the aims of the excavation. A sample of natural features, such as tree-throw holes, was also investigated.

4.2.3 Spoil derived from machine stripping and hand-excavated archaeological features was visually scanned for the purposes of finds retrieval. A metal detector was also used. Artefacts were collected and bagged by context. All artefacts from excavated contexts were retained, although those from features of modern date (19th century or later) were recorded on site and then discarded.

Recording

4.2.4 All archaeological features and deposits were recorded using Wessex Archaeology's pro forma recording system. A complete record of excavated features and deposits was made,

including plans and sections drawn to appropriate scales (generally 1:20 or 1:50 for plans and 1:10 for sections) and tied to the Ordnance Survey (OS) National Grid.

4.2.5 A Leica GNSS connected to Leica's SmartNet service surveyed the location of archaeological features. All survey data is recorded in OS National Grid coordinates and heights above OD (Newlyn), as defined by OSTN15 and OSGM15, with a three-dimensional accuracy of <50 mm.

4.2.6 A full photographic record was made using digital cameras equipped with an image sensor of not less than 16 megapixels. Digital images have been subject to managed quality control and curation processes, which has embedded appropriate metadata within the image and will ensure long term accessibility of the image set.

4.3 Finds and environmental strategies

General

4.3.1 Strategies for the recovery, processing and assessment of finds and environmental samples were in line with those detailed in the overall project WSI (Wessex Archaeology 2020c). The treatment of artefacts and environmental remains was in general accordance with the following documents: *Guidance for the collection, documentation, conservation and research of archaeological materials* (CIfA 2014b), *Environmental Archaeology: A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation* (English Heritage 2011) and CIfA's *Toolkit for Specialist Reporting* (Type 2: Appraisal).

4.4 Monitoring

4.4.1 WYAAS monitored the works on behalf of the Leeds City Council. Any variations to the WSI and area specific addendums, if required to better address the project aims, were agreed in advance with the Client and WYAAS.

5 STRATIGRAPHIC EVIDENCE

5.1 Introduction

Summary of archaeological features and deposits

5.1.1 A wide range of archaeological features were found across the 25 areas covered by the Scheme. These are shown in Figures 2–19.

5.1.2 The earliest archaeological feature is a probable prehistoric roundhouse drip gully in Area 14 that predates a number of cross-cutting Romano-British enclosures set out along a ditched trackway. More Romano-British enclosures were identified in Area 23, also along a ditched trackway.

5.1.3 Medieval features were concentrated around Morwick Hall and Farm with an enclosure possibly related to the deserted medieval settlement of Morwick in Area 8. Cultivation furrows were observed in the areas surrounding Morwick (Areas 7, 8, 9 and 19).

5.1.4 Post-medieval archaeological features included several structures, enclosures and a trackway that were probably associated with Morwick Hall (Area 8) but more widely were limited to probable field boundaries and the occasional pit.

5.1.5 Modern features included a number of planting and landscaping features in the north-west of the Scheme, possibly associated with the Red Hall estate and/or the former council nursery depot (Area 15). There was evidence for recent coal extraction and subsequent

backfilling with extraction waste and demolition rubble in Area 13. Elsewhere, other modern features included field boundaries, rubbish pits and occasional postholes.

5.1.6 In the following discussion, the stratigraphic evidence is split by area within each chronological phase. Areas are discussed in order running from north-west to south along the Scheme route in the following sequence: Area 1, 15, 16, 17, 3, 2, 4, 6, 5, 18, 7, 8, 19, 9, 20, 21, 11, 23, 24, 13, 25 and 14.

Methods of stratigraphic assessment and quantity of data

5.1.7 All hand written and drawn records from the excavation have been collated, checked for consistency and stratigraphic relationships. Key data has been transcribed into a database, which can be updated during any further analysis. Preliminary phasing of archaeological features and deposits was principally undertaken using stratigraphic relationships and the spot dating from artefacts, particularly pottery.

5.2 Soil sequence and natural deposits

5.2.1 Topsoil across the extent of the Scheme was in most instances a dark brown silty clay with some localized variations. Subsoils were only identified in Areas 18, 8, 20, 21 and 14. The natural substrate and the depth at which it was reached below the ground surface varied significantly across the Scheme and the descriptions for each of the areas is shown in Table 1.

Table 1 Soil sequence and natural deposits

Area	Topsoil	Subsoil	Natural substrate	Depth of natural substrate (m)
1	dark brown silty or sandy clay	-	yellowish brown sandy clay with frequent stony inclusions	0.2–0.3
15	dark brown silty or sandy clay	-	yellow or greyish brown sandy clay with clusters of stony inclusions	0.2–0.8
16	dark brown silty clay	-	yellow clay	0.26
17	dark brown silty clay	-	a light yellowish brown clay with moderate stony inclusions	0.25–0.34
3	dark brown silty clay	-	sandstone and a mid-yellowish brown clay with moderate stony inclusions	0.25
2	greyish brown clayey silt	-	sandstone and a light yellowish brown clay with moderate stony inclusions	0.19–0.29
4	dark brown silty clay	-	sandstone and bands of orangey brown and grey clay with moderate stony inclusions	0.2–0.3
6	dark brown silty clay	-	light yellowish brown or grey clay with moderate stony inclusions	0.24
5	dark brown silty clay	-	yellow or greyish brown clay with bands of brown sandy	0.16–0.32

Area	Topsoil	Subsoil	Natural substrate	Depth of natural substrate (m)
			clay and clusters of pebbles and stones	
18	dark brown silty clay	yellowish grey sandy clay	yellowish grey clay or silty clay	0.18–0.34
7	dark brown silty clay	-	yellowish brown clay, which contained frequent large stones	0.2–0.26
8	dark brown silty clay	greyish brown silty clay	light greyish or yellowish brown clay	0.24–0.45
19	dark brown silty clay	-	yellowish brown clay or silty clay with frequent clusters of stones and pebbles	0.28–0.5
9	dark brown silty clay	-	light brown mudstone and light greyish brown clay with bands of yellowish sandy silt	0.24–0.4
20	dark brown silty clay	reddish brown silty clay	yellow or greyish brown silty clay with sandy patches	0.2–0.38
21	dark brown silty clay	reddish brown silty sand or brown clay	yellowish silty clay and dark orange sandy clay with bands of grey clay and patches of gravel	0.15–0.5
11	dark brown silty clay	-	dark yellowish clay	0.3
23	dark brown silty clay and sandy silt	-	light orangey brown silty clay or yellowish sandy clay	0.22–0.4
24	dark brown silty clay	-	light yellowish brown, whitish grey and dark brown silty clay	0.23
13	dark brownish grey silty clay	-	dark orangey brown sandy clay with sandstone inclusions	0.15
25	greyish brown silty clay	-	mid-orangey grey clay interspersed with bands of coal	0.3
14	dark reddish brown silty clay	mid-brown silty clay	yellowish brown silty clay with sandy patches and sandstone bedrock	0.30–0.55

5.3 Prehistoric

Area 14

5.3.1 A number of ditched enclosures were located in the central part of Area 14. For the main part, these seemed to be of Romano-British date. The exception was a curvilinear feature (group 453), situated in the centre of Area 14 (Fig. 19). This comprised a narrow gully 0.26–0.36 m wide (Pl. 1) that appeared to form about a third of a circle around 14 m in diameter. It is possible that this was a drip gully for the eaves of a roundhouse or a ring-ditch and that it may originally have formed a whole circle but has since been truncated over much of its length. A series of intercutting relationships make this one of the earliest features in Area 14, probably predating the Romano-British features on site, and hence it is given a prehistoric phasing.

5.3.2 Pre-Roman Iron Age pottery was also recovered from Area 14 and although none of it was recovered from gully 453 it is possible that this relates to the period when the feature was in use.

5.4 Romano-British

Area 23

5.4.1 The archaeological features revealed in Area 23 (Fig. 16) consisted of ditches and gullies that formed large and small enclosures. Some of these features contained Roman-British pottery and it is reasonable to believe that the enclosures date from this period. An absence of material associated with the detritus of daily life indicates that this site was not a settlement but probably associated with specialized stock management activities.

5.4.2 Crucial to these enclosures was an apparent trackway flanked either side by a ditch; ditch group 1051 to the west and ditch group 1041 to the east (Fig. 20). Ditch group 1051 is clearest in the north where it was 0.9 m wide. Further south it attains a width of 3.2 m, probably as a result of erosion caused by the wear from traffic along the track over an extended period of time. One large 132 g sherd of probable Romano-British pottery was recovered from the primary fill of one intervention into 1051 and two small sherds of bone china were recovered from the top fill of another; these are undoubtedly intrusive.

5.4.3 Ditch group 1041 was much narrower at between 0.3–1.1 m along its length. A single sherd of very heavily abraded oxidized sandy ware medieval pottery was recovered from a secondary fill of 1041, but this is thought to be intrusive.

5.4.4 A series of small enclosures were appended to the eastern side of ditch group 1041 (Fig. 20). Exact phasing may become more apparent with a proposed radiocarbon dating programme, but intercutting relationships have allowed some basic relational phasing at this stage.

5.4.5 Sub-square enclosure 1370 measured about 24 m by 22 m with a 3.5 m wide east-facing entrance. Potentially the earliest pottery from Area 23 was recovered from ditch 1370, consisting of a single small sherd of Pre-Roman Iron Age/Romano-British pottery.

5.4.6 Running outside of this enclosure was a second parallel ditch, 1371, that then continued as ditch 1376 to form an annex to the south of 1371. This perimeter ditch enclosed an area 64 m long by 25 m wide. There is an east facing entrance gap in the northern half of the enclosure that was initially 4 m wide that lines up with the entrance of enclosure 1370. In addition to the lack of intercutting relationships between the two enclosures, this coincidence of entrances would suggest a broad contemporaneity of use.

5.4.7 Between the terminals of ditches 1371/1376, gully 1339 had been cut. This gully was 0.26 m wide and 0.39 m deep and was lined with flat stone slabs (Pl. 2). The profile of the gully is suggestive of a palisade slot, however considering its position it was more likely used for a gate-like structure that could be dropped in place.

5.4.8 To the south of enclosure 1370 were a pair of interconnected irregular enclosures that were formed by ditch groups 1375, 1373, 1372 and 1374. Ditch groups 1372, 1374 and 1375 cut the outer enclosure ditches 1371 and 1376. Stratigraphically, ditch group 1375 appears to be cut by 1373 (Fig. 20) which is in turn cut by ditch group 1372. A semi-circular kink in ditch 1372 probably ran around a feature within the enclosure but whatever it was had left no subsurface evidence.

5.4.9 The latest feature would appear to be ditch 1374. This effectively closed off a 2.5 m wide entrance into the enclosures formed by ditches 1375/1372 (Pl. 3) and 1373/1372. Access between these two enclosures was possible via a 1.7 m wide gap in ditch 1373. Small Romano-British pottery assemblages were recovered from 1372 (1 sherd of a jar with burnished exterior and 59 sherds of calcite tempered ware) and 1374 (39 sherds of Greyware). Although these ditches indicate some chronological depth to the enclosure system it is likely that they were broadly contemporary and represent an evolution of the system over time.

5.4.10 Ditch 1376 joined trackway ditch group 1041 but the stratigraphic relationship between the two is unclear. On the western side of 1041 another ditch 1151 heads off to the south-west across the probable trackway before turning south along the line of 1051. It is unclear if 1151 is a continuation of 1376 although it seems probable that it is a later addition. Ditch 1151 evidently cut 1051 along its length as it heads southwards.

Area 14

5.4.11 The second area of Romano-British activity was situated in Area 14, about 1.6 km south of Area 23. The ditched enclosure systems in Area 14 were bounded to the north by a series of north-east to south-west aligned ditches (group 447) that marked out a trackway (Fig. 19). At least five ditch cuts were identified (447A, 447B, 447C, 447D and 447E) with the earliest appearing to be the northernmost ditch (447A) and a parallel ditch (447D), together forming a trackway about 7.5 m wide (Fig. 20). Romano-British, medieval and post-medieval pottery was recovered from the ditches, along with a piece of post-medieval clay pipe, although the sherds of Romano-British pottery are relatively large and the medieval pottery relatively small. When viewed as a whole, the trackway appears to form a coherent part of the Romano-British enclosure system to the south and hence is also phased to this period, even if the pottery suggests considerable longevity and continuity of use into the medieval period.

5.4.12 The enclosure system in the centre of Area 14 displays a number of intercutting ditches and gullies. Detailed stratigraphic analysis along with analysis of the ceramic assemblages and targeted radiocarbon dating may help to resolve some of the phasing. It is apparent, however, that some feature groups fit together. Stratigraphically early features include a series of short ditch lengths – 454, 455, 456, 298 and 200 – which could represent part of a field system that predates and was largely removed by later enclosures. These are currently phased to the Romano-British period as there were four large sherds of Roman mortarium recovered from one fill. Two tiny sherds of medieval pottery recovered from another are thought to be intrusive.

5.4.13 Sequentially, the next coherent group of features are a series of right-angled gullies (459, 460 and 425). These are of a very different character to most of the other ditches in this area, being much narrower. A sherd of Romano-British Greyware pottery was found in the southern terminal of gully 459. A small sherd of medieval pottery came from the portion where gully 460 was cut by ditch group 451.

5.4.14 Ditch groups 449, 451, 458, 464, 448, 461, 450 post-date the probable field system and gullies, belonging to a phase when numerous ditched enclosures were constructed here. There are intercutting relationships that indicate an evolution in this system and some time depth. Ditch group 448 formed the northern limit of the enclosure group, running north-west to south-east. This boundary was evidently quite long lived with one section exhibiting two recuts (Fig. 20). Similarly, ditch group 450 was shown to have consisted of four different phases of ditch in one intervention (Fig. 20). Ditch group 451 was also shown to cut ditch group 449 (Fig. 21).

5.4.15 Nine sherds of Romano-British pottery were recovered from ditch group 448, including samian and Greyware, along with a single tiny sherd of medieval pottery that was, again, probably intrusive. A single large sherd of Romano-British Greyware was recovered from ditch 450, and two large sherds of mortarium came from ditch 428. Ditch 449 contained a single small sherd of 17th–early 18th century redware that was probably intrusive.

5.4.16 Ditch group 461 contained a small assemblage of Romano-British pottery including Calcite/shell tempered ware and Greyware. It was cut by sub-oval pit 410, which was itself truncated by pit 412 (Pl. 4) both of which were undated.

5.4.17 In the western part of the enclosure system were a group of features whose individual outlines were not entirely clear but seemed to incorporate a number of intersections. Gully 427 contained two sherds of Romano-British mortaria and was cut by undated pit 429. Ditch 464 ran north to south but contained no finds. It was cut by ditch 462 which is currently assigned to the medieval phase (see below). A southern terminus of ditch 464 was also identified, cut by north to south oriented gully 360 which may have been a continuation of gully 427. Only a short portion of shallow east to west oriented gully 400 was observed before it was cut away by ditch 461. At its latest, this gully is of Romano-British date, and may belong to the same phase as other gullies 459, 460 and 425; however, not enough of the feature was investigated to confirm this.

5.4.18 The environmental remains indicate that domestic activity was taking place near to these enclosures and the increase in evidence for the routines of daily life increases in the western part of this area. The geophysical survey shows that the enclosures extend beyond the edge of the Scheme to the west and this was probably the location of settlement (Fig. 19). The enclosure ditches excavated in Area 14 may relate to agricultural activities and stock management taking place in the surrounds of this settlement.

5.5 Medieval

Area 7

5.5.1 Several possible cultivation furrows with a north-west to south-east orientation were observed in Area 7 (Fig. 11). Two of these (6002 and 6004) were excavated and each contained a single sherd of modern pottery. They are however phased to the medieval period based upon the greater degree of dating evidence for the furrows from Areas 8 and 9.

Area 8

5.5.2 An apparent medieval enclosure was situated in the centre of Area 8 (Fig. 11). A stretch of curvilinear ditch 5809 ran south for about 20 m before curving to the east and continuing for another 24 m. The ditch varies from 1.12 m wide and 0.39 m deep in the west (Pl. 5) to 2.74 m wide and 0.56 m deep in the south. An assemblage of 27 sherds of pottery were recovered from 5809, with 14 sherds of pre-Conquest York A ware type and 10 sherds of different medieval wares.

5.5.3 On the same alignment as 5809, continuing eastwards after a gap of 17.5 m was a further stretch of east-west aligned ditch (5815; Pl. 6). Two sherds of medieval pottery were recovered from 5815 and it is possible that it was a continuation of 5809 after an area of truncation. Ditches 5809 and 5815 share a similar alignment to a field boundary present on historic mapping which lies about 2.5 m to the south. This boundary was not found to have a corresponding cut feature during the excavations, but its positioning seems to have been influenced by the enclosure. Slightly further south again were several northern terminals of furrows (see below) that followed the line of the medieval enclosure and the boundary

present on historic mapping. These support the notion that all (including the field boundary) were contemporary medieval features.

5.5.4 Ditch 5475 approached ditch 5815 from the north-west but the relationship between the two could not be discerned. A sherd of late 11th–13th century Yorkshire Gritty ware pottery and a sherd of late medieval Sandy ware were recovered from 5475. A second ditch (5824) approached 5815 from the north, possibly forming the south-eastern corner of the enclosure, although the two did not meet. Five sherds of medieval wares and a single sherd of late-15th–17th century Midlands Purple ware were recovered from this. In the gap between 5815 and 5824 were pit 5462 and posthole 5464. No finds were recovered from either of these features, but their positioning probably indicates contemporaneity with the ditches.

5.5.5 Nearby, east-west oriented gully 5512 was situated 0.3 m to the south of ditch 5815. It was only about 3 m long before being truncated by a later land drain. A single sherd of late medieval sandy ware was recovered from its fills.

5.5.6 Within the enclosure were three short lengths of ditch that formed an H-shape (group 5818) on the northern edge of ditch 5809. Upon excavation it appeared that ditch 5818 cut 5809 (Fig. 21), although twelve sherds of late 11th–13th century pottery were recovered from 5818 which suggested that the ditches were broadly contemporary.

5.5.7 The remains of a possible rough metalled surface (5507/5545/5822) were also revealed in this enclosure, close to the eastern limit of mitigation. This comprised two layers of rounded stones set into a gravelly clay bedding (Pl. 7). A slag-like deposit was noted in the south, suggesting industrial activity may have taken place there, although the surface had been heavily disturbed. Over a hundred sherds of pottery were recovered, the majority of which were of late medieval/early post-medieval date.

5.5.8 It is unclear if there was a northern boundary to this enclosure and, if so, what it was. The most obvious contenders are ditches 5823 and 5827, from which a combined total of 269 sherds of medieval pottery were recovered (out of a total Area 8 assemblage of 369 sherds). The remaining sherds from these ditches were of 16th–18th century date. This area was particularly challenging to deal with during the mitigation due to waterlogging that made it difficult to unpick the archaeological sequence. It appears that the line of the two ditches is further obscured by an intercutting 19th century ceramic drain on a very similar orientation, which was revealed in intervention 5540. The quantity of pottery has been taken to indicate a medieval inception for ditches 5823 and 5827, although they probably continued in existence into the post-medieval period, with 5823 appearing to match a boundary visible on historic mapping.

5.5.9 Gully 5825, situated just beyond the possible northern side of the medieval enclosure, was 0.6 m wide by 0.21 m deep and ran for 18 m on a roughly north to south orientation, stopping 1.3 m short of ditch 5823. Thirty sherds of pottery were recovered from its fills with a date range spanning the late 13th–17th centuries with a relatively large (for Area 8) average sherd size of 27 g. This assemblage and the gully's relationship with the medieval enclosure suggest that the two overlapped in use and that the gully was probably created towards the end of the medieval period.

5.5.10 Elsewhere, eleven cultivation furrows were identified in the southern part of Area 8 (group 5810). These ran in a NNW to SSE direction. A modest assemblage of 22 sherds of pottery were recovered from the furrows, with seven being of a range of medieval wares and the

remainder of post-medieval date. This suggests their inception in the medieval period and continuing in use into the early part of the post-medieval period.

Area 19

5.5.11 Further cultivation furrows (group 3616) continued on the same NNW-SSE alignment across most of Area 19, just to the south of Area 8 (Fig. 12). There were 76 sherds of pottery recovered, of which 55 had a late-11th–13th century date. A Neolithic leaf-shaped flint arrowhead was also recovered as a residual find.

5.5.12 There were several small undated pits in Area 19, as well as pit 3535 that contained a medieval quern in its upper fill. This large pit measured 2.4 m by 1.5 m and was 0.82 m deep (Fig. 21; Pl. 8). It was cut by modern ditch 3571/3575 and is assumed to be medieval based upon the presence of the quern. It is, however, situated in the area of furrows, suggesting that these were arable fields during the medieval period. This raises questions over the exact dating and function of this feature, as well as its relationship with the furrows.

Area 9

5.5.13 Numerous cultivation furrows (group 3085) were also present across Area 9 (Fig. 13). Pottery from these fell into two main time periods, late 11th–13th century and late 15th–17th century, possibly indicating two main periods of use. It is of note that the quantity of pottery recovered (29 sherds) was much lower than the quantity recovered from the furrows in Area 19, possibly indicating that the degree of manuring from domestical middens lessened with distance from the settlement in Area 8.

Area 23

5.5.14 A north-east to south-west aligned ditch (group 1081) crossed this mitigation area (Fig. 16; Pl. 9). It had been identified in the geophysical survey and revealed in trenches during the evaluation. Six sherds of very heavily abraded oxidized sandy ware were recovered from the primary fill of one intervention suggesting that, at the earliest, the ditch was established in the medieval period.

Area 14

5.5.15 Medieval archaeology in Area 14 consisted of a number of stretches of ditch (Fig. 19). Ditch group 462 contained a sherd of Iron Age/Romano-British calcite-tempered ware and a sherd of Romano-British Greyware, but also sherds of late 11th–13th century buff gritty ware and orange gritty ware. It cut ditch 464 which was phased to the Romano-British period.

5.5.16 Ditch group 452 (Fig. 21) appeared to form a southern boundary of the Romano-British enclosure system further to the north. Whilst a Romano-British date remains possible for this ditch, the only pottery recovered from it was a sherd of late 11th–13th century Yorkshire Gritty ware. It is therefore currently phased upon this single sherd although it is acknowledged that there is the possibility that this could be intrusive. Ditch group 457 was stratigraphically the latest in the sequence of ditches in the network of enclosures, with evidence that it cut Romano-British ditch group 449 (Fig. 21). Two tiny sherds of medieval Soft Buff Sandy ware may indicate that this was a medieval feature.

5.6 Post-medieval

Area 5

5.6.1 Three ditches were located in the different parts of Area 5, all of which shared a north-east to south-west orientation (Fig. 9). Ditch 6223/6225 was situated in the northern part of the area. It was 0.47 m wide and 0.15 m deep and was traced for a distance of 9 m, but continued beyond the limits of excavation. Ditch 6215/6217/6219 was at least 45 m long

(continuing beyond the limits of the excavation in both directions), 0.85 m wide and 0.18 m deep. Ditch 6203/6205 was at least 45 m long (again continuing beyond the limits of the excavation in both directions), 0.65 m wide and 0.18 m deep (Fig. 22).

5.6.2 Ditches 6223/6225 and 6215/6217/6219 were situated on the line of the current field boundary, whilst 6203/6205 matched the alignment of the current field boundary but was offset 20 m to the north-west. All three probably relate to the enclosure of the open field system in the post-medieval period.

Area 8

5.6.3 In the north-east of Area 8, two rounded ditches or gullies located around 25 m apart may represent the remains of small structures or enclosures (Fig. 11). One of these, group 5801, was 7.9 m long and 5.1 m wide overall, formed from a 0.35 m wide gully that was 0.16 m deep. Seven sherds of Cistercian ware (*c.* 1450–1600) were recovered from the fills. It seems likely that 5801 was originally some form of structure or building. The western edge of 5801 was cut by ditch group 5800 (see below) but matches its alignment exactly, suggesting some degree of contemporaneity between the two.

5.6.4 Ditch group 5800 correlates with a row of trees (but not a ditch) depicted on historic mapping, and post-medieval and modern pottery was recovered from its fills. Bearing in mind the time required for the growth of the trees it seems likely that this ditch originated in the post-medieval period.

5.6.5 The other rounded feature, group 5803 was located approximately 25 m to the south-west of 5801. It consisted of a 0.45 m wide x 0.23 m deep gully with a subcircular shape that was 5.7 m in overall diameter (Pl. 10). A single sherd of Midlands Purple type ware (late 15th–17th century) was recovered from the fills. Gully 5803 also probably represents some form of structure or building.

5.6.6 A small pit (5204) was located 0.10 m to the south of gully 5803. Nine fragments of animal bone were recovered from the pit, which is undated but assumed to be associated with structure 5803.

5.6.7 A small stretch of ditch 5415/5423 was situated near the northern limit of Area 8. Seven sherds of 17th century redware pottery were recovered from its fills.

5.6.8 Ditch 5804, which is NNW–SSE aligned, follows the line of a wooded boundary on historic mapping. Two sherds of mid-17th–early-18th century redware pottery was recovered from 5804.

5.6.9 To the west of ditch 5804, running approximately north to south, was ditch 5805. It terminated at ditch 5807. A small pottery assemblage was recovered, consisting of 27 sherds of a mixture of late 15th to late 19th century wares. Immediately to the east was structure 5294, a double line of single coursed, unworked sandstone blocks with a gravelly infill (Pl. 11). This was 4 m long and aligned east–west. There was no direct physical relationship with 5805.

5.6.10 Trackway 5814 ran north to south, connecting the adjacent A64 York Road with a building that is visible on 19th century Ordnance Survey mapping. Based on the cartographic evidence, the trackway was disused by 1906 at the latest, having been replaced by a new track that passed through the gardens of Morwick Hall to the east. Some parts had evidence of rough cobbling, but there were no extant surfaces due to heavy rooting by a recent tree line. Eighty-one of the 93 sherds of pottery recovered from it were of a variety of post-

medieval wares. At its northern end it cut ditch group 5816 but was in turn cut by ditches 5806 (Fig. 22) and 5807.

5.6.11 Postholes 5323 and 5288 were spaced 1.5 m apart, 1.8 m to the west of trackway 5814. They contained no finds but are assumed to have been associated, possibly as gateposts.

5.6.12 Ditch 5812 started at the northern limit of this mitigation area and ran south-eastwards for 12 m. It then doglegged to the north-east for 5 m and then turned to head south-east for 20 m, before it starting to curve to the north-east again. To the north, it was cut by ditch 5806. Two sherds of post-medieval pottery were recovered from it.

5.6.13 Ditch group 5813 ran in a slightly irregular east to west direction for about 25 m. It may have continued further east but was not obviously visible, becoming unclear amongst changes in the natural substrate. Four sherds of early post-medieval pottery were recovered from this ditch.

5.6.14 Ditch group 5808 was aligned north-east to south-west. It ran for 51.5 m across the mitigation area before petering out at its eastern end, in an area that was particularly affected by waterlogging during the excavation. Two sherds of post-medieval pottery were recovered from its fills. It cut ditch group 5809, which formed part of the medieval enclosure.

5.6.15 Gully 5200/5308 was a narrow 0.35 m wide by 0.08 m deep feature that ran approximately NNW–SSE for 6.1 m. It was in the same location as a boundary associated with a structure present on historic mapping and its fills contained a single sherd of 18th century brown glazed fineware.

5.6.16 A number of small pits/tree throws were also located in the area south of ditch group 5807 and east of trackway 5814. These were often quite shallow and were identified mostly as tree throws or planting features, with two (5407 and 5342) as post-medieval pits.

5.6.17 A line of five postholes (group 5826) were located between ditches 5807 and 5808. The arrangement extended for only 2.1 m and each posthole was spaced about 0.15 m apart. The only dating evidence came from posthole 5113 which contained two sherds of 18th–19th century pottery.

5.6.18 Two features, 5268 and 5282, were provisionally recorded as small shallow pits but may possibly be the remains of a highly truncated gully. Pit 5268 was cut by the modern ditch 5807, whilst two iron nails were recovered from the fill of 5282. Essentially undated, they are probably also of post-medieval date.

Area 9

5.6.19 Ditch group 3094 appeared to form the south-east corner of a large enclosure (Fig. 13). It extended south from the northern limit of excavation for 28 m before turning 90 degrees and continuing west for 40 m. It then extended beyond the limit of the eastern excavation area and into the western area of excavation as ditch group 3089. A small assemblage of pottery was recovered from 3094. Nine of the ten sherds were of late 15th–17th century date and although the relationship between the ditches and the furrows was unclear it seems likely that the ditches post-dated the cultivation furrows in this area.

5.6.20 The east–west section of ditch group 3094 was cut by north–south aligned ditch group 3092 (Fig. 22) which entered the mitigation area from the north and terminated 30 m to the south. A north–south oriented ditch, group 3093, ran parallel to the eastern side of ditch group 3094 and continued beyond the excavation area to both the north and south.

5.6.21 In the western area of excavation were north–south aligned ditch groups 3088 and 3090. Ditch 3088 continued beyond the limit of excavation to north and south and ditch 3090 terminated around 35 m to the south. They were of similar depth to the nearby furrows in this area but were only about half as wide (1 m versus 2 m on average). Both cut ditch group 3089 and are currently classified as post-medieval ditches, though it remains possible that they were actually furrows.

5.6.22 Further to the south, north-east to south-west oriented ditch 3078 extended for 9 m from the western limit of excavation. It cut layers of buried soil and colluvium, each of which contained single sherds of early medieval pottery. Ditch 3078 appeared to correlate with a field boundary shown on historic mapping and is therefore assumed to have a post-medieval date.

Area 20

5.6.23 A series of parallel and intercutting linear features (2005, 2014, 2040, 2060, 2067, 2068, 2091, 2092) were located in the southern part of Area 20 (Fig. 14). They ran parallel to Wood Lane, which was located just to the south.

5.6.24 Feature 2091 was broad and shallow with evidence for wheel ruts in its base. Feature 2005 appeared to be a south-western continuation of 2091 and also exhibited traces of wheel ruts. To the north of 2091, a series of braided linear features 2014, 2060, 2067 and 2068 were also quite shallow with often quite irregular bases. Their character suggests that these too were sections of abraded holloway rather than deliberately cut ditches.

5.6.25 Artefactual evidence comprising pottery, clay pipe stem, glass and animal bone was recovered from these linear features, mostly of post-medieval to modern in date.

5.6.26 Gullies 2092 and 2040 at the most southerly end of this group may be a continuation of 1650 from Area 21, which bounded the current route of Wood Lane.

5.6.27 The whole sequence suggests that the trackway has migrated southwards over time with the braided holloway (groups 2005, 2014, 2040, 2060, 2067, 2068, 2092) being the earliest, later replaced by 2091/2005 before finally being formalized on the current path of Wood Lane.

Area 21

5.6.28 Parallel ditches 1650 followed the alignment of former field boundaries bordering Wood Lane, which had been cleared for the Scheme (Fig. 15). The remaining boundaries are still lined with deciduous trees.

5.6.29 At the southern end of Area 21, ditch 1613 ran parallel with a former field boundary seen on historic maps to the south-east and with a linear geophysical anomaly to the north-west.

Area 23

5.6.30 Two roughly north-east to south-west aligned ditches 1061 and 1071 were investigated in the most south-easterly part of Area 23 (Fig. 16). Ditch group 1061 was straight in plan with a steep concave profile. A piece of clay pipe was recovered from its fill. Ditch group 1071 was irregular in plan and profile and showed evidence of root activity. It may represent the remains of a hedgerow. It contained some post-medieval glass and a sherd of 18th century Late Blackware pottery.

Area 24

5.6.31 In Area 24, ditch group 88 ran for 89 m on a WNW–ESE orientation (Fig. 17). A single sherd of Romano-British pottery was recovered from this ditch, but its heavily abraded condition suggests it may have been redeposited. On the first edition Ordnance Survey map of the area (1849 OS six-inch England and Wales: Yorkshire 204) the line of the ditch corresponds with a faint dashed line which had disappeared and been replaced by a line of trees by the second series (1894 OS six-inch England and Wales: Yorkshire CCIV.SW).

Area 14

5.6.32 A north-east to south-west oriented ditch (group 465) ran across the mitigation area for around 150 m (Fig. 19). It cut every feature it encountered and was therefore the latest in the stratigraphic sequence. Medieval and post-medieval pottery, animal bone, iron and glass were recovered. The feature is still part of the landscape as a permissive footpath and is marked as a field boundary on historic mapping.

5.6.33 Towards the south of the mitigation area was large, irregular pit (314). It contained at least three fills, although its full depth was not excavated for safety reasons. The fills comprised sand and silt deposits, one of which contained a large proportion of coal or charcoal (Pl. 12). The uppermost fill contained post-medieval pottery.

5.7 Modern

Area 1

5.7.1 Two parallel north-west to south-east aligned features, 110 and 112, were exposed in the south-eastern corner of Area 1 (Fig. 2). They were previously investigated during the evaluation. They measured between 0.2 and 0.4 m wide, were approximately 0.03 m deep and were located around 1 m apart. They are thought to be wheel ruts, possibly made during clearance works for the Scheme.

Area 15

5.7.2 Area 15 was situated on the former Red Hall estate, behind the former council nursery depot. A large number of features in this area were found to be irregular and shallow, with irregular based, showed evidence for rooting or contained relatively modern material and were interpreted as planting features associated with the site's association with parkland and a horticultural nursery.

5.7.3 Feature 7553/7599 was an irregular north-east to south-west aligned meandering linear feature evidently cut by gully (7597) which ran for around 20 m (Fig. 3; 22). The plan of this feature makes it most likely to be an ornamental flower bed (Fig. 3).

5.7.4 Feature group 7520 lay to the west of features 7597 and 7599. It comprised a cluster of sub-circular pits with an average diameter of around 0.4 m. They showed evidence of rooting. Four sherds of post-medieval/modern pottery were recovered from some of the features, and several contained the remains of wooden stakes (Pl. 13).

5.7.5 Further to the south-east was feature group 7609, a north to south aligned roughly linear arrangement of irregular pits with an average diameter of 0.45 m. These all had silty clay fills, some of which also contained the remains of wooden stakes.

5.7.6 During the initial evaluation, ten ring-shaped features were revealed in Area 15 of which three were excavated. Further ring-shaped features 6313, 6323, 6333 (Pl. 14) and 6347 were excavated during the mitigation. These were all probably planting features. Other

horticultural bedding features in this area included 6317, 6319, 6321, 6325, 6327, 6345, 6362, 6374, 6380, 6388.

5.7.7 A north-west to south-east aligned ditch (6366/7559) crossed the western part of Area 15. It ran beyond the southern limit of excavation but probably continued to the south-east as ditch 6329/7551. The full extent of the ditch appeared to be around 70 m. The south-eastern section of this ditch cut an irregular north-east to south-west oriented ditch, 7549/7565, which was around 15 m long. The ditches did not follow any alignments on historic mapping, but a single fragment of modern pottery was recovered, and the ditch was seen to cut the line of a land drain.

Area 16

5.7.8 A north-east to south-west oriented ditch (group 6424) ran for 50 m across Area 16 (Fig. 4). It aligns with a field division depicted on historic mapping in the field to the south which no longer exists, and an existing field boundary to the north, and probably represents an earlier continuation of this boundary. It had a 0.9 m gap and was cut by two land drains aligned north-west to south-east. The southern end of ditch 6424 was disturbed by pit 6402. This feature was 2 m in diameter and 0.25 m deep and contained CBM fragments, clay pipe and some wood.

5.7.9 Pit 6425, found in the northern part of the mitigation area, had previously been investigated during the evaluation. It contained one fragment of modern whiteware pottery.

Area 17

5.7.10 Two ditches (groups 6518 and 6519) were encountered in Area 17 (Fig. 5). They both ran east to west before meeting where they turned south and corresponded with field boundaries on mapping prior to the 1980s. In the eastern part of the area, two shallow linears (6514 and 6516) were interpreted as wheel ruts that ran along a boundary present on historic mapping.

Area 3

5.7.11 A pair of shallow parallel linear features (6702 and 6704) about 0.5 m wide and 0.05 m deep spaced about 1.7 m apart ran along the line of the modern field boundary. They were interpreted as a pair of wheel ruts.

Area 18

5.7.12 The only archaeological feature encountered in Area 18 was a roughly north–south oriented ditch, group 6128 (Fig. 10). There was evidence of re-cutting in places along its course and in one place it appeared to have cut an earlier field drain. Six of the seven sherds of pottery recovered from its fills were of modern date.

Area 8

5.7.13 A wide, irregular linear feature, ditch group 5802, was located roughly halfway between post-medieval rounded gullies 5801 and 5803 (Fig. 11). It was broadly aligned north-west to south-east and was around 0.10 m deep. Part of its fill contained a stony deposit, interpreted as the remains of metalling. Several sherds of modern pottery and CBM were recovered from the feature, which is thought to be a trackway.

5.7.14 Ditch group 5806 runs south-west to north-east along the northern limit of Area 8. Eleven sherds of pottery were recovered. Of these, eight were post-medieval, two were modern and a single sherd was pre-Conquest. Near the western limits of excavation, ditch 5806 cut ditch 5280.

5.7.15 Ditch 5807 paralleled ditch 5806 about 60 m to the south. A large pottery assemblage was recovered from the interventions into 5807 and of the 163 sherds, 121 were of post-medieval date and the remainder were modern. Both 5806 and 5807 cut trackway 5814 which map evidence suggests was still in use in the 19th century indicating that both ditches are of modern date.

5.7.16 To the south of this pit, was located a short 5.6 m length of ditch (5473). It was cut by a field drain and had evidently been much truncated, probably having originally been much longer. It contained a small assemblage of pottery that indicated a probable early modern date.

5.7.17 North-west to south-east gully 5088 was 11 m long and 1 m wide. It contained three sherds of post-medieval pottery as well as plastic.

Area 19

5.7.18 Ditch 3571/3575 ran east to west across Area 19, cutting the cultivation furrows (Fig. 12). It contained 696 sherds of mostly 19th–20th century pottery. The reason for the presence of such a large assemblage of pottery is unknown but it is possible that the area was used as a dump during the 20th century.

Area 20

5.7.19 Two adjacent pits (2023 and 2025) were located at the terminal of ditch group 2068 (Fig. 14). The pits contained blackish brown silty clay fills and pit 2023 contained modern pottery.

5.7.20 Pit 2109 was a circular steep sided pit cut into undated ditch group 2130. It still contained straw which suggested that it was of relatively recent date.

Area 11

5.7.21 Most features in Area 11 (Fig. 15) were undated due to a lack of finds but two were phased to the modern period based upon their morphology: a posthole (1506) and a gully (1522). Posthole 1506 had a squarish plan and was thus phased to the modern period.

5.7.22 Gully 1522 ran north-west to south-east. It was 0.57 m wide and 0.19 m deep with a flat base. The feature was recorded for a distance of about 130 m across the northern part of the mitigation area, as well as in an additional monitored strip to the south. It was remarkably straight along its entire length, probably suggesting a modern date.

Area 13

5.7.23 The archaeological mitigation in Area 13 found evidence of recent coal extraction and subsequent backfilling with extraction waste and demolition rubble (Pl. 15). Artefactual evidence from the backfill deposits comprised machine-made bricks and brick fragments, concrete and steel, as well as some modern pottery.

Area 25

5.7.24 Wide ditch 991 crossed mitigation Area 25 from east to west (Fig. 18). It corresponds with an alignment of anomalies detected by the geophysical survey and was examined by a machine-dug sondage, but not fully excavated. The ditch measured around 8.4 m wide, over 1.2 m deep, and was backfilled with grey and orange sandy clay containing some brick fragments (Pl. 16). It cut a plastic land drain.

5.8 Uncertain date

5.8.1 Archaeological features that could not be assigned a firm date were found within all areas of the Scheme. In some cases, intercutting relationships revealed that features predate

certain periods. This was particularly true for Areas 8, 9 and 19 where medieval furrows were seen to cut earlier ditches and gullies. This implies a medieval or earlier date for these features, but the lack of finds meant that this could not be refined further, and their dating remains uncertain.

Area 15

5.8.2 A number of small pit-like features were also identified which contained no dating evidence and were not immediately understood to be modern planting features (although this interpretation remains a strong possibility). They include postholes/pits 6315, 6339, 6370, 7579 and 7601.

5.8.3 In the easternmost part of the mitigation area there were five pits (6302, 6305, 6307, 6309 and 6311). They were on a part of the site that had sports pitches on in the latter half of the 20th century, and so predate this. No artefactual evidence was recovered, and their date and purpose is not known.

Area 16

5.8.4 At the north-eastern end of ditch group 6424 were two possible postholes (6452 and 6450) (Fig. 4). These were set about 3.5 m apart and situated just to the north-west of the gap in ditch 6424.

Area 2

5.8.5 Area 2 contained three pits (6602, 6604, 6609) within 12 m of each other (Fig. 6). Pit 6604 had a charcoal rich fill (Pl. 17).

Area 4

5.8.6 Two small postholes were revealed in Area 4 (Fig. 7). Both were 0.35 m in diameter, with one being 0.1 m deep (6809) and the other 0.8 m deep (6811).

Area 6

5.8.7 A single pit 6802 was found in Area 6 (Fig. 8). It was irregular in shape, measuring 1.06 m long by 0.8 m wide and 0.18 m deep.

Area 5

5.8.8 Three pits 6207, 6211, 6221 (Pl. 18), were located in Area 5. All contained charcoal-rich fills but were undated (Fig. 9).

Area 7

5.8.9 Sinuous ditch 6006/6008 was situated in the south-westernmost corner of Area 7, running on a broadly WNW–ESE orientation (Fig. 11). The ditch was 2 m wide but only 0.06 m deep. A piece of clay pipe and a fragment of lead were recovered, suggesting a post-medieval date, but the ditch runs contrary to the modern field boundaries which share their orientation with the cultivation furrows, and it is possible that the ditch is actually much earlier.

5.8.10 An 18 m stretch of curvilinear ditch, 6010/6012/6014, was much truncated and had probably originally been much longer. It was 1.85 m wide and 0.1 m deep with irregular edges (Fig. 22). A single small sherd of modern pottery was recovered from its fills but like nearby ditch 6006/6008, the ditch runs contrary to the modern field boundaries and cultivation furrows, and it is possible that it is also much earlier.

Area 8

5.8.11 In the north-west corner of Area 8, ditch 5262/5246 (running south-west to north-east) and ditch 5280 (running north-west to south-east) formed two sides of a narrow enclosure, with post-medieval ditch group 5806 cutting ditch 5280, from which only a small sherd of glass was recovered (Fig. 11). To the east, ditch group 5816 was on a similar alignment to ditch 5262/5246 and was similarly situated a few metres north of ditch 5806. It may have been a continuation of this ditch, and although both were undated they were stratigraphically earlier than other ditches that they intersected with.

5.8.12 In the centre of the area, either side of ditch 5808, were a series of intercutting ditches of which only short sections were visible. The earliest in this sequence was ditch 5164, which was below several other ditches and buried beneath soil build up across this part of the site (Fig. 22). It ran in an east to west direction and its truncated form was 0.91 m wide. Next in the sequence was ditch 5166, which ran approximately north to south; this was cut by ditch 5168 (which also cut ditch 5164), which was oriented north-west to south-east. No finds were recovered from any of these ditches but ditch 5168 was itself cut by gully 5172 from which two sherds of medieval pottery and one sherd of modern pottery were recovered.

5.8.13 Ditch 5817 ran east to west for about 30 m across the southern part of Area 8 and was cut by the cultivation furrows in this area (Fig. 22). No finds were recovered to date this ditch, but it originates before the creation of the furrows in the medieval period.

5.8.14 Other undated features included pits 5096, 5531 and 5581.

Area 19

5.8.15 Two adjacent pits 3507 and 3509 (Pl. 19) were located around 5 m to the north of modern ditch 3571/3575 (Fig. 12). They contained the same silty clay fill with stone and charcoal inclusions but no dating evidence.

5.8.16 Gully 3517/3519 ran WSW–ENE, was 0.33 m wide and 0.05 m deep. It was cut by furrow 3515 (Fig. 22) and so was clearly pre-medieval, but its exact dating could not be discerned. Gully 3611, 9 m to the north-east, may have been a continuation although its intersections with the furrows was unclear. A third gully (3583). just to the south of these, was 1.26 m wide and 0.07 m deep and ran north-west to south-east; it may have been associated. Just to the north of gully 3611 were two pits (3565 and 3567). Both were about 0.5 m in diameter and spaced about 1 m apart. Their proximity suggests contemporaneity with each other.

5.8.17 A series of WSW to ENE aligned shallow ditches/gullies (group 3615) ran across the centre of Area 19, with some probably replacing others through time. The shallow nature of these features meant that in places they merged into one amorphous feature and their intercutting relationships could not be discerned, although in one intervention, the gully was cut by a cultivation furrow.

Area 9

5.8.18 A north-west to south-east aligned ditch, group 3087, was located near the eastern edge of Area 9 (Fig. 13). The ditch was over 40 m long and appeared to have been recut. It was cut by a furrow (Fig. 22). Although it was close to the location of a field boundary depicted on historic mapping, its orientation differed and therefore it may represent an earlier course of the boundary. The only finds recovered were eight fragments of lava quernstone, which could suggest either a Romano-British or early medieval date. A large, circular pit (3083) was located around 2 m to the west of ditch group 3087. It was filled with large subrounded stones in a charcoal-flecked brown sandy clay.

5.8.19 In the east of the mitigation area, three gullies (group 3235) appeared to form a three-sided enclosure, which measured 7.3 m by 7.2 m. The gullies were on average 0.2 m wide and 0.15 m deep (Pl. 20) and may have initially been the setting for the walls of a building. One gully intersected with a furrow and although their relationship was not completely clear it appears that ditch group 3235 may have predated the furrow.

5.8.20 Around 3 m to the west of group 3235, two north to south aligned parallel rows of postholes set 2 m apart (feature group 3077) are thought to represent the remains of a post-built structure (Pl. 21). The rows of postholes were about 4 m in length, with a single posthole located between the two northernmost posts. Another three extended at ninety degrees from the north-east of the feature.

5.8.21 The environmental assemblages suggest a medieval date for the structure (see below), although finds of early medieval pottery in several of the later furrows and fragments of lava quernstone from furrows and gully 3087 indicate either Romano-British or early medieval activity in the area.

5.8.22 Isolated pit 3116 was situated in the northern part of the area. It was circular, 0.75 m in diameter and 0.15 m deep with an irregular base. It was on the line of a furrow, in a gap between segments to the north and south, but the form of the feature did not conform with other excavated sections of the furrow.

5.8.23 A possible post-built structure (3146) was situated just to the east of post-medieval ditch group 3093. It consisted of an arc of four postholes spaced 0.8–1.4 m apart. There were no finds from these and no plant remains from the environmental samples. Superficially it looks like the partial internal post circle of a roundhouse (the post circle would be of approximate diameter 4.5 m giving any hypothetical roundhouse a diameter of about 7.5 m) but without any firm evidence of prehistoric activity in the vicinity this interpretation is speculative.

5.8.24 A north-east to south-west oriented ditch, group 3245, crossed the south of the excavation area. It was on a similar alignment as the current field boundary, but was around 15 m to the north. It cut a curvilinear ditch, group 3244 (Fig. 23), which ran from the south-west baulk curving east and then to the south-west, where it was cut by ditch group 3245. No artefactual evidence was recovered from 3244 and its function is not known.

Area 20

5.8.25 At the north of Area 20 there was a north-west to south-east oriented ditch, group 2130, which extended from the north-west limit of excavation for around 65 m before terminating (Fig. 14). A piece of clay pipe stem was recovered from the feature. Gully 2138/2150 contained no finds but was cut by ditch group 2130. Ditch group 2130 was in turn cut by curvilinear ditch group 2169. This ditch, also undated, appeared to form part of a much-truncated enclosure. During the evaluation, an environmental assemblage suggestive of domestic crop processing activity was recovered from a pit (17703) situated 5 m inside of this enclosure; however, none of the samples taken from ditch 2169 during the mitigation stage showed any signs of domestic activity.

5.8.26 In the centre of the mitigation area two north-east to south-west oriented ditches, groups 2063 and 2180, which ran towards each other but were slightly offset. They terminated about 15 m apart from each other, but both had slight turns to the south-east before they terminated. A single piece of iron was recovered from ditch 2180.

5.8.27 Pit 2190 cut ditch group 2180 around 3 m from its terminal (Pl. 22). Two further small stretches of ditch were located in the central part of the area. Ditch 2093 ran north-west to

south-east and ditch 2149 ran north-east to south-west. They may have formed part of a heavily truncated enclosure or field system.

Area 21

5.8.28 In the north of Area 21, ditch group 1675 ran on a north-west to south-east alignment from a small watercourse that feeds into Cock Beck (Fig. 15). It corresponds with a geophysical anomaly which appears to form part of a large enclosure. A piece of clay pipe was recovered from the ditch. Ditches 1614 and 1618 corresponded with the corner of an enclosure identified in the geophysical survey, although they had been disturbed by a post-medieval land drain and so the relationship could not be confirmed.

5.8.29 Ditch group 1700 was located between group 1675 and ditches 1614 and 1618. It was north-east to south-west oriented and ran roughly parallel to the stream and perpendicular to ditch group 1675.

5.8.30 To the west of these features, ditch 1701 ran from the former field boundary on a west–east orientation, and ditches 1706 and 1708 ran in a roughly north-west to south-east direction. Ditch 1701 was very shallow at its eastern end and was machine truncated during topsoil stripping. Ditches 1706 and 1708 were probably parts of the single feature, but wet weather conditions had caused heavy ground disturbance which obscured their edges and extent.

5.8.31 In the south of Area 21, ditch group 1620 appeared to form a sub-rectangular enclosure, with another ditch (1652) perhaps forming the north-western side. The orientation of the ditches either side of a break in the south-eastern side are suggestive of a 2.75 m wide entrance, whilst pit 1664 cut into one terminal of 1620 may suggest the presence of an entrance here as well. The northern perimeter of ditch 1620 coincided with another pit (1630), although the relationship between the two was unclear. The environmental samples recovered from the enclosure were devoid of material usually associated with habitation and 1620 probably functioned as a stock enclosure.

5.8.32 Group 1652 had been recut several times and it also ran parallel to what was interpreted as a modern land drain on its north-west side. A single sherd of 19th century Hollow ware pottery was recovered from one of its fills.

5.8.33 Another pit, 1673, was located around 7.5 m to the east of ditch group 1620. Although initial observations suggested that its single fill was coal-/charcoal-rich (Pl. 23), this was not borne out by the environmental evidence.

Area 11

5.8.34 Shallow north-west to south-east aligned gully 1504 (Fig. 15) was traced for about 10 m but appears to have been much truncated; it probably continued to the south for another 15 m as gully 1524.

5.8.35 Shallow pit 1508 was 0.07 m deep and 1.2 m in diameter. Its single fill, 1509, contained a high percentage of charcoal flecks.

5.8.36 Postholes 1514 and 1516 were situated about 0.6 m apart and probably formed a pair. Pit 1514 was 1 m in diameter and 0.22 m deep. The single fills of both postholes contained charcoal flecks.

5.8.37 Ditches 1511 and 1513 were excavated as pits but are more probably east to west aligned ditches. with conditions in the field making the features hard to trace. The northern-most of these, 1511, was the earliest and was probably recut as ditch 1513. Both had shallow U-

shaped profiles. The ditches correspond with a linear anomaly on the geophysical survey that curved to the south in the direction of a ditch investigated in slots 1518 and 1528.

5.8.38 This ditch (1518/1528) was recorded for a distance of 30 m. Both interventions revealed a V-shaped profile, with one exhibiting a notch in its base (Pl. 24). If this ditch did continue as ditches 1511/1513 it was not observed in trench 198 of the evaluation and evidently changed profile when it curved west.

5.8.39 Pit 1520 was 1.1 m in diameter and 0.19 m deep. It had a single fill 1521 which contained abundant charcoal in its base (Pl. 25).

Area 23

5.8.40 A series of pits and postholes were discovered during the excavation of Area 23 (Fig. 16) that lacked datable finds. Some were isolated, although there were also two clusters in different parts of the mitigation area.

5.8.41 Postholes 1154, 1156, 1162 and 1164 were located at the northern end of Romano-British trackway ditch 1051. They were of similar size (averaging around 0.3 m wide) and contained silty clay fills with charcoal and stony inclusions. They may have formed a small structure associated with the trackway between ditches 1041 and 1051, although posthole 1164 appeared to have been cut by ditch 1051, even if this was not completely clear. Postholes 1154, 1156 and 1164 exhibited signs of *in situ* burning.

5.8.42 Pits 1234 and 1236 were located close to tree-throw 1199 between ditch groups 1081 and 1242. Both contained blackish brown silty fills with charcoal and exhibited signs of *in situ* burning.

5.8.43 Pit 1276 was located 28 m to the south-west of pits 1234 and 1236. It contained a greyish silty sand fill and heat cracked stone, again interpreted as exhibiting *in situ* burning.

5.8.44 Pit 1005 was located south of ditch group 1081 and about 30 m west of trackway ditch 1051. It was an isolated feature with a charcoal-rich sandy silt fill and evidenced *in situ* burning through a reddening of the underlying geological substrate.

5.8.45 A short stretch of ditch 1278/1255, oriented NNW–SSE, was situated within Romano-British enclosure 1370. It appears to line up with elements of ditch 1373 but was not obviously part of the enclosure system. Similarly aligned gully 1138/1217 was also situated within the enclosure formed by ditches 1373 and 1372. This could form a subdivision within the enclosure, but it had no direct relationships or finds. Small gully 1251 was 0.35 m wide and 0.1 m and cut the southern boundary of enclosure 1370.

5.8.46 Ditch group 1242 was situated in the north-west end of Area 23. Parts of this group ran approximately north to south with a branch heading off to the east. Elsewhere, ditch group 1031 ran ENE–WSW to the south of the Romano-British enclosures. An intervention demonstrated that ditch 1031 cut trackway ditch 1041 (Fig. 23). The only pottery recovered from group 1031 was a sherd of Romano-British flanged bowl, but it is unclear if this was residual. On the western side of ditch group 1041, 1031 was seen to continue as ditch 1015, which was itself found to cut trackway ditch 1051 (Fig. 23). Together with 1051 and 1015, ditch group 1242 appeared to form a rectangular enclosure measuring approximately 96 x 190 m.

Area 24

5.8.47 At the north-west of this mitigation area, ditch group 87 extended from the western limit of excavation towards the north-east for around 60 m, before tapering out (Fig. 17). It corresponds with a linear geophysical anomaly which appears to form part of a possible enclosure or field division. The ditch was aligned with the slope of the land, which descends gradually towards Cock Beck in the west, indicating that it may have had a drainage function. It produced no artefactual evidence.

5.8.48 A north–south oriented ditch 67/74 was exposed for around 20 m within the mitigation area. It continued beyond the western limit of excavation. It did not correspond with any geophysical anomalies or historic mapping. No finds were recovered from the feature.

5.8.49 In addition, a number of pit features were investigated across the north-western half of the mitigation area. Pits 32 (Pl. 26), 42, 45, 47, 49, 51 and 61 were circular in shape and contained charcoal-rich clay fills, usually overlain by another deposit of dark brown or grey clay. There was some discolouration of the surrounding clay geology, perhaps indicating *in situ* burning. There is a high possibility that these pits are related to the production of charcoal. Such features tend to have a medieval date, although earlier examples are known (see below).

5.8.50 Pits 49 and 51 were the smallest of these features and may have been postholes. The centre of pit 49 dipped steeply, perhaps representing the void left by the base of a post (Pl. 27).

Area 14

5.8.51 At the southernmost end of the site, undated ditch group 463 ran west to east before turning south and continuing beyond the southern limit of excavation (Fig. 19). No artefactual evidence was recovered from the ditch. It is, however, much more regular in form than the Romano-British enclosures to the north and is probably of a later date.

5.8.52 A number of pits – 104, 116, 128, 154, 270, 272, 312, 410, 412, 414, 429, 431 – were investigated within and around the enclosure complex. There are some intercutting relationships, such as pit 312 which cuts medieval ditch group 457 and hence falls late in the stratigraphic sequence for the enclosure complex, but their exact phasing is currently unclear. It is possible that some may be contemporary with the activity within the enclosures, but they did not produce any artefactual evidence and their date and function remains unknown.

6 FINDS EVIDENCE

6.1 Introduction

6.1.1 This section discusses the finds from all phases of fieldwork. Finds from the evaluation phase and from the metal detecting survey have already been reported on (Wessex Archaeology 2020a; 2020b) and are treated in summary form here; finds from the strip, map and sample mitigation areas are considered in more detail. The assemblage ranges in date from prehistoric to modern, but the main chronological focus is on the 19th to 20th centuries, with a smaller medieval component.

6.1.2 All finds have been quantified by material type within each context; totals by material type are given in Table 2, broken down by fieldwork phase. Table 3 breaks down the mitigation assemblage by blocks of site areas, working from north-west to south-east, to simplify the spatial distribution.

Table 2 Finds totals by material type and by site sub-division

Material	Evaluation		MD survey		Mitigation		TOTAL	
	No.	Wt. (g)	No.	Wt. (g)	No.	Wt. (g)	No.	Wt. (g)
Pottery	343	7600	1	-	2170	31958	2514	39558
Ceramic building material	59	5804	-	-	279	44278	338	50082
Other ceramic	6	628	-	-	2	49	8	677
Clay pipe	25	52	1	-	130	348	156	401
Stone	-	-	-	-	28	19462	28	19462
Flint	-	-	1	-	4	-	5	-
Glass	54	2176	1	-	257	2989	312	5166
Slag	30	629	30	-	89	3294	148	3952
Metalwork	10	-	2216	-	167	-	2393	-
silver	-	-	3	-	-	-	3	-
copper alloy	2	-	747	-	7	-	756	-
lead/lead alloy	-	-	340	-	3	-	343	-
iron	8	-	961	-	157	-	1126	-
other metal	-	-	165	-	-	-	165	-
Fibre	-	-	-	-	1	14	1	14
Leather	-	-	-	-	1	12	1	12
Wood	1	1	-	-	1	203	2	204
Animal bone	73	1385	-	-	345	2308	418	3693
Marine shell	-	-	-	-	125	1103	125	1103
Synthetics	4	34	-	-	1	1	5	35

Table 3 Finds totals by mitigation area

	Block 1		Block 2		Block 3		Block 4		Block 5		Block 6		Unstrat.	TOTAL	
Material	**No.**	**Wt.(g)**	**No.**	**Wt.(g)**	**No.**	**Wt.(g)**	**No.**	**Wt.(g)**	**No.**	**Wt.(g)**	**No.**	**Wt.(g)**	**No.**	**No.**	**Wt.(g)**
Pottery	49	374	6	18	10	32	1905	29,063	113	905	87	1566	-	2170	31,958
Ceramic building material	13	1121	1	140	-	-	241	25,815	15	66	9	17,136	-	279	44,278
Other ceramic	-	-	-	-	1	42	1	7	-	-	-	-	-	2	49
Clay pipe	23	37	-	-	2	3	102	302	2	5	1	1	-	130	348
Stone	1	5	-	-	-	-	26	19456	1	1	-	-	-	28	19462
Flint	-	-	-	-	-	-	3	-	-	-	1	-	-	4	-
Glass	9	51	1	47	4	27	239	2845	-	-	4	19	-	257	2989
Slag	-	-	-	-	2	1243	86	2050	-	-	-	-	-	89	3294
Metalwork	-	-	8	-	2	-	149	-	-	-	5	-	3	167	-
copper alloy			1		-	-	4	-	-	-	-	-	2	7	-
lead			-		1	-	2	-	-	-	-	-	-	3	-
iron			7		1	-	143	-	-	-	5	-	1	157	-
Fibre	-	-	-	-	-	-	1	14	-	-	-	-	-	1	14
Leather	-	-	1	12	-	-	-	-	-	-	-	-	-	1	12
Wood	1	203	-	-	-	-	-	-	-	-	-	-	-	1	203
Animal bone	-	-	-	-	-	-	305	2060	19	118	21	130	-	345	2308
Shell	1	4	-	-	-	-	124	1099	-	-	-	-	-	125	1103
Synthetics	1	1	-	-	-	-	-	-	-	-	-	-	-	1	1

Key to Blocks: 1 = Areas 1, 15 & 16; 2 = Areas 2, 3 & 17; 3 = Areas 4–7 & 18; 4 = Areas 8, 9, 19, 20 & 21; 5 = Areas 10–12, 22–24; 6 = Areas 13, 14 & 25

6.2 Pottery

6.2.1 The quantities of pottery from the various mitigation areas are summarized in Table 4. Pottery data has been amalgamated with the overall project database.

Table 4 Pottery totals by area and by chronological period

Area	LIA/RB		Medieval		P-med/modern		Total	
	No.	Wt. (g)	No.	Wt. (g)	No.	Wt. (g)	No.	Wt. (g)
15	-	-	1	1	44	203	45	204
16	-	-	-	-	4	170	4	170
17	-	-	-	-	5	17	5	17
2	-	-	-	-	1	1	1	1
5	-	-	-	-	1	2	1	2
18	-	-	1	4	6	20	7	24
7	-	-	-	-	2	6	2	6
8	-	-	369	5438	643	10,555	1012	15,993
19	1	12	65	313	706	11,964	772	12,289
9	-	-	14	63	15	127	29	190
20	4	12	-	-	87	573	91	585
21	-	-	-	-	1	6	1	6
23	102	856	7	34	3	13	112	903
24	1	2	-	-	-	-	1	2
14	37	1079	17	149	33	338	87	1566
Totals	**145**	**1961**	**474**	**6002**	**1551**	**23,995**	**2170**	**31,958**

6.2.2 A full discussion of the pottery must await final analysis, but a number of general issues can be highlighted at this stage. Detailed comments on the assemblages from the individual mitigation areas can be found below.

6.2.3 The date range within the assemblage as a whole was very wide, with the earliest material being of pre-Roman Iron Age date (contexts in Areas 14 and 23). These sherds were classified using the system developed by the author and set out in detail elsewhere (Cumberpatch 2016; 2018). Romano-British pottery consisted of Greywares, mortaria, samian ware and other types from contexts in Areas 1, 14, 20, 23 and 24, and possibly from Area 19.

6.2.4 Late pre-Conquest wares consisted of a small quantity of York A ware dating to the period between the mid-9th and mid-10th centuries (contexts in Areas 8, 9 and 19). A cross-context join (the rim of a jar) linked contexts 5134 and 5161 (group 5809). Pottery of this date is rare in South and West Yorkshire (Cumberpatch in prep), despite the fact that it was made at Thorner a few miles away (Cumberpatch and Roberts 1998–9; Vince 2008; Vince *et al.* nd) and further work is required to clarify the details of the distribution and to address the possibility that some material, including sherds from Scholes Lodge Farm (700 m east of the Scheme), may have been misdated due to its superficial similarity to later gritty wares.

6.2.5 While pottery of medieval date spanned the entire period, an initial examination of the data suggests that earlier medieval wares (mid/late 11th to mid/late 13th century) predominated with later medieval (late 13th to early/mid-15th century) wares much rarer. The early medieval types included a small quantity of Yorkshire Gritty ware (contexts in Areas 8, 14 and 19), but the greater part consisted of a range of Buff Gritty and Buff Sandy wares and

variants (Buff-Orange, Buff-White, Orange, White, Oxidized, Splash-glazed Gritty wares, Gritty ware and other minor types). The diversity within this group of related wares is typical for the period and the area and would seem to relate to the existence of a number of local potteries producing similar vessels using different clay sources and firing temperatures. While the Yorkshire Gritty wares are typically buff in colour and very hard, with dense, almost semi-vitrified fabrics, other types are much softer and show a range of colours from white to orange. Fully reduced wares are rare and were probably not the intended outcome of the firing process. While gritty-textured wares (with inclusion sizes of 0.8 mm and above, typically around 1 mm) are the commonest type, finer, sandy-textured examples also occur, almost certainly deliberately. It should be noted that, contrary to some recent suggestions, there can never be a 'Sandy Gritty' type as the two terms are mutually exclusive.

6.2.6 One sherd of hand-made Gritty ware was noted (Area 8); this class of pottery has recently been noted on a range of sites from Doncaster to Durham, although its significance remains uncertain (Cumberpatch in prep).

6.2.7 It was notable that earlier medieval sandy wares of known and identifiable type were very rare, despite being identified on sites elsewhere in West Yorkshire. The Beverley 2 ware jug (surface 5507 in Area 8) was unique within the assemblage although a heavily abraded sherd from the same Area may be a coarse Beverley ware variant.

6.2.8 Later medieval wares consisted primarily of Humberware (contexts 5382, 5388, 5389, 5430, 5436, 5541 – ditches 5823, 5824, 5825 and 5827), Humberware type (contexts 3512, 5243, 5382, 5388, 5430 and 5506 – ditches 5823 and 5825, furrows 3511 and 5810 and surface 5507) and a range of unidentified later medieval sandy and gritty wares. These may include some unidentified Humberware types (the similarity of some of the edge-rimmed jars to Humberware jars may be significant in this respect), although others are probably the products of as-yet unidentified potteries.

6.2.9 The period between the mid-15th and mid/late 16th centuries saw a radical transformation in the characteristics of domestic pottery and the emergence of a distinctive 'post-medieval' tradition characterized by a range of new vessel forms and colours (Cumberpatch 2003). In the present contexts, this period was well represented with Cistercian ware, Purple-glazed Humberware and Midlands Purple type ware, all present alongside a distinctive type of Purple-glazed Gritty ware. Later post-medieval wares included typical 17th century types; Blackware, Yellow ware, Redware and Slipware Type 1.

6.2.10 The early modern period (*c*. 1720–*c*. 1840) saw a second and even more radical transformation of the pottery industry with the establishment of factory scale production alongside a continuation of existing technologies, albeit with some change in organizational structures, as discussed in detail elsewhere (Cumberpatch 2014). All three of the principal types of formal tableware (White Salt Glazed Stoneware, Creamware and Pearlware (including Edged ware) were present, as were several of the vernacular tablewares (Late Blackware, Mottled ware and Slipware), although Slip Coated ware was represented by just one sherd (Area 8). Utilitarian wares (Brown and Yellow Glazed Coarseware) are difficult to date with any accuracy. While both types have their origins in the mid/late 17th century, they become more standardized during the 18th century and continued in production into the early/mid-20th century.

6.2.11 Assemblages of recent date (*c*. 1840 to *c*. 1950) tend to be dominated by a wide range of domestic and retail wares. Tablewares and kitchen wares consist of a variety refined earthenwares, the majority of the variants of Whiteware usually designated by their decorative motifs (Banded ware, Sponged ware, Colour Glazed ware etc). Salt glazed and

lead-glazed earthenwares tend to be the commonest retail and cooking wares, while both Brown and Yellow Glazed Coarsewares remain the major utilitarian types. Such types were well represented, most notably in ditch 5806 (Area 8), but also in smaller quantities across the various sites.

Pottery by Area

6.2.12 The pottery is discussed by area below, following the geographical order of mitigation Areas from north-west to south-east.

Area 15

6.2.13 Area 15 produced an assemblage consisting of 45 sherds weighing 204 g, representing a maximum of 43 vessels. This dated to the early modern and recent periods, with medieval pottery notable by its virtual absence. A sherd of biscuit-fired ware (garden feature 6335) may indicate either the proximity of an 18th- or 19th-century pottery factory or the import of waste material for building purposes.

Area 16

6.2.14 The pottery assemblage from Area 16 consisted of just four sherds of pottery weighing 170 g from three contexts. All of the pottery was of recent date and included tablewares and retail wares.

Area 17

6.2.15 The pottery assemblage from Area 17 consisted of five sherds weighing 17 g, representing a maximum of four vessels. One sherd was identifiable as a piece of 19th-century Whiteware (wheel rut 6516) but the remaining four were almost unidentifiable, being extremely heavily abraded (boundary ditch 6519). They may be of 17th-century date (Redware), but this is not certain.

Area 2

6.2.16 Area 2 produced just one small sherd of mid- to late 19th-century Whiteware (furrow 6602). Beyond indicating some form of activity in the area in the recent period, few conclusions can be drawn from this sherd.

Area 5

6.2.17 Area 5 produced just one small sherd of mid- to late 19th century Whiteware (gully 6203). Beyond indicating some form of activity in the area in the recent period, few conclusions can be drawn from this sherd.

Area 18

6.2.18 Area 18 produced a small assemblage of pottery consisting of seven sherds weighing 24 g, representing a maximum of six vessels from two contexts (separate fills of ditch 6128). With the exception of a small, heavily abraded sherd of possible medieval date and one sherd of Brown Glazed Coarseware of possible early modern type, the assemblage was of recent date.

Area 7

6.2.19 Area 7 produced two small sherds of Bone China, dating to the period between the mid-19th and early 20th century (furrow 6004 and ditch 6010).

Area 8

6.2.20 Area 8 produced an assemblage of 1012 sherds weighing 15,993 g, representing a maximum of 798 vessels. The chronological range of the assemblage was wide, with the earliest pottery dating to the pre-Conquest period (York A ware; ditches 5806, 5808 and 5809, including cross-context joins; see also Areas 9 and 19). Post-Conquest wares were represented by a sherd of hand-made Gritty ware (ditch 5809) alongside Yorkshire Gritty wares and related types and including White-slipped Sandy ware. Surface 5507, although it included a small amount of post-medieval and early modern material, was notable for the presence of a Beverley 2 ware jug, the base of a vessel in an unusual fine white fabric (a probable import) and a significant quantity of late medieval and early post-medieval wares. Late medieval and early post-medieval wares were also well represented in two fills of ditch 5808, suggesting that the site saw considerable activity at this time. These two fills were linked by two cross-context joins.

6.2.21 Late post-medieval, early modern and recent activity was indicated by a wide range of pottery dating to these periods, notably in ditch 5806 and tree throw 5325, but also throughout the area. It would seem that this part of the Scheme has a long history of activity.

Area 19

6.2.22 The assemblage from Area 19 consisted of 772 sherds weighing 12,289 g, representing a maximum of 594 vessels. The most striking feature was a large deposit of pottery from a single fill of ditch 3571/3575. This alone consisted of a total of 684 sherds of pottery weighing 11,642 g, representing a maximum of 511 vessels. While a small quantity of medieval and early modern pottery was included in the assemblage, the majority was of late 19th-century date and appeared to be broadly contemporary. The sherds included several bearing whole or partial makers' marks and it may be possible to provide closer dates if these can be identified. The earlier material in this context group consisted of a single sherd of heavily abraded medieval pottery (Buff-Orange Gritty ware) and sherds of White Salt Glazed Stoneware, Creamware, Pearlware (including Edged ware), Fine Redware and Late Blackware. Despite the presence of these minor elements, the bulk of the group post-dated 1840 and consisted of a wide range of types in common domestic use in the later 19th century.

6.2.23 Apart from these specific contexts, the assemblage was a mixed one, with a significant pre-Conquest and early medieval component which included York A ware (furrow 3511; see also Areas 8 and 9). Later pottery from all periods was present although in small quantities.

Area 9

6.2.24 Area 9 produced a relatively small assemblage of pottery; 29 sherds weighing 190 g, representing a maximum of 27 vessels. The assemblage shares characteristics with that from Area 8, most notably in the presence of a sherd of York A ware (?colluvial layer 3082) and larger quantities of medieval pottery (layer 3314) and of early post-medieval material (ditch 3094, furrow 3293).

Area 20

6.2.25 The pottery assemblage from Area 20 consisted of 91 sherds weighing 585 g, representing a maximum of 81 vessels. With the exception of a sherd of Romano-British greyware from a braided holloway 2014, associated with a piece of 17th-century Blackware and a second Blackware sherd from layer 2115, all of the pottery was of early modern and recent date, despite the proximity of this area to Areas 8, 9 and 19 and their significant pre-Conquest and medieval elements. In terms of the later material, Area 20 can be compared with the late phase in Area 19.

Area 21

6.2.26 Area 21 produced a single small sherd of Brown Salt Glazed stone ware (ditch 1652).

Area 23

6.2.27 The pottery assemblage from Area 23 consisted of 112 sherds weighing 903 g, representing a maximum of 13 vessels. The unusual disparity between the number of sherds and the maximum number of vessels is explained by the presence of two shattered vessels in ditch 1372 and ditch 1374.

6.2.28 The assemblage was primarily a Romano-British one, with a small number of early modern and recent sherds from ditch 1071 and ditch 1051. Putative medieval material from ditches 1041 and 1081 was so heavily abraded that it was difficult to identify with any certainty and it may also be of Romano-British date. Ditch 1370 contained a small sherd of H2 Quartz ware, a pre-Roman to Romano-British period Iron Age type more usually found in East Yorkshire and rare on sites so far west of its main area of distribution.

Area 24

6.2.29 Area 24 produced a single small, heavily abraded sherd of possible Romano-British type in an oxidized fabric, clearly a residual find (ditch 88).

Area 14

6.2.30 Area 14 produced a very mixed assemblage of pottery consisting of 87 sherds weighing 1566 g, representing a maximum of 73 vessels. It included a significant Romano-British element (ditches 402, 420, 447, 448, 455 and 464, gully 459) amongst a mixed medieval and recent assemblage. In contrast with the assemblages from other areas, post-medieval and early modern wares were largely absent.

6.3 Ceramic Building Material

6.3.1 This category includes brick, roof tile and drainpipe; the date range is entirely post-medieval/modern.

Brick

6.3.2 This includes five complete bricks taken as samples from layer 92; this represented the backfill of open casting in Area 13 and contained a concentration of bricks derived from demolition of a nearby MoD structure. The complete bricks all have shallow frogs, and four are stamped with makers' marks: 'Armitage' (two examples), 'Middleton' and 'Leeds'. The latter example was possibly made by the Leeds Brickmaking Company, based in Armley, listed in trade directories 1875–1909. The Middleton Fireclay Co. Ltd were also Leeds-based; they are listed in Kelly's trade directory for 1906 and were working at least into the mid-20th century. George Armitage & Sons Ltd were established in 1864 in Wakefield; they subsequently expanded to open several brickmaking sites around the Leeds and Wakefield area. The business was sold in 1988. Bricks impressed with the Armitage name could have come from any of their works (Old bricks nd).

6.3.3 Other brick is more fragmentary and only a few retain original dimensions, in all cases thickness only (one at 45 mm; two at 65 mm). Fabrics are invariably coarse, and the bricks generally appear crudely made; some are overfired. Apart from layer 92, brick formed a low-level background scatter across the site which would be consistent with the redeposition of refuse across the ploughzone rather than indicating the former presence of buildings.

Roof tile

6.3.4 Two groups of pantile fragments were recovered from ditch 3571/3575 (3571 (21 fragments) and 3575 (78 fragments)), both in Area 19. The tile type was introduced to this country from the Continent in the second half of the 17th century and is still in use today. Other roof tiles were confined to four contexts in Area 8 (ditch group 5818, layer 5171, gully 5172, tree throw 5202). Apart from one concrete tile, these four contexts produced 70 fragments of modern machine-made nibbed tiles, several examples bearing the 'Armitage' stamp (see above; JJR reclamation 2022), and some stamped 'Metal'. The latter could be a product of the Metallic Tile Co. Ltd of Newcastle-under-Lyme (Old bricks nd).

Drainpipe/field drain

6.3.5 One fragment of salt-glazed drainpipe was found in garden feature 6335 (Area 15), and fragments of unglazed field drain came from ditch 5514 (Area 8) and pit 6402 (Area 16).

6.4 Other Ceramic

6.4.1 Other ceramics comprise a 'marble' in reddish clay, and part of a porcelain figurine, both of 19th-/20th-century date.

6.5 Clay Tobacco Pipes

6.5.1 Of the 127 fragments of clay pipe recovered from the mitigation, the overwhelming majority (118 fragments) comprise plain stems. Seven of these are from spurred pipes, indicating a date range of 18th-century or later and, from the stem diameters of the remainder, this is probably true of most fragments, with the possibility of a few 17th-century examples.

6.5.2 Four complete bowls were recovered, and three others are complete enough to be at least broadly datable. Five pipes (four plain and one decorated), all from ditch 3571 (Area 19), are of the same type, dated *c.* 1840 or later (Atkinson and Oswald 1969, fig. 2, type 33). One other decorated bowl, from furrow 5215 (Area 8), is probably of the same type, while another decorated bowl, from trackway 5814 (Area 8), is more incomplete but is also probably 19th-/early 20th-century. The most complete decorated pipe (from ditch 3571) features a seated Britannia (see White 2004, fig. 71, although the image is reversed). The design on the back of the pipe from furrow 5215 may represent the Prince of Wales' feathers, while the incomplete design visible on the partial pipe from trackway 5814 is paralleled by an example from Wakefield (White 2004, fig. 167), although found on a pipe dating to the late 18th century.

6.5.3 The pipes from the evaluation do not add significantly to this assemblage; there were no datable bowls although from decorated and spurred fragments this group also appears to be 18th-century or later. No makers' marks were observed.

6.6 Stone

6.6.1 The 28 pieces of worked stone recovered cover a range of building material and portable objects (see Table 5).

Table 5 Worked stone by context

Area	Context	No.	Wt. (g)	Description
15	Topsoil	1	5	slate pencil
8	Tree throw 5448	1	13	micaceous sandstone - tile?
8	Layer 5506	7	370	micaceous sandstone, slab like - tile?

19	Ditch 3571	6	380	modern roofing slates
19	Ditch 3571	2	749	conjoining frags, micaceous sandstone - block with flat surfaces; building material?
19	Ditch 3575	1	40	micaceous sandstone - tile?
9	Cultivation furrows 3085	1	46	lava quernstone frag
9	Ditch 3087	8	68	lava quernstone frags
23	Pit fill 3536	1	17790	complete rotary quern

Portable objects

6.6.2 This category consists largely of quernstones, all probably of medieval date. Of most interest is a complete rotary quernstone, found buried in a pit in Area 9 (fill 3536). The quern measures 300 mm in diameter and 120 mm in height; it has a hole for a side handle and a raised 'collar' around the central conical hopper, a feature which is not uncommon amongst medieval quernstones. By the 12th to 13th centuries the increasing number of water mills had almost certainly led to a reduction in hand querns (Margeson 1993, 202), and the use of querns for ordinary domestic use was widely prohibited. The fact that this one was found in a pit suggests that it may have been in illegal use. As a possible comparable example, an upper stone was discovered hidden in a pit in the deserted medieval village at Thrislington, County Durham, and a lower stone was also found there set into the kitchen floor of one of the cottages; this could easily have been covered over if necessary. Alternatively, this quern could have been in use legally, for example by a manor house (castles and monastic institutions would also have had their own; S. Watts pers. comm.).

6.6.3 Nine small fragments, from two features in Area 9 (furrow group 3085, ditch 3087), have been identified as lava stone, deriving from quernstones imported from the Continent, most probably from the Eifel Mountain region of Germany. Rotary querns made from lava stone were used throughout the Romano-British period, up to the 5th century, but then decline in use, before becoming the predominant stone used for rotary querns during the medieval period. Lava querns could have been used for the grinding of hops for beer, or for the milling of malt.

6.6.4 Also in this category is a slate pencil of 19th-/20th-century date. This is a topsoil find from Area 15.

Building material

6.6.5 Eleven fragments of micaceous sandstone, occurring in slab-like fragments of varying thickness, could have been used as building material (e.g., roof tiles) although no clear evidence of utilization was observed. Six roofing slates (almost certainly of 19th-/20th-century date) found in ditch 3571 (Area 19) are more obviously identifiable as building material.

6.7 Worked Flint

6.7.1 Four pieces of worked flint were recovered during the mitigation, with one flake found during the metal detecting survey. Of most interest is an Early Neolithic leaf-shaped arrowhead from furrow 3551 (Area 19). The other three pieces from the mitigation (ditch 452, subsoil 2101, furrow 3551) are all flakes, one of them broken and burnt.

6.8 Glass

6.8.1 The glass (312 fragments recovered) includes both vessel and window fragments, as well as one object. All is of post-medieval/modern date.

Vessel glass

6.8.2 The earliest vessel glass is from free-blown bottles and phials. Fragments of green wine bottle have a potential date range from mid-17th to early 19th century, although base fragments and necks seen here are from cylindrical forms of late 18th-/early 19th-century date. At least one bottle of late 17th-century 'onion' form was found during the evaluation. There is one kicked phial base from ditch 5807 (18th-/19th-century); two body fragments came from an evaluation context.

6.8.3 All other vessel glass appears to be machine-made (although some fragments are rather too small to determine manufacturing technique) and thus of 19th-century date or later. They include a chemist's bottle with 'Tablespoon' gradations down the side (garden feature 6335, Area 15), and a beverage bottle with a partial (contents) manufacturer's mark: …ADLERS / [SPI]RIT VAULTS (ditch 3571, Area 19); the manufacturer is unknown. There is one wine bottle neck with a Continental style 'collared' rim from the same context. Other vessel fragments are probably mostly from bottles or jars, with one rim from a drinking vessel (probably a wine goblet).

Window glass

6.8.4 There are also 102 fragments of window glass (18th-century or later), of which just over half (58 fragments) came from ditch 3571.

Glass object

6.8.5 One tiny glass bead was retrieved from a sieved soil sample taken from a fill of ditch 157 (group 447). The bead is hexagonal (length 2 mm, diameter 2 mm) and appears black in colour, although it may actually be dark blue. Blue hexagonal beads are known from the Romano-British period, though they are not common – beads of this form are more commonly light green in colour. Guido's survey (1978, 96–7) found that blue hexagonal beads were restricted to sites with late Romano-British or post-Roman occupation. A more recent find from Liverpool is dated as post-medieval, but this is much larger (Portable Antiquities Scheme 2011'Glass)

6.9 Slag

6.9.1 The small assemblage of slag recovered (3982 g) does include some metalworking debris, but largely comprises miscellaneous residues from general pyrotechnical activities (e.g., clinker, fuel ash slag). This material is not datable although, on the grounds of the chronological focus of the overall finds assemblage, it is likely to be of relatively recent origin.

6.10 Metalwork

6.10.1 The metalwork includes coins, as well as objects of copper alloy, lead and iron.

Coins

6.10.2 The two coins comprise a Victorian halfpenny (found unstratified) and a George V penny of 1917 (mixed overburden/redeposited natural layer 5001, Area 8).

Copper alloy

6.10.3 Copper alloy objects comprise a small disc button, a plain oval plaque with four rivet attachments, a domed decorative mount or fitting, a cartridge case end and a wire ring. All these are of post-medieval/modern date (probably 18th century or later).

6.10.4 Two copper alloy items of interest were found during the evaluation: a pair of nutcrackers of 18th-century type, and a double-loop oval buckle dating between the mid-14th century and the mid-17th century; their *floruit* was *c.* 1450–1650 (Whitehead 1996, 52–3, cat no 290).

Lead

6.10.5 Two lead objects were recovered. One is a plain disc (diameter 33 mm) of uncertain function; the other is a decorated biconical spindlewhorl, found in ditch 5812 (Area 8). The spindlewhorl is of medieval date, a type more widely known in the north of England and Wales (Egan 1998, 261). There are a number of other examples recorded on the Portable Antiquities Scheme database from north Wales and north-east England (https://finds:org.uk/database/).

Iron

6.10.6 The ironwork is in poor, corroded condition; identification has been enhanced by the selective use of X-radiographs. The majority of the objects appear to be nails/nail fragments (at least 98 examples, including a group of 75 from trackway 5814, Area 8). Other identifiable objects include six horseshoes, all of relatively small size, a bucket handle, a ploughshare and a heel iron. Bar fragments from ditch 5807 (Area 8) appear to belong to three knives, at least one of which is a medieval whittle tang form.

Metalwork from metal detecting survey

6.10.7 Finds from the metal detecting survey have already been reported on (Wessex Archaeology 2020b), and a brief summary only is included here. With the exception of one prehistoric object, the whole assemblage (which comprises 2216 objects) is of post-medieval/modern date, with a clear focus in the 19th to early 20th century. Table 6 summarizes the breakdown of the assemblage by functional group; just over half of the assemblage could not be identified to specific function, comprising miscellaneous fragments of bar, strip, sheet metal etc, or objects complete unidentifiable due to advanced corrosion (selective X-radiography indicates that little or no further information is to be gained from such objects).

Table 6 Metal detecting finds by functional group

Functional group	Copper alloy	Iron	Lead	Silver	Other metal	Total
Coins & tokens	92	-	3	3	-	98
Commerce	-	-	14	-	-	14
Construction	6	325	-	-	1	332
Fittings	307	79	19	-	18	424
Household	30	6	4	-	6	47
Metrology	2	1	3	-	-	6
Militaria	5	1	12	-	-	18
Personal	99	2	-	-	-	101
Tools	3	4	-	-	-	7
Toys	1	-	1	-	-	2
Transport	5	15	-	-	-	20

Functional group	Copper alloy	Iron	Lead	Silver	Other metal	Total
Unknown	198	527	282	-	140	1200
Total	**748**	**961**	**339**	**3**	**165**	**2216**

6.10.8 The object of most interest in the assemblage is a copper alloy flat axe of Early Bronze Age date, found in Area 18. Flat axes found in this country are generally dated between about 2500 and 1700 BC. Later in the sequence the axes develop ridges or flanges, so this perfectly flat example is an earlier type, probably dating somewhere between 2500 and 2000 BC. Its isolated occurrence here with no other finds of similar date is enigmatic, but the findspot is close to the site of a possible Bronze Age ring ditch.

6.10.9 Other items of interest include the coins and tokens, ranging in date from AD 1696 to the early 20th century. They include coins from France, Russia and Nova Scotia as well as tokens of some social historical interest, issued by co-operative societies, independent shopkeepers and a local miners' association. Commerce is represented by cloth seals (probably all 19th-/early 20th-century), militaria by musket/pistol, rifle and air rifle shot (17th-century or later) and transport by horseshoes and harness fittings. There are various items of domestic equipment (cutlery, containers, candlesnuffers, curtain weights, locks and keys) and personal items (buttons, buckles, walking stick top), of which the earliest item is a 16th-/early 17th-century buckle.

6.11 Textile & Leather

6.11.1 One piece of machine-made woven cloth came from ditch 3571 (Area 8), and a perforated leather strip with metal eyelets, possibly an animal collar, from boundary ditch 6518 (Area 17).

6.12 Wood

6.12.1 One piece of worked wood was recovered from the mitigation. This is a section of sawn roundwood, without any other obvious signs of working (bioturbation in Area 15). To this can be added a small lath-like fragment with a possible deliberate groove along one edge (evaluation trench 142, Area 8). Neither piece is datable, and both are of unknown function.

6.13 Animal Bone

Introduction and methods

6.13.1 The animal bones recovered from the mitigation stage are generally in poor condition and have been assessed following current guidelines (Baker and Worley 2019). These are quantified in Table 7; note that the total takes account of refits, so is lower than the raw count provided in the above overall finds assemblage tables.

Table 7 Animal bone: number of identified specimens present (or NISP)

Species	Romano-British	Medieval	Post-medieval	Modern	Undated	Total
Cattle	2	5	9	5	2	23
Sheep/goat	-	1	5	6	-	12
Pig	-	-	-	1	-	1
Horse	-	1	10	4	2	17
Dog	-	-	2	-	-	2
Goose	-	-	-	1	-	1

Species	Romano-British	Medieval	Post-medieval	Modern	Undated	Total
Total identified	**2**	**7**	**26**	**17**	**4**	**56**
Total unidentifiable	**-**	**39**	**81**	**23**	**3**	**146**
Overall total	**2**	**46**	**107**	**40**	**7**	**202**

Results

Romano-British

6.13.2 A few fragments of bone were recovered from ditch 402 (Group 461) and trackway ditch 1041, in Areas 14 and 23 respectively. The identified elements comprise a cattle tooth and fragment of humerus.

Medieval

6.13.3 Bone was recovered from three ditches – 5809, 5823 and 5825 – in Area 8. The identified bones include a cattle tooth and radius, a sheep/goat mandible and a horse tooth.

Post-medieval

6.13.4 Most of the bone came from seven post-medieval ditches in Area 8, with a few fragments from gully 5800, surface 5546 (group 5507), as well as braided holloway 2067 in Area 20. The identified elements largely comprise loose horse teeth and a range of cattle bones and teeth. Butchery evidence indicates the use of serrated butchery implements to process cattle carcasses, and cut marks noted on a cattle hyoid bone provide further proof of the means of dispatch. The other identified bones are mostly from sheep/goat; they include several tibiae, a metacarpal and tooth. In addition, fragments of radius and tibia from a medium-sized dog were recovered from ditch 5809.

Modern

6.13.5 Bone was recovered from a few ditches and layers in Areas 8, 14, 19 and 20. The identified elements are mostly from sheep/goat, cattle and horse. The butchery evidence also indicates the use of serrated implements to process carcasses. Cut marks on a horse metatarsal from layer 5001 suggest that the carcasses of non-food animals were processed for their hides, but also possibly for pet food. Also of note is a calf metacarpal from ditch 3571, which indicates that veal was readily available as a by-product of the dairy industry. In addition, a bird humerus, probably from a domestic goose, was recovered from ditch 3571.

Undated

6.13.6 A few identified bones came from undated features in Area 8; these include a cattle tooth and fragments of proximal tibiae from cattle and horse.

6.14 Marine Shell

6.14.1 The marine shell (125 fragments) consists largely of oyster, and most of this came from a single modern context (ditch 3571, Area 19), with one fragment from topsoil in Area 15. Four cockle shells came from ditch group 5800 (Area 8).

6.15 Conservation

6.15.1 Finds that are considered to be vulnerable to continued deterioration and therefore in need of conservation treatment to mitigate or halt that process comprise the metalwork and organics (wood, leather and textile).

6.15.2 Metalwork constitutes a significant part of the finds assemblage, including the large number of objects recovered during the metal detecting survey. Ironwork in particular is in poor, corroded condition, and a significant proportion of the objects are unidentifiable. X-radiography has been undertaken on a selection of metal objects, both ferrous and non-ferrous, primarily to aid identification, and this selection includes objects of intrinsic interest for which further details of form and/or construction were sought (e.g., coins). It was not considered appropriate to X-ray the entire metalwork assemblage, even as a basic record, given its nature and probable date range (with very few identifiable exceptions, of relatively recent date but including a high proportion of undiagnostic and undatable objects). A small 'test' selection of featureless corroded iron objects revealed no further diagnostic details when X-rayed. For the same reasons, further conservation treatment is not considered to be warranted for any of the metalwork, and this material type is likely to be targeted for very selective retention (see below, Selection Strategy). Objects selected for retention will be packaged appropriately for long-term storage, in airtight polyethylene containers with a drying agent (silica gel).

6.15.3 The organics were recovered in a damp condition and have been kept in that condition. Retention for long-term curation would require stabilization, either by air-drying or freeze-drying but, as for the metalwork, this is not considered to be warranted here, given the nature and expected date range of the objects (the wood is undiagnostic and undatable, the textile and leather are probably 19th-/20th-century). These material types are also likely to be targeted under the Selection Strategy.

7 ENVIRONMENTAL EVIDENCE

7.1 Introduction

7.1.1 A total of 931 bulk sediment samples and one monolith sample were taken from a range of late prehistoric, Romano-British, medieval, post-medieval, modern, and undated features. Of these, a total of 296 samples were processed for the recovery and assessment of environmental evidence. The single monolith sample, which was taken through a ditch in Area 9 was intended to assess formation processes and its palaeoenvironmental potential. The samples break down into the following area/phase/feature groups:

Table 8 Sample provenance summary

Area	No. of monoliths taken	No. of bulk samples taken	No. of bulk samples processed	Vol. of processed samples (litres)	Feature types of processed samples	Provisional phases of processed samples
2	-	11	3	80	Pits	Uncertain
4	-	9	2	20	Pits	Uncertain
5	-	8	2	80	Pits	Uncertain
6	-	6	1	40	Pit	Uncertain
7	-	4	-	-	-	-
8	-	182	97	2890	Pits, furrows, gullies, trackways, ditches, postholes, tree boles, wheel ruts	Uncertain, natural, medieval, post-medieval, modern
9	1	108	31	940.4	Ditches, postholes, pits, gullies, structures, furrows	Uncertain, medieval, post-medieval
14	-	91	30	1150	Ditches, pits	Uncertain, Romano-British, medieval, post-medieval
15	-	89	28	515	Horticultural features, pits,	Uncertain, natural, modern

Area	No. of monoliths taken	No. of bulk samples taken	No. of bulk samples processed	Vol. of processed samples (litres)	Feature types of processed samples	Provisional phases of processed samples
					ditches, postholes, gullies, tree throws, uncategorized features	
16	-	19	-	-	-	-
17	-	2	-	-	-	-
18	-	3	-	-	-	-
19	-	45	16	570	Pits, ditches, furrows, layers, uncategorized	Uncertain, medieval
20	-	57	16	610	Ditches, trackways, postholes, gullies	Uncertain, post-medieval
21	-	44	8	320	Ditches, horticultural feature, layer	Uncertain, post-medieval
23	-	172	44	1570.1	Ditches, gullies, pits, land-drains, layers	Uncertain, Romano-British, medieval, post-medieval
24	-	38	17	450	Natural features, pits, ditches, uncategorized feature	Uncertain, post-medieval
Totals	**1**	**888**	**296**	**9235.5**	**-**	**-**

7.2 Aims and methods

7.2.1 The aim of this assessment is to determine the nature and significance of the environmental remains preserved across the Scheme and review their potential to address the project aims. Appropriate recommendations for further work are provided. This assessment follows recommendations from Historic England (English Heritage 2011).

7.2.2 The size of the bulk sediment samples varied between 0.1 and 40 litres, with an average volume of approximately 31 litres. Some samples were pre-soaked in a solution of water and sodium bicarbonate ($NaHCO_3$) to help break up the clayey sediment. The samples were processed by standard flotation methods using a Siraf-type flotation tank; the flot retained on a 0.25 mm mesh, residues fractionated into 4 mm and 1 mm fractions. The coarse residue fractions were sorted by eye for artefactual and environmental remains.

7.2.3 The flots and fine residue fractions were examined using a Leica MS5 stereomicroscope at up to x40 magnification. A riffle box was used to subsample flots and fine residue fractions where appropriate. Different potential indicators of bioturbation were noted, including the percentage of modern roots and abundance of modern seeds, burrowing blind snails (e.g., *Cecilioides acicula*), earthworm eggs, and modern insects. Plant remains were identified through comparison with modern reference material held by Wessex Archaeology and relevant literature (e.g., Cappers *et al.* 2006). Nomenclature follows Stace (1997) for wild taxa and Zohary *et al.* (2012) for cereals using traditional names.

7.2.4 All remains were recorded semi-quantitatively on an abundance scale: C = <5 ('Trace'), B = 5–10 ('Rare'), A = 10–30 ('Occasional'), A* = 30–100 ('Common'), A** = 100–500 ('Abundant'), A*** = >500 ('Very abundant/Exceptional').

7.2.5 The monolith sample was cleaned prior to recording and standard descriptions were used (following Hodgson 1997), including Munsell colour, texture, structure, and nature of boundaries.

7.3 Results

7.3.1 The results for the assessment of charred plant remains are presented in Appendix 1, Table 10 and the results for the assessment of waterlogged plant remains are presented in Appendix 1, Table 11. The monolith sample description is presented in Appendix 1, Table 12.

7.3.2 The flots vary widely in size and composition, with very low to high concentrations of charred plant remains and wood charcoal present across the different areas. A small proportion of the samples contain material preserved in waterlogged (anoxic) conditions. Terrestrial molluscs are present in low numbers in Areas 8 and 15; these are not discussed further in this report. Potential indicators of bioturbation are present in many of the samples which indicates the possibility of contamination from later intrusive material (e.g., abundant modern roots, modern/uncharred seeds, burrowing blind snails, modern insects, earthworm eggs). Highly fragmented clinker/cinder and coal was noted in many of the samples.

Area 15

7.3.3 A total of 28 samples were processed from various features including pits, gullies, postholes, ditches, horticultural and garden features, and tree-throws of modern and uncertain dates. Generally, charred plant remains were very rare. The species recovered included buttercups, docks, grasses, sedges, as well as tubers/rhizomes and an indeterminate thorn. Charcoal was present in trace amounts.

7.3.4 Some samples from modern features contained uncharred plant remains which may have been preserved in waterlogged conditions. These consist of fragmented wood and plant macro remains, including buttercups, brambles, goosefoots, sow-thistles, docks, stinging nettles, mint family species, birches, elder, and hawthorn.

Area 2

7.3.5 Two samples from pits 6604 and 6609 produced flots dominated by modern roots and modern crop chaff, suggesting a high degree of modern contamination. A small quantity of poorly preserved, mineral-stained, charcoal was recovered from the flots alongside sheep's sorrel (*Rumex acetosella*), a grass (Poaceae) culm node, indeterminate tubers/rhizomes, and sedges (Cyperaceae). Highly fragmented clinker/cinder and coal was also noted.

Area 4

7.3.6 Two samples from pits 6809 and 6811 were dominated by modern roots and contained only a small quantity of mineral-stained charcoal.

Area 6

7.3.7 A single sample from pit 6802 was dominated by modern roots and seeds, together with trace amounts of charcoal.

Area 5

7.3.8 Two samples were selected for processing from pits 6211 and 6221. The sample from pit 6211 contained a single hulled barley grain (*Hordeum vulgare*) and a bramble (*Rubus* sp.) seed, as well as a small quantity of charcoal. Conversely, the sample from pit 6221 was sterile in charred plant remains and only contained trace amounts of charcoal.

Area 8

7.3.9 A large number of samples were processed from this area, totalling 97 from various features. These included medieval, post-medieval and uncertainly dated pits, gullies,

trackways, wheel ruts, and some natural features including tree-throws and tree-boles. Generally, charred plant remains were present in very low concentrations, comprising only a single grain, seed, or nutshell fragment in several samples. Numerous samples did not contain charred plant remains or wood charcoal.

7.3.10 The range of cereal species recovered included hulled barley (*Hordeum vulgare*), possible free-threshing wheat (*Triticum* cf. *aestivum/turgidum*), rye (*Secale cereale*), and oats (*Avena* sp.). Other plant remains comprised hazel (*Corylus avellana*) nutshell fragments, grasses (Poaceae), docks (*Rumex* sp.), sedges (Cyperaceae), ribwort plantain (*Plantago lanceolata*), and tubers/rhizomes including false-oat grass (*Arrhenatherum elatius* ssp. *bulbosum*). Amorphous charred plant material, and indeterminate tree buds were also noted. Most samples only contained trace or small volumes of charcoal, although small-diameter heather-type (*Calluna vulgaris* tp.) stems were noted. A few samples were slightly richer in wood charcoal, including the material retrieved from medieval ditches 5190 (group 5809) and 5452 (group 5823), and post-medieval ditch 5371 (group 5812). Highly fragmented coal and clinker/cinder was common in most of these samples.

7.3.11 Some samples contain uncharred plant remains and vegetative material preserved in waterlogged conditions. Most of these samples were from features which are provisionally phased to the post-medieval period. The vegetative plant material included highly fragmented wood and plant macroremains. Herbaceous species include buttercups (*Ranunculus* subg. *Ranunculus*), violets (*Viola* sp.), goosefoot family species (Chenopodiaceae), docks, sow-thistles (*Sonchus* sp.), thistles (*Carduus/Cirsium* sp.), sedges, stinging nettles (*Urtica dioica*), mint family species (Lamiaceae). Tree/shrub species are represented by remains of hawthorn (*Crataegus monogyna*), birch (*Betula* sp.), elder (*Sambucus* sp.), brambles (*Rubus* sp.). Exotic species are restricted to low numbers of fig (*Ficus carica*) seeds.

Area 19

7.3.12 A total of 16 samples from this area were selected for processing, from various medieval and uncertainly dated feature types, including furrows, layers, pits, and ditches. Generally, charred plant remains were very scarce. Only a small quantity of poorly preserved cereal grains was noted, alongside unidentifiable wild grasses, indeterminate seeds, and a single corn marigold (*Chrysanthemum segetum*) seed. Most of the samples from this area only produced trace amounts of wood charcoal, which were highly fragmented. Three samples from undated pit 3507, pit 5309 and layer 3540 comprised moderate quantities of wood charcoal, yet no charred plant remains. Highly fragmented clinker/cinder and coal was common in most samples.

Area 9

7.3.13 A total of 31 samples were processed from this area, including ditches, postholes, gullies, and furrows. The samples from postholes and diches produced small to moderate quantities of cereals, including rye, free-threshing wheat, hulled barley, indeterminate species, and a small quantity of spelt wheat (*Triticum spelta*). Also present was a variety of wild taxa which are typical of grassland and/or disturbed habitats, such as the margins of arable fields or waste ground, including buttercups, grasses, oats, oats/bromes (*Avena/Bromus* sp.), knotweeds (*Persicaria* sp.), and ribwort plantain. Other plant remains noted include hazel nutshell, monocotyledon stems and tubers/rhizomes. Heather-type stems were noted in some samples amongst small volumes of mineral-stained wood charcoal. Highly fragmented coal and clinker/cinder was common in most samples.

7.3.14 The monolith sample through ditch 3078 contains a 0.44 m thick layer of olive brown silt overlying an olive brown sandy silt. The upper deposit contains manganese and some lithic

inclusions, with the lower deposit containing more lithics. Both units show iron staining. The monolith description is presented in Appendix 1, Table 12.

Area 20

7.3.15 A total of 16 samples from this area were selected for processing from various feature types including post-medieval and undated trackways, gullies, ditches, and postholes. Two samples from post-medieval ditch 2031 (group 2068) also produced an array wild species including brambles, vetches, sedges, and seeds from species of the rose family (Rosaceae) including apples/pears/whitebeams (*Malus/Pyrus/Sorbus* sp.) seeds. There were also monocotyledon stems, and tubers/rhizomes (including false oat-grass tubers).

7.3.16 Samples from this area produced small quantities of highly fragmented mineral stained charcoal, although the samples from ditch 2031 contained small quantities of charcoal, including some fragments of roundwood. Charred plant remains were generally scarce, and included tubers/rhizomes, grasses, a single spelt wheat glume base, and a single free-threshing wheat grain. Highly fragmented clinker/cinder and coal was common.

Area 21

7.3.17 Eight samples from this area were selected for processing. The samples were dominated by modern roots and modern seeds, although a small quantity of charred plant remains were noted, including tubers/rhizomes, monocot stems and grass culm segments. Small quantities of generally poorly preserved charcoal were present alongside clinker/cinder.

Area 23

7.3.18 The 44 samples processed from features with archaeological potential in this area included ditches and pits of uncertain, Romano-British, and medieval date. Most of the samples from this area were devoid of charred plant remains, or only produced small amounts of highly fragmented charcoal. The samples which contained charred plant remains only produced small concentrations of poorly preserved material, including indeterminate wheat, hulled barley, a single fairy flax (*Linum catharticum*), narrow-fruited cornsalad (*Valerianella dentata*), indeterminate tubers/rhizomes and monocotyledon stems. Some samples, such as those from pit 1005, pit 1156, pit 1236, and ditch 1312 (group 1371) contained small to moderate quantities of charcoal, which was mineral stained.

7.3.19 Three of the processed samples were noted to contain uncharred plant material which was potentially preserved in waterlogged conditions. These features include undated possible pit 1106 and post-medieval land drains 1108 and 1120. Highly fragmented wood was noted alongside the seeds of brambles, mint family species, sedges, knotweeds, pink family species (Caryophyllaceae), goosefoot family species, stinging nettles, and buttercups.

Area 24

7.3.20 The 18 samples processed from this area focussed on a group of pits of uncertain date. The samples from pits 32, 42, 45, 47, 49 and 61 all contained large quantities of charcoal. Most of the samples contained some large >4 mm pieces of charcoal, many of which were fragments of roundwood. Mineral staining was noted on some fragments. No charred plant remains were noted from the samples from the pits.

7.3.21 Other sampled features in the same area included various ditches. Unlike the charcoal-rich samples from pits, these contained only small quantities of highly fragmented charcoal and a small number of plant remains, including grasses and buttercups. The sample from ditch 80 also contained indeterminate cereals, spelt wheat glume bases, tubers/rhizomes and small-diameter heather-type stems. In contrast to the samples from the charcoal-rich pits,

the samples from the ditches from this area also contained highly fragmented coal, and some clinker/cinder.

Area 14

7.3.22 A total of 30 samples from this area were processed, from a variety of feature types provisionally dated to the Romano-British and medieval periods. The sample compositions were broadly similar and generally comprised small quantities of cereal remains and wild taxa in poor to moderate states of preservation. The cereal remains retrieved were predominantly wheat grains, some of which were identifiable as a spelt/emmer wheat (*Triticum spelta/dicoccum*). Some of these grains have germinated. A small quantity of glume wheat chaff (glume bases, spikelet forks) confirms the presence of spelt wheat. Hulled barley was recovered in small quantities. Of particular note were samples from 335 (ditch 334), which contained abundant spelt wheat grains, most of which were germinated, alongside cereal-sized culm nodes, and coleoptiles (detached cereal sprouts).

7.3.23 Wild taxa include heath-grass (*Danthonia decumbens*), hemp-nettles (*Galeopsis* sp.). trefoils/clovers/medicks (Trifolieae), vetches (Vicieae), stitchworts (*Stellaria* sp.), bedstraws (*Galium* sp.), ribwort plantain, knotgrass (*Polygonum aviculare*), knotweeds, docks, and various grasses such as oats, oats/bromes, and meadow-grasses/cat's tails (*Poa/Phleum* sp.). Other plant material present in many of the samples included abundant tubers/rhizomes, some of which were identifiable as false oat-grass tubers, and monocotyledon stems. The monocotyledon stems probably originate from a grass or sedge species Also present were small quantities of quite fragmented charcoal, including some fragments of small-diameter heather-type stems.

7.4 Discussion

7.4.1 A comprehensive programme of bulk sampling was undertaken during the mitigation stage of fieldwork, with a selection of samples processed for the assessment of environmental evidence. These samples cover a wide range of different phases and feature types across the different excavation areas. The majority of the evidence consists of charred plant remains and wood charcoal. As a whole, many of the samples have negligible or very low significance since charred plant remains and wood charcoal are either absent or present in quantities which are too small to provide meaningful interpretation. However, some of the samples from Areas 9, 14 and 24 contain larger quantities of charred plant remains and/or charcoal with correspondingly higher archaeological potential. These appear to reflect two main periods of activity; the first in the later prehistoric/Romano-British and the second in the medieval/post-medieval periods. The results largely correspond with the Evaluation data (Wessex Archaeology 2020a).

Charred plant remains and wood charcoal

7.4.2 In Area 14, most of the samples contain evidence which is typical of the later prehistoric and Romano-British periods in central and northern England (Carruthers and Hunter-Dowse 2019; Hall and Huntley 2007). This consists of varying concentrations of spelt wheat and hulled barley grains/chaff, together with wild taxa associated with grassy, heathland vegetation (e.g., heath-grass, sedges, heather-type stems). Evidence for the exploitation of heathland habitats is widely recorded on later prehistoric and Romano-British sites across northern England, probably due to the cutting of turves for fuel (*cf*. Hall 2003). Turf burning would account for the frequent presence of sub-terranean plant parts (e.g., tubers/rhizomes, false oat-grass tubers), seeds of low-growing plants (e.g., ribwort plantain, buttercups), and the rarity of wood charcoal. A few richer deposits of spelt wheat crop-processing debris are more closely linked to settlement activity within the vicinity of the mitigation area. In particular, germinated spelt wheat grains and coleoptiles in ditch group 462 (slot 355) which

is currently phased as medieval, although this is strongly diagnostic of Romano-British activity and could be connected to malt production for brewing ale (*cf*. Lodwick 2017). Taken together, the general pattern from Area 14 suggests that the enclosures are situated on the edge of a larger area of later prehistoric/Romano-British settlement, with the samples containing accumulations of debris from turf burning (i.e., fuel waste) and crop-processing activities.

7.4.3 Other areas also produced evidence which is probably associated with later prehistoric/Romano-British activity. Spelt wheat and indicators of burning turves cut from heathy vegetation are recorded sporadically in samples from Area 9 (gully 3235), Area 20 (2060), and Area 24 (ditch 88). These hint at later prehistoric/Romano-British activity, although there are too few remains to interpret and some of this material may be residual in later features. A richer deposit of spelt wheat crop-processing debris was recorded during the evaluation from trench 177 near to Area 20 and this is more diagnostic of settlement activity. In comparison, in Area 23, the near-absence – or actual absence in many cases – of crop-processing debris and fuel waste in Romano-British features suggests that this area is situated away from the main focus of settlement activity. Poor preservation conditions may also be a factor here (e.g., fluctuating water-levels).

7.4.4 Beyond the later prehistoric/Romano-British periods, some of the samples in Area 9 contain evidence which would be consistent with a medieval to post-medieval date. Evidence for this comprises a characteristic range of crops which became established in the post-Roman periods, including free-threshing wheat, hulled barley, rye, and oats (Moffett 2006; 2018). The oat grains probably derive from a cultivated oat species such as common oat (*A. sativa*) or bristle oat (*A. fatua*), as opposed to a wild 'weedy' species, although this cannot be confirmed due to the absence of diagnostic chaff. Low concentrations of heather-type stems, rhizomes/tubers, and false oat-grass tubers probably indicate the continued practice of burning heathy vegetation as turves (see above). Whilst false oat-grass is widely recorded in later prehistoric/Romano-British assemblages, it is not uncommon to identify this species in early medieval sites in northern England (*cf*. Hall and Huntley 2007; personal observation). The general rarity of charcoal within the samples supports the interpretation that turves were a fuel source, rather than wood *per se*. Similarly, the common occurrence of fragmented coal and clinker/cinder within most of the samples indicates the use of coal as a fuel source. Coal became widely exploited for fuel from the later medieval period onwards, although it is likely that this practice has earlier antecedents (Claughton *et al*. 2016). Some coal and clinker/cinder may, however, reflect more recent contamination. Overall, the medieval to post-medieval evidence is generally indicative of background 'noise'. This material potentially reflects the discard of ashy debris from domestic hearths into middens before being subsequently spread onto arable fields.

7.4.5 However, some of the evidence in Area 9 is likely to be closely associated with settlement activity. These include samples from the various postholes forming group 3077 which probably defined a post-built structure. The samples contain varying quantities of cereal grains (rye, free-threshing wheat, hulled barley, oats), hazel nutshell, and heather-type stems, amongst other wild taxa. A wheat glume base – likely to derive from either emmer wheat (*T. dicoccum*) or spelt wheat (*T. spelta*) – in posthole 3055 could be a residual contaminant. The reworking of material of different ages is a concern in some of these samples given the shallow depth of the features, together with the high proportion of modern roots and modern seeds in the flots. As outlined above, some features in Area 9 are more likely to be later prehistoric/Romano-British (e.g., gully group 3235), whilst some samples do not contain material which is diagnostic of a particular period (e.g., posthole group 3146). The evidence from Area 9 is regionally significant due to the possible pre-Conquest date,

with few comparative assemblages from this area of northern England (*cf*. Hall and Huntley 2007).

7.4.6 In Areas 8, 15, 19, and 20, there are further indications of activity in the medieval/post-medieval periods, although very few diagnostic remains are present (e.g., rye, hulled barley, free-threshing wheat, oats). The rarity of charred plant remains and wood charcoal in some of the areas with evidence for medieval to post-medieval activity is surprising. For example, in Area 8, despite a clear focus on medieval activity associated with an enclosure, most of the samples are effectively devoid of charred plant remains. Similarly, wood charcoal is often present in only very small quantities. A few features (e.g., ditch group 5823, pit 5481, pit 5531) produced low to moderate concentrations of cereal grains (rye, barley, oats), together with heather-type stems and rhizomes/tubers, whilst pit 14907 sampled during the evaluation contained a comparatively rich deposit of rye grains and probable arable weeds. However, the general rarity of charred plant remains and wood charcoal may reflect a combination of poor preservation conditions and the location of features in these areas away from the main focus of settlement activity.

7.4.7 In Area 24, a series of undated pits (32, 42, 45, 47, 49 and 61) were widely distributed across the excavation area. These were all approximately 1–2 m in diameter with a circular or subcircular shape, and shallow depth. Very similar features were identified in evaluation trench 42 (pits 4205 and 4207) and trench 198 (pit 19803). All these features are very rich in charcoal, and they can be identified as charcoal production pits. Charcoal was commonly used as a fuel source in industrial/craft-processes (e.g., metal working, glass production), as well as for cooking. Charcoal production was undertaken within, or close to, woodlands and it involved placing the wood in a circular stack which was in turn sealed with small branches and/or bracken and earth/turf to restrict the supply of oxygen (Bond 2007). Most charcoal production pits date to the medieval period, although they are a poorly dated feature type and there are few known Iron Age/Romano-British examples (e.g., Challinor 2011; López-Dóriga and Treasure 2022).

Waterlogged remains

7.4.8 The waterlogged material from Areas 8, 15, and 23 mainly derives from undated, post-medieval, and modern features. Overall, the range of species recorded is relatively consistent with indicators of scrubby vegetation which likely colonized disused land (e.g., elder, bramble, hawthorn, birch) together with species which reflect damp/disturbed grassland (e.g., sow-thistles, buttercups). A few fig seeds are a more unusual occurrence, although such remains potentially reflect recent manuring (i.e., spreading of cess). Preservation conditions are generally poor and many of the waterlogged deposits appear to have undergone some degradation due to fluctuations in the water-level. This has probably resulted in the over-representation of ‘tough-coated’ seeds which are decay-resistant (e.g., elder, bramble). In the monolith sample taken through ditch 3078 there is clear evidence that water-levels have fluctuated (manganese and iron-staining), probably indicating that the feature remained open to the elements and the deposits represent the weathering of the natural. Equally, it is unclear if some of the remains reflect recent contamination. For example, the ‘light seeds’ of species such as sow-thistle and birch may be recent windblown contaminants, whilst others such as goosefoots are commonly introduced into archaeological features through bioturbation.

7.4.9 Given the shallow depth, evidence for disturbance/bioturbation, and the recent date of many of the waterlogged features sampled, it is likely that much of this material is recent in date.

8 STATEMENT OF POTENTIAL

8.1 Overview

8.1.1 The investigations revealed scatters of features all along the Scheme. These mainly consisted of ditches relating to field boundaries, enclosures or drainage, or were pits of mostly unknown function. However, concentrations of features were discovered in some areas. These included a series of Romano-British enclosures in Areas 14 and 23, and medieval and post-medieval features related to the deserted medieval village of Morwick in Area 8. The features in Area 8 were associated with cultivation furrows extending into Areas 7, 9 and 19. A series of probable structures were also revealed in Area 9; these appear to predate the medieval cultivation furrows but were otherwise undated. A scatter of pits, possibly related to charcoal production, were discovered in Area 24. Finally, modern features including a number of planting and landscaping features in the north-west of the Scheme may be associated with the Red Hall estate, and/or the former council nursery depot.

8.1.2 Prehistoric archaeological features were hard to detect, possibly because of a combination of their rarity and the paucity of dating evidence. It is possible that some of the undated archaeological features, particularly pits, may have a prehistoric provenance. The only archaeological feature currently phased to the prehistoric period with any certainty was a probable roundhouse situated in Area 14. This was phased through the sequence of intercutting relationships it had with the subsequent Romano-British enclosures. Elements of a pre-enclosure field system in this area have been phased to the Romano-British period based upon certain pottery recovered from their fills, but it is possible that they were initially created in the later prehistoric period. Further analysis presents the opportunity for looking at the form and function of these field systems and understanding the implications of their shifting morphology over time.

8.1.3 Elsewhere, no firm evidence for prehistoric/Romano-British field systems was identified although there are many undated ditches that could be candidates (see below). Given the dearth of Iron Age ceramics and the slow uptake of Romano-British pottery in the region it is not surprising that most of these would be undated. The often highly truncated and fragmentary nature of these features could suggest that preservation is also an issue.

8.1.4 Romano-British occupation is better attested with two enclosure systems identified 1.6 km apart in Areas 23 and 14. In both cases the enclosures were associated with trackways defined by paired ditches and in both cases these trackways appear to be quite long lived, predating the enclosures in their establishment and post-dating them in their abandonment.

8.1.5 In Area 23 the enclosure system is appended to a pre-existing double ditched trackway giving it the appearance of a ‘clothes-line’ or ‘D-shaped’ enclosure (Chadwick 2010, 243–4). Chadwick states that most D-shaped enclosures produce little evidence for domestic use and that most were probably associated with animal management or small-scale industrial purposes (*ibid.*). Environmental assemblages recovered from the enclosures in Area 23 show an almost complete lack of evidence of the organic remains associated with domestic habitation, therefore supporting a stock management interpretation.

8.1.6 Although the intercutting relationships between the different enclosures show that the system developed over time, the lack of superimposition suggests contemporaneity. Interestingly, no opening onto the trackway was identified and access into the system appeared to have been via a narrow east-facing entrance.

8.1.7 The enclosure system in Area 14 also appears to be appended to a trackway which was in existence from at least the Romano-British period. The activity in Area 14 may, however, have a prehistoric origin and the ditched trackway may therefore have been a formalization of a prehistoric routeway. The combined evidence suggests that the enclosures in Area 14 were at the periphery of a settlement located just to the west of the Scheme. In contrast to Area 23, there are numerous instances of new enclosures being laid out over previous arrangements. This contrasting pattern may reflect differing chronologies, longevity, continuity of use, or even changes in function.

8.1.8 The concentration of medieval features in Area 8 are almost certainly connected with the deserted medieval village of Morwick, which is associated with Morwick Farm just to the west of Area 8. The village is first recorded in 1182 but the recovery of 14 sherds of late pre-Conquest York A ware from enclosure 5809/5815 might push its existence back to at least the mid-9th to mid-10th centuries.

8.1.9 Cultivation furrows surround the enclosures in Area 8, extending into Areas 7, 9 and 19. These allow us an insight into the territory that the village was able to exploit. The pottery assemblage recovered from the furrows in Areas 9 and 19 belong to two distinct phases, with a lacuna of 14th century pottery.

8.1.10 In Area 9 several structures were identified, at least one of which predated the final phase of cultivation furrows. These are currently undated but fragments of lava quernstone and York A pottery were recovered from the vicinity. A large assemblage of free-threshing wheat recovered from the postholes of structure 3077 suggests a medieval date, although probable residual material hints at earlier activity in the area.

8.1.11 As the pottery recovered from the furrows may indicate two phases of cultivation it can only be determined at this stage that structure 3235 predates the second phase. At its latest it would therefore appear to have a 14th century date, although an earlier inception predating the first phase of cultivation is also possible.

8.1.12 Seven pits excavated in Area 24 exhibited evidence that points to their use in the production of charcoal. These features are currently undated but most charcoal production pits date to the medieval period, although Iron Age/Romano-British examples are known. Such sites are indicative of neighbouring woodland and their dating and analysis will contribute to our knowledge of the surrounding environment.

8.1.13 Area 15 was located to the north of the Red Hall estate, mostly on a grassy area adjacent to the former council nursery depot. The grounds of the Hall were purchased by Leeds City Council during the 20th century for public recreation use and nurseries were built by the council behind the Hall. A number of features and feature clusters in Area 15 were interpreted as horticultural bedding related to the area's use in the 20th century.

8.1.14 Other modern features were present in Area 13, which exhibited signs of recent coal extraction and subsequent backfilling with extraction waste and demolition rubble. Elsewhere, they included field boundaries, rubbish pits and occasional postholes.

8.2 Stratigraphic potential

8.2.1 The archaeological sequence exposed within the mitigation areas was on the whole relatively simple. The majority of pre-medieval features were cut into the geological substrate. For most areas there was little evidence for stratification and where intercutting has occurred, the chronological sequence has generally been established.

8.2.2 The sequencing of features within the enclosure complex of Area 14 has largely been achieved, although there is some potential for further stratigraphic analysis backed up by radiocarbon dating to perfect the phasing for some of the features.

8.2.3 For all other areas, the overall stratigraphic sequence is sufficiently well understood, with little potential within the archive for further refining the phasing. Only modest reconsideration of the phasing of features of currently uncertain date is anticipated through further analysis.

8.3 Finds potential

8.3.1 The fieldwork on the East Leeds Orbital Route has produced a large quantity of finds, many of which were recovered during a metal detecting survey. The assemblage has a clear chronological focus in the post-medieval/modern period (particularly 19th-/20th-century), and the later material has a lower archaeological potential, but there are nevertheless some elements of interest.

Prehistoric

8.3.2 The metal detecting survey cannot be said to have yielded much of archaeological significance, but it did result in the recovery of an Early Bronze Age copper alloy axe from Area 18, close to the site of a possible Bronze Age ring ditch identified on aerial photographs (ES Asset 50). No other artefacts of prehistoric date were found on the project, and this item remains anomalous.

Romano-British

8.3.3 A small quantity of Late Iron Age/Romano-British pottery was recovered (145 sherds), concentrating in the southern part of the route (particularly Areas 14 and 23). Apart from one small glass bead from a ditch fill in Area 14, no other artefact types of this date were recovered, although it is entirely possible that some undatable metal objects (e.g., nails) or undiagnostic fragments are included in the metal detected finds. The pottery is of interest in highlighting activity of this date, and the recovery of sherds from two shattered vessels from features in Area 23 suggests that these are primary deposits rather than just redeposited sherds, even if the features excavated appear to represent a field system rather than settlement.

Medieval

8.3.4 No evidence for the Battle of Winwaed was found (one of the primary aims of the metal detecting survey), although the likelihood of recovering clearly identifiable items of militaria from this period may be slight, and the absence of evidence does not necessarily prove that the battle did not take place in the vicinity of the Scheme.

8.3.5 Medieval artefacts recovered were almost exclusively restricted to pottery, with the addition of one decorated lead spindlewhorl. However, as for the Romano-British period, it is possible that some chronologically non-distinctive objects may have been recovered during metal detecting. The pottery assemblage is of moderate size (474 sherds), its distribution concentrated in Areas 8 and 19, corresponding to the probable location of the deserted medieval settlement of Morwick. The pottery demonstrates the lengthy occupation of the site, as well as highlighting a range of probable locally-made wares. The occurrence of a significant pre-Conquest component in the assemblage is of particular importance here, and similarities have been noted with pottery from the nearby Scholes moated site, which had a similarly early origin (Lightfoot *et al.* 2008). Morwick may have been deserted but the pottery suggests that activity here continued in some form throughout the medieval period and into the post-medieval period. Overall, the medieval pottery assemblage has the potential to contribute towards the formulation of a West Yorkshire type series, one of the

research priorities noted for post-Roman ceramic studies (Irving 2011, 34), as well as developing our social and economic knowledge of the site.

Post-medieval/modern

8.3.6 The overwhelming majority of datable finds belong to this chronological period. They include domestic refuse (pottery, vessel glass, clay tobacco pipe, metal objects etc.), structural material (ceramic and stone building material, window glass, nails and other structural metalwork) and industrial refuse (slag). Much of this material comprises repetitive, commonly occurring and well documented types, probably resulting in many cases from the redeposition of refuse from nearby settlements. There are, however, some items of intrinsic interest (although perhaps more from a social historical point of view than archaeological) amongst the metalwork, including a small group of tokens from local institutions. Some patterning in the distribution of metal-detected finds can be linked to mapped features, such as old field boundaries, but the archaeological significance is relatively limited as so little of the metalwork was closely datable.

8.3.7 The pottery assemblage for this period is nevertheless of interest. As for the medieval period, the highest quantities were recovered from Areas 8 and 19, around the deserted settlement of Morwick, and demonstrate continued activity here. There is also a large late 19th-century group from a ditch fill in Area 19 which is of interest in its own right.

Animal bone

8.3.8 The small assemblage of animal bones offers little potential for further analysis. The identified bones have been recorded to a sufficient level and the available information is outlined above.

8.4 Environmental potential

8.4.1 As whole, there is very little potential for further work on the charred plant remains and wood charcoal recovered from most the mitigation areas. A representative selection of samples covering a wide range of feature types and phases have been processed and assessed for this report. Additional processing of any further samples currently held in storage would only provide limited additional information due to the generally poor preservation of the evidence. Overall, therefore, there is low potential to undertaken analysis of the charred plant remains, wood charcoal, and waterlogged material in the samples from Areas 2, 5, 8, 15, 19, 20, 21, and 23. However, some of the samples from these areas contain material suitable for radiocarbon dating which could be used to refine phasing. Where no further work is recommended, the results of this assessment should be updated once final phasing has been established for all areas of the Scheme and incorporated with any other data. A summary could be adapted for inclusion in subsequent post-excavation analysis reports and/or publications. Higher potential exists for further analysis, including radiocarbon dating, of material recovered from Areas 9, 14, 24, as well as evaluation trenches 177 and 42.

Charred plant remains

8.4.2 It is recommended that further work focuses on analysis of the charred plant remains from Area 14 to investigate the nature of later prehistoric/Romano-British activity in these areas in more detail. This would provide additional information on crop husbandry regimes and the local environment, as well as expanding the archaeobotanical dataset for northern England (*cf*. Lodwick 2017).

8.4.3 In Area 8, there is some potential for further analysis of charred plant remains from pit 14907 which was sampled during the evaluation in trench 149. However, this would not significantly add to the information outlined in this assessment report.

8.4.4 In Area 9, the quantity of charred plant remains recovered is generally too low to warrant detailed analysis. However, targeted radiocarbon dating is recommended to improve understanding of the phasing in this area. The medieval date of this evidence is of interest, especially since pre-Conquest assemblages are rare in this region (*cf*. Hall and Huntley 2007). Radiocarbon dating could focus on posthole group 3077.

8.4.5 One sample from pit 17703, sampled during the evaluation in trench 177 contains a rich deposit of spelt wheat; however, further analysis on this isolated feature would provide only limited information.

Wood charcoal

8.4.6 In Area 24, charcoal analysis in conjunction with radiocarbon dating would provide additional information on charcoal production methods, woodland exploitation practices, and the local environment. The charcoal assemblage is locally significant; however, it would be beneficial to understand how these features relate to comparable features both regionally and nationally. Whilst charcoal production was a common industry in the later medieval and post-medieval periods, relatively little is known about earlier antecedents, which probably had a significant impact on the composition and structure of many woodlands. This should focus on a selection of samples from undated pits 32, 42, 45, 47, 49, and 61. There is also scope for further analysis and radiocarbon dating of the charcoal from very similar in features in evaluation trench 42.

Waterlogged remains

8.4.7 No additional work is recommended on the waterlogged assemblage recovered from Areas 8, 15, and 23 due to the generally poor preservation of the evidence and its low significance. Further work would not significantly add to the information outlined in this assessment report.

Monolith sample

8.4.8 The sediments in the monolith sample taken through ditch 3078 in Area 8 are minerogenic in nature and have correspondingly low potential for the preservation of palaeoenvironmental material. No additional work is recommended.

8.5 Documentary records

8.5.1 Documentary research is recommended by the medieval research framework as a component to contextualize excavations involving medieval settlement (Wrathmell 2018). Documentary research into the deserted medieval village of Morwick and its successors, Morwick Farm and Morwick Hall, has the potential to place the archaeological features excavated in Areas 7, 8, 9 and 19 within their social and economic context.

8.6 Summary of potential

8.6.1 The potential of the excavation to contribute to the area specific aims for the mitigation works detailed in Section 3 are set out below.

Areas 2, 3, 4 – Romano-British roads

8.6.2 The line of the former Roman road 712 (Margary 1973) was not revealed by the excavations in Area 2. Similarly, no traces of Roman roads were identified in Areas 3 or 4. Ditched trackways were, however, revealed in areas 14 and 23 where they were initially associated with Romano-British enclosures and then in both cases the successor post-Roman landscape organization.

8.6.3 Opportunities therefore exist for improving our understanding of human and animal movement through the landscape in these areas and how these apparently long-lived features continued to impact how the landscape was structured. This is something that will be investigated in tandem with the work on enclosures and field systems (see below) within which smaller scale patterns of human/animal movement are exhibited.

Areas 8, 11, 19 – medieval settlement/ridge and furrow

8.6.4 The pre-Conquest enclosures in Area 8 are probably associated with the deserted medieval village of Morwick, which has been located to the west of the Scheme at Morwick Farm. The enclosures in Area 8 were bounded to the north and south by extensive areas of cultivation furrows that extended into Areas 7, 9 and 19. A series of structures in Area 9, pre-date the final phase of ridge and furrow but one, 3077, is suspected to have a medieval provenance.

8.6.5 Significant opportunity exists to investigate the age and position of Morwick in relation to the resources that it utilized. Mapping the area of cultivation furrows allows us to develop an idea of the territory that the village was able to exploit, whilst the pottery assemblage recovered from the furrows in Areas 9 and 19 hints at two distinct periods of exploitation or manuring strategies. It is tempting to associate the 14th century pottery lacuna from the cultivation furrows with the impacts of the Black Death and this is something that can be explored further in the analysis phase.

8.6.6 One of the research priorities for post-Roman ceramic studies is the formulation of a West Yorkshire type series (Irving 2011, 34). Analysis of the medieval pottery assemblage recovered during the excavations has the potential to contribute to this.

Area 7 – Romano-British burials

8.6.7 No burials, or even fragmentary human remains were recovered anywhere along the ELOR. There is no potential for the excavated material to contribute to this research aim.

Areas 3, 4, 5, 8, 9, 13, 14, 16, 17, 18, 19, 20, 21, 23, 24 – Iron Age/Roman-British field systems and enclosures

8.6.8 Enclosure complexes were excavated in Areas 14 and 23, where they were confirmed to be of Romano-British date. Thirty-seven sherds of Romano-British pottery were recovered from Area 14 and 102 sherds from Area 23.

8.6.9 In Area 14, a group of ditches (454, 455, 456, 298 and 200) which stratigraphically preceded most of the enclosure system may represent part of a field system which contained Romano-British pottery, although they could conceivably be earlier.

8.6.10 The majority of the enclosures in Area 14 are of Romano-British date. There is significant intercutting of features, suggestive of long lived boundaries. The environmental remains indicate this area was at the periphery of a settlement. Revealing the different enclosure layouts and how they were modified presents the opportunity for understanding the activities conducted within the enclosures, how these were structured spatially, and how they changed over time.

8.6.11 Another small enclosure (1620) was excavated in Area 21. The environmental samples were devoid of material suggesting a settlement function, and no dating evidence was recovered, perhaps indicating that it had probably functioned as a stock enclosure.

8.6.12 In Area 20, curvilinear ditch group 2169 could have been part of a heavily truncated enclosure; although no finds or environmental material were recovered, it was seen to cut

ditch group 2130. Pit 17703 excavated during the evaluation was situated about 6 m inside ditch 2169 and contained a rich deposit of spelt wheat crop processing debris that could be diagnostic of nearby Iron Age/Romano-British settlement. However, none of the samples processed from ditch 2169 or the nearby terminal of ditch 2130 produced comparable assemblages. There are a lack of nearby features of a domestic nature in the immediate vicinity of pit 17703, however the geophysical survey appears to show the presence of an enclosure with internal features about 50 m to the south-east, just outside of the Scheme footprint (Fig. 14). This could form the centre of a small settlement with pit 17703 representing peripheral activity. Confirming the date of the assemblage in 17703 could help to contextualize these other features.

8.6.13 Undated ditches were revealed across the Scheme that did not conform to historic mapping. Some of these will inevitably have a prehistoric/Romano-British or 4th to 9th century origin, although it is unlikely that this can be proved in most cases.

8.6.14 Ditches that did not conform to the orientation of modern fields, historic mapping or medieval furrows included sinuous ditches in Area 7 (6006/6008 and 6010/6012/6014) and Area 9 (3245 and 3244) and more regular ditches in Area 20 (2063, 2093, 2130, 2149, 2180) and Area 21 (1675, 1653, 1700) that appeared to conform to a more coaxial arrangement. The identification of pre-enclosure features within Areas 14 and 23 however may more firmly shed light on the later prehistoric landscape.

8.6.15 In Area 23, two small stretches of gully (1278/1255 and 1138/1217) situated within the Romano-British enclosure system did not obviously belong to the enclosures and may be surviving elements of an earlier field system (they do not appear to post-date the enclosures). Other undated ditches in this area, such as 1242 and 1031, conform with the orientation of the trackway from which the Romano-British enclosures were set out but, whilst this may indicate a degree of contemporaneity, the possible longevity of the trackway makes it impossible to firmly assign a Romano-British date to them.

8.6.16 The Romano-British enclosures in Area 23 appear to be largely contemporary and the environmental samples show that they were not situated near to a settlement. It seems that these structures were therefore associated with stock management and spatial analysis may be able to shed light on the animal management processes that took place here.

8.6.17 Analysis of the enclosures in Areas 14 and 23 therefore has high potential for understanding the agricultural exploitation of the landscape during the Romano-British period.

8.6.18 Around the medieval features at Morwick, several ditches/gullies were cut by the cultivation furrows. In Area 8, ditch 5817 was cut by furrows that contained early and late medieval pottery. A little to the south, in Area 19, a series of small east/west and south-west/north-east aligned gullies also appeared to be cut by the furrows. In Area 9 narrow/shallow gully 3087 was cut by a medieval cultivation furrow. However, as the only finds recovered from it were eight fragments of lava quernstone, it might have either a Romano-British or early medieval provenance.

Areas 13 and 25 – post-medieval quarries

8.6.19 The archaeological mitigation in Area 13 found evidence of recent coal extraction and subsequent backfilling with extraction waste and demolition rubble. No archaeological features were identified. There was also no evidence of linear anomalies or a sub-circular feature identified by the geophysical survey, although these, which were thought to be possible localized areas of quarrying, may be the result of disturbance associated with recent extraction activity.

8.6.20 In addition, it had been thought that quarrying in Area 13 might extend south into the northern part of Area 25, but no evidence for extractive industry was revealed here either. In the southern portion of Area 25 a coal deposit was initially interpreted during test pitting as possible mining waste. The mitigation now shows that this is most likely part of the underlying coal measures.

8.6.21 At the southern end of Area 14 was located a large irregular pit (314). The full depth of the feature was not reached due to safety concerns, but it seems likely that this was an extraction pit. The uppermost fill contained post-medieval pottery and it is probable that it was backfilled during this period.

9 UPDATED PROJECT DESIGN

9.1 Introduction

9.1.1 Further work is required to better place the archaeology of the development Scheme within its local, regional and national context. A stage of analysis and publication will allow the results of the fieldwork to contribute to the relevant established research aims and questions outlined above.

9.2 Stratigraphic evidence – recommendations for analysis

9.2.1 Although the provisional phasing is judged to be largely resolved, it will be checked and refined during the analysis stage. It is anticipated that some of the context groups of ambiguous date (recorded as uncertain in the text and figures) will be reconsidered through spatial analysis.

9.2.2 The phasing of the different layouts of Romano-British enclosures in Area 14 will be refined in conjunction with scientific dating. This will allow an improved sense of the system's development and contribute to an appreciation of their use and function.

9.3 Finds evidence – recommendations for analysis

Pottery

9.3.1 As the previous sections make clear, the pottery assemblages from the various mitigation areas investigated as part of the project fall into two broad groups in terms of the amount of further work required. In those cases where further work is required, relevant pottery from the evaluative phase of the project should be included in the full report. The reports should, as far as possible in the circumstances, conform to the principles set out in the current national standards and guidance document (Barclay *et al.* 2016).

9.3.2 Unless there are specific questions from the excavators or other artefact/ecofact specialists which can be addressed from the ceramic data, no further work is required on the material from Areas 2, 5, 7, 16, 17, 18 and 21.

9.3.3 The assemblages from Areas 14, 23 and 24 require full reports from a suitably qualified and experienced Roman pottery analyst, supplemented by more detailed comments on the accompanying medieval and later material, with reference to the stratigraphic sequence and wider aspects of the site.

9.3.4 It would seem that Area 8 has a long history of activity and as such requires a full pottery report. This should include a detailed discussion of the pottery assemblage with reference to the stratigraphic data and information from other artefact classes. Given the presence of pre-Conquest York A ware from Areas 9 and 19, it would be advantageous to integrate the reports on all three areas; there are also 19th-century links between Areas 19 and 20. Wider

discussion might also involve sites in the same general area such as Stead Lane, Thorner (Cumberpatch and Roberts 1998–1999, Vince 2008) and Scholes Lodge Farm (Lightfoot *et al.* 2008).

9.3.5 Area 15, although primarily of early modern and recent date, is of sufficient size and inherent interest to warrant a full report and comparison with post-medieval ceramic assemblages at Swinnow Hall Wetherby.

Conservation

9.3.6 The Bronze Age axe recovered during metal-detecting is in a stable condition, but some light cleaning of the surfaces is recommended; the object should then be securely packaged for stable long-term curation.

9.3.7 No other conservation work is considered to be necessary on any other metalwork, and this material type is likely to be targeted by the project Selection Strategy (see below).

Other finds

9.3.8 No further analysis is proposed for any other finds categories. The information presented in this document can be adapted for incorporation in any publication report. The Bronze Age axe should be illustrated (line drawing or photograph).

9.4 Environmental evidence – recommendations for analysis

Charred plant remains

9.4.1 The samples proposed for analysis are indicated with a 'P' in the analysis recommendations column in Appendix 1, Table 13. Plant remains should be extracted from the flots and fine residue fractions, subsampling where appropriate. The analysis would involve full quantification and tabulation of the dataset. Identifications should be undertaken using a stereomicroscope at up to x40 magnification, as well as through comparison with relevant literature (e.g., Cappers *et al.* 2006) and reference material. Nomenclature should follow Stace (1997) for wild taxa, and Zohary *et al.* (2012) for cultivated species using traditional names.

Charcoal

9.4.2 The samples proposed for charcoal analysis are indicated with a 'C' in the analysis recommendations column in Appendix 1, Table 13. Between 25–100 charcoal fragments will be identified per context/sample depending on taxonomic diversity. Identification will focus on fragments in the ≥4 mm fractions, with scanning of the 2–4 mm fractions to identify wood from small shrubs and twiggy material (Asouti and Austin 2005). The transverse, tangential longitudinal, and radial longitudinal sections will be examined at up to x400 magnification using a Kyowa ME-LUX2 microscope. Identifications will be assisted by the descriptions of Gale and Cutler (2000), Hather (2000) and Schweingruber (1990), together with modern reference material held by Wessex Archaeology. Other features will be noted where applicable, including growth-ring curvature and the presence/absence of bark, pith, tyloses and reaction wood. Plant nomenclature will follow Stace (1997).

9.5 Scientific dating recommendations

9.5.1 There is potential to undertake a programme of radiocarbon dating to improve the phasing for some of the features and assist with further stratigraphic analysis. It is recommended that 17 samples are submitted for dating (Appendix 1, Table 14). This could focus on the following aims:

- Confirm the date of medieval ditch group 5809/5818 in Area 8;
- Date structure group 3077 in Area 9, which is suspected to be medieval in date. This should focus on comparatively rich deposits of charred plant remains in postholes 3049 and 3055. The medieval date of this evidence is of interest, especially since pre-Conquest assemblages are rare in this region;
- Confirm if gully 3235 in Area 9 is later prehistoric/Romano-British/early medieval in date;
- Improve phasing of later prehistoric/Romano-British activity in Area 14, focusing on stratigraphically early ditch group 455, suspected roundhouse ring gully 453, and later ditches including ditch group 462 and gully 427. Paired dating is recommended for some of these features.
- Date possible charcoal production pits in Area 24 and evaluation trench 42.

9.5.2 The reworking of material of different ages is a concern in some of these samples due to the shallow depth of some features, evidence for bioturbation, and the relatively low concentrations of material. In an area which has been extensively used for arable cultivation for millennia, it is possible that some of the material dated will return dates which are inconsistent with site phasing. To mitigate against this, it is recommended that paired radiocarbon dating on two different short-lived sample materials is undertaken for some of the features outlined in Appendix 1, Table 14.

9.6 Documentary research recommendations

9.6.1 Historical documentary research should be undertaken for the deserted medieval village of Morwick and its successors, Morwick Farm and Morwick Hall. This is considered important to place the village in it social and economic context.

9.7 Archaeological context

9.7.1 To better understand the context of the archaeology identified in the mitigation areas, both in terms of physical location within the ancient landscape and against the backdrop of the latest understanding of West Yorkshire in the Romano-British and medieval periods, it is recommended that the project specific GIS be updated with the results of a literature review and updated HER search.

9.8 Proposals for publication

9.8.1 The mitigation areas were dispersed along the 7 km route of the Scheme (encompassing an area of about 69.6 ha), representing a considerable opportunity to investigate an extensive area of landscape. This has been examined through geophysical survey, metal detecting, test pitting and evaluation trenching, with this earlier work then leading to the strip, map and sample excavations detailed above.

9.8.2 In light of the significance of the identified remains, it is proposed that following the further analyses outlined above, the results of the mitigation works will be published in an extended article in an appropriate internet journal for ease of public access and where the results may be better shown. The publication will present a synthesis of the results and discuss the archaeological evidence in a local and regional context, as well as considering the development of the later prehistoric landscape into the Romano-British and then medieval periods.

- 18 cardboard boxes or airtight plastic boxes of artefacts and ecofacts, ordered by material type;
- 7 files/document cases of paper records and A1/A3/A4 graphics;
- 4 Lever Arch files of paper records.

Digital archive

10.2.3 The digital archive generated by the project, which comprises born-digital data (e.g., site records, survey data, databases and spreadsheets, photographs and reports), will be deposited with a Trusted Digital Repository, in this instance the Archaeology Data Service (ADS), to ensure its long-term curation. Digital data will be prepared following ADS guidelines (ADS 2013 and online guidance) and accompanied by metadata. Full details of the collection, processing and documentation of digital data are given in the project Digital Management Plan (Appendix 4).

10.3 Selection strategy

10.3.1 It is widely accepted that not all the records and materials (artefacts and ecofacts) collected or created during the course of an archaeological project require preservation in perpetuity. These records and materials will be subject to selection in order to establish what will be retained for long-term curation, with the aim of ensuring that all elements selected to be retained are appropriate to establish the significance of the project and support future research, outreach, engagement, display and learning activities, i.e., the retained archive should fulfil the requirements of both future researchers and the receiving museum.

10.3.2 The selection strategy, which details the project-specific selection process, is underpinned by national guidelines on selection and retention (Brown 2011, section 4) and generic selection policies (SMA 1993) and follows CIfA's *Toolkit for Selecting Archaeological Archives*. It should be agreed by all stakeholders (Wessex Archaeology's internal specialists, external specialists, local authority, museum) and fully documented in the project archive.

10.3.3 Detailed selection proposals for the complete project archive (combining all stages of fieldwork), comprising finds, environmental material and site records (analogue and digital), are made in the site-specific Selection Strategy (Appendix 2). The proposals are summarized below.

Finds

10.3.4 The assemblage is large and is predominantly of relatively recent date (which limits its archaeological significance and further research potential), although it also contains some earlier elements.

- *Animal bone (418 frags)*: small assemblage, mostly from post-medieval or modern contexts, no further potential, limited intrinsic value. Retain none.
- *Ceramic building material (338 frags):* all commonly occurring and well documented types of relatively recent date. No further research potential, although record photographs of manufacturers' marks are recommended. Retain none.
- *Ceramic objects (8 objects):* negligible quantity; both mass-produced items of relatively recent date. No archaeological significance and no further research potential; retain none.

- *Clay tobacco pipes (156 frags):* very few datable bowls; no makers' marks; no large stratified groups. Some very limited chronological value in supporting ceramic dating, particularly for Areas 8 and 19, but no further research potential. Retain three complete and four partial (but datable) bowls only.
- *Glass (312 frags):* vessel and window glass all comprises commonly occurring and well documented types of relatively recent date. Some chronological value in supporting ceramic dating, particularly for Areas 8 and 19, but no further research potential. Retain none of vessel and window glass, but retain single glass bead.
- *Leather and textile (2 objects):* negligible quantity; both items of modern date. No archaeological significance, no further research potential; retain none.
- *Marine shell (125 frags):* very small quantity, mostly from one modern feature. No archaeological significance, no further research potential; retain none
- *Metalwork (MD survey) (2216 objects):* large assemblage (and essentially unstratified) but overwhelmingly consisting of undatable items, many of them unidentifiable. Identifiable objects are almost entirely of relatively recent origin. Ironwork in particular is vulnerable to continued deterioration but does not warrant conservation treatment. Some items of intrinsic interest (e.g., coins and tokens, personal items). A preliminary selection for retention has been made of 99 objects; this could be trimmed further by the elimination of some objects that were selected for X-raying but showed no diagnostic features.
- *Metalwork (evaluation & mitigation) (177 objects):* range replicates that seen in the metal-detected assemblage, and the same comments apply. There are three objects of intrinsic interest (nutcrackers, buckle, decorated lead spindlewhorl) which merit retention; other objects are considered to have little archaeological significance and no further research potential, and retention is not proposed for these.
- *Pottery (2514 sherds):* assemblage of significant size; Romano-British and medieval components of particular interest, the latter for including pre-Conquest material and also in illustrating a range of probably locally made wares. Post-medieval/modern assemblage also of interest in containing some good, well stratified groups. Archaeological significance in supplying primary chronological evidence for the project and evidence for sources of supply; further research potential beyond the immediate remit of the current project. Retain all.
- *Slag (3952 g):* small quantity, not chronologically distinctive but assumed to be of relatively recent date; not all material recorded as 'slag' is necessary representative of metalworking. Little or no archaeological significance; no further research potential; retain none.
- *Stone (1 object & 27 frags):* negligible quantity, but some items of intrinsic interest (complete medieval quernstone and fragments of further lava querns, probably also medieval); other items comprise undated building material and a slate pencil; these have little or no archaeological significance and no further research potential. Retain quernstones only.
- *Worked flint (5 pieces):* negligible quantity but includes one piece of intrinsic interest (Early Neolithic leaf arrowhead); other pieces are undiagnostic flakes. Retain arrowhead only.
- *Worked wood (2 frags):* negligible quantity, not datable although almost certainly post-medieval/modern. No archaeological significance; no further research potential; retain none

Palaeoenvironmental material

10.3.5 Some of the material retrieved from environmental samples merit retention with the site archive for future access. This is a summary of proposals for a site-specific Selection Strategy (Appendix 1, Table 15; also Appendix 2).

- All of the unprocessed samples from this site should be discarded.
- All of the unsorted residues from samples which have not been marked as having further potential or put forward for further analysis should be discarded.
- Assessed flots with no further potential should be discarded.
- Assessed flots with further potential should be retained (see Appendix 1, Table 13; also Appendix 2).
- Assessed flots which have been recommended for analysis should be retained.
- All analysed materials will be retained after analysis.
- The monolith from Area 9 sample 3043 has no further potential and should be discarded.

Documentary records

10.3.6 Paper records comprise site registers (other pro-forma site records are digital), drawings and reports (Written Scheme of Investigation, client report). All will be retained and deposited with the project archive.

Digital data

10.3.7 The digital data comprise site records (tablet-recorded on site) in spreadsheet format; finds records in spreadsheet format; survey data; photographs; reports. All will be deposited, although site photographs will be subject to selection to eliminate poor quality and duplicated images, and any others not considered directly relevant to the archaeology of the site.

10.4 Security copy

10.4.1 In line with current best practice (e.g., Brown 2011), on completion of the project a security copy of the written records will be prepared, in the form of a digital PDF/A file. PDF/A is an ISO-standardized version of the Portable Document Format (PDF) designed for the digital preservation of electronic documents through omission of features ill-suited to long-term archiving.

10.5 OASIS

10.5.1 An OASIS (online access to the index of archaeological investigations) record (http://oasis.ac.uk) has been initiated, with key fields completed (Appendix 3). A .pdf version of the final report will be submitted following approval by WYAAS on behalf of the LPA. Subject to any contractual requirements on confidentiality, copies of the OASIS record will be integrated into the relevant local and national records and published through the Archaeology Data Service (ADS) ArchSearch catalogue.

11 COPYRIGHT

11.1 Archive and report copyright

11.1.1 The full copyright of the written/illustrative/digital archive relating to the project will be retained by Wessex Archaeology under the *Copyright, Designs and Patents Act 1988* with all rights reserved. The Client will be licenced to use each report for the purposes that it was produced in relation to the project as described in the specification. The museum, however, will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use conforms to the *Copyright and Related Rights Regulations 2003*.

11.1.2 Information relating to the project will be deposited with the Historic Environment Record (HER) where it can be freely copied without reference to Wessex Archaeology for the purposes of archaeological research or development control within the planning process.

11.2 Third party data copyright

11.2.1 This document and the project archive may contain material that is non-Wessex Archaeology copyright (e.g., Ordnance Survey, British Geological Survey, Crown Copyright), or the intellectual property of third parties, which Wessex Archaeology are able to provide for limited reproduction under the terms of our own copyright licences, but for which copyright itself is non-transferable by Wessex Archaeology. Users remain bound by the conditions of *the Copyright, Designs and Patents Act 1988* with regard to multiple copying and electronic dissemination of such material

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APPENDICES

APPENDIX 1 ENVIRONMENTAL DATA

Table 10 Assessment of the environmental evidence: charred plant remains and wood charcoal

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal notes	Charred other	Charred other notes	Preservation	Charcoal >2mm (ml)	Charcoal notes	Other
2	Pit	6604	6605	-	224025_6601	20	115	10%, C, F, E	-	-	-	A	*Rumex* sp., Poaceae culm, tubers/rhizomes	F	100	Some mineral coating	-
2	Pit	6604	6608	-	224025_6602	20	10	60% (inc. modern crop chaff), A, F, E	-	-	-	-	-	-	1	Some mineral coating	Coal/clinker/cinder (A* - highly fragmented <2mm)
2	Pit	6609	6610	-	224025_6603	40	110	50% (Inc. modern crop chaff A***), A, F, E	-	-	-	C	Tubers/rhizomes, Cyperaceae	F	9	Some mineral coating	Clinker/cinder (A), Coal (A* - highly fragmented <2mm)
4	Pit	6809	6810	-	224025_6802	10	60	50%, F, E	-	-	-	-	-	-	35	Some mineral coating	-
4	Pit	6811	6812	-	224025_6803	10	5	80%, C, F	-	-	-	-	-	-	1	Some mineral coating	-
5	Pit	6211	6212	-	224025_6201	40	250	90%, A*, I, F, E	C	-	*Hordeum vulgare*	C	*Rubus* sp.	F	15	-	-
5	Pit	6221	6222	-	224025_6206	40	25	40%, A, F, E	-	-	-	-	-	-	<1	Highly fragmented <2mm	-

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal notes	Charred other	Charred other notes	Preservation	Charcoal >2mm (ml)	Charcoal notes	Other
6	Pit	6802	6803	-	224025_6801	40	30	90%, B, F, I, E	-	-	-	-	-	-	<1	-	-
8	Tree throw	5004	5005	-	224025_5004	40	100	90%, B, E, I	-	-	-	-	-	-	<1	-	Coal (A** - highly fragmented <2mm)
8	Tree throw	5016	5017	-	224025_5005	40	45	99%, A, E	-	-	-	-	-	-	-	-	Coal (A* - highly fragmented <2mm)
8	Ditch	5003	5002	-	224025_5006	40	30	90%, A, I	-	-	-	-	-	-	-	<2mm	Coal (A* - highly fragmented <2mm)
8	Pit	5022	5023	-	224025_5009	40	60	90%, C, E	-	-	-	-	-	-	-	-	Coal/clinker/cinder (A)
8	Trackway	5052	5053	5802	224025_5011	40	110	99%, A, E, I	-	-	-	-	-	-	-	-	Coal/clinker/cinder (C)
8	Gully	5044	5045	5803	224025_5014	40	30	99% (inc. modern leaves), C, E, F	-	-	-	-	-	-	<1	Some mineral coating	Coal/clinker/cinder (C)
8	Pit	5080	5081	-	224025_5022	40	100	90%, C, E	-	-	-	-	-	-	7	Some mineral coating	Coal (A* - highly fragmented <2mm)
8	Wheel rut	5082	5083	-	224025_5023	20	50	90% (inc. modern crop chaff), A, E	-	-	-	-	-	-	-	-	Coal/clinker/cinder (A)
8	Wheel rut	5084	5085	-	224025_5024	40	100	70%, A*, E	-	-	-	-	-	-	<1	Some mineral coating	Clinker/cinder (A**), Coal (A* - highly fragmented <2mm)

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal notes	Charred other	Charred other notes	Preservation	Charcoal >2mm (ml)	Charcoal notes	Other
8	Linear	5088	5089	-	224025_5026	40	1150	98%, A**, I	-	-	-	-	-	-	6	Some mineral coating	Coal/clinker/cinder (A)
8	Ditch	5094	5095	5813	224025_5030	40	25	90%, C, I	-	-	-	-	-	-	-	-	Coal/clinker/cinder (C)
8	Pit	5096	5097	-	224025_5031	30	30	99%, B, E, F	-	-	-	-	-	-	3	Roundwood	-
8	Pit	5096	5098	-	224025_5032	10	3	99%, C	-	-	-	-	-	-	-	-	Coal (A - highly fragmented <2mm)
8	Pit	5101	5102		224025_5033	30	30	95%, A	-	-	-	-	-	-	-	<2mm	Coal (A - highly fragmented <2mm)
8	Pit/tree throw	5105	5106	-	224025_5035	10	20	75% (inc. modern crop chaff), A*, F	-	-	-	-	-	-	-	-	Coal/clinker/cinder (A)
8	Posthole?	5107	5108	-	224025_5036	10	60	85% (inc. modern crop chaff), A**, E	-	-	-	-	-	-	-	-	Coal/clinker/cinder (A)
8	Posthole?	5109	5110	-	224025_5037	10	4	80% inc. modern crop chaff), A*	-	-	-	-	-	-	-	-	Coal (B)
8	Posthole?	5111	5112	-	224025_5038	10	50	90% (inc. modern crop chaff), A*, F, E	C	-	*Hordeum vulgare*	-	-	G	-	-	Coal/clinker/cinder (B)
8	Posthole?	5113	5114	-	224025_5039	10	40	60% (inc. modern crop chaff), A**, F, E	-	-	-	C	*Corylus avellana* nutshell	P	2	Some mineral coating	Coal/clinker/cinder (A)

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal notes	Charred other	Charred other notes	Preservation	Charcoal >2mm (ml)	Charcoal notes	Other
8	Pit/tree throw	5117	5118	-	224025_5041	10	175	80% (inc. modern leaves + modern crop chaff), A*	-	-	-	-	-	-	3	Some mineral coating	Coal/clinker/cinder (A)
8	Pit/tree throw	5119	5120	-	224025_5042	10	25	75%, C, F, I	-	-	-	-	-	-	<1	Some mineral coating	-
8	Pit/tree throw	5121	5122	-	224025_5043	10	20	99%, A, E	-	-	-	-	-	-	-	-	-
8	Gully	5143	5144	5803	224025_5046	40	125	99%, C, E	-	-	-	-	-	-	-	-	Coal/clinker/cinder (B)
8	Ditch	5135	5136	5808	224025_5048	40	29	80%, C, F	-	-	-	-	-	-	-	<2mm	Coal (A - highly fragmented <2mm)
8	Pit	5150	5151	-	224025_5049	20	2	99%, C, E	-	-	-	-	-	-	-	-	-
8	Gully	5156	5157	5803	224025_5052	40	125	99%, B	-	-	-	-	-	-	-	-	Coal/clinker/cinder (C)
8	Gully	5162	5163	5818	224025_5055	10	50	60%, A	-	-	-	-	-	-	<1	Some mineral coating	Clinker/cinder (C), Coal (A* - highly fragmented <2mm)
8	Ditch	5141	5142	5804	224025_5056	40	250	75% (inc. modern leaves), A*, E	C	-	*Triticum* cf. *aestivum/turgidum*	-	-	F	-	<2mm	Coal/clinker/cinder (A*)
8	Gully	5176	5177	5803	224025_5058	40	60	95%, B, E, F	-	-	-	-	-	-	-	<2mm	-
8	Pit?	5188	5189	-	224025_5059	10	2	95%, I	-	-	-	-	-	-	<1	Some mineral coating	Coal (B* - highly fragmented <2mm)

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal notes	Charred other	Charred other notes	Preservation	Charcoal >2mm (ml)	Charcoal notes	Other
8	Ditch	5127	5128	5808	224025_5062	40	48	95%, A	-	-	-	-	-	-	8	Some mineral coating	Coal (A* - highly fragmented <2mm)
8	Ditch	5190	5191	5809	224025_5063	40	170	90%, A, E	-	-	-	B	*Corylus avellana* nutshell, *Arrhenatherum elatius* ssp. *bulbosum* tuber	P	20	Some mineral coating	Coal/clinker/cinder (C)
8	Pit	5204	5205	-	224025_5065	40	60	90%, A, I, E	-	-	-	-	-	-	-	-	Coal/clinker/cinder (C)
8	Furrow	5212	5213	5810	224025_5066	40	250	95%, C, E	-	-	-	-	-	-	<1	-	Coal/clinker/cinder (C), fuel ash slag (C)
8	Furrow	5222	5223	5810	224025_5068	40	175	99%, B, E	-	-	-	-	-	-	-	-	Coal (B - highly fragmented <2mm)
8	Furrow	5220	5221	5810	224025_5069	40	100	90%, A, E, I	-	-	-	-	-	-	-	-	Clinker/cinder (A), Coal (A* - highly fragmented <2mm)
8	Furrow	5224	5225	5810	224025_5070	10	60	90%, B, E	-	-	-	-	-	-	3	Some mineral coating	Clinker/cinder (A), Coal (A* - highly fragmented <2mm)
8	Ditch	5228	5229	5809	224025_5072	40	50	90%, A, E	-	-	-	C	Poaceae	P	5	Roundwood	Coal (B - highly fragmented <2mm)
8	Ditch	5238	5239	5809	224025_5073	40	20	90%, A*	-	-	-	-	-	-	-	<2mm	-

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal notes	Charred other	Charred other notes	Preservation	Charcoal >2mm (ml)	Charcoal notes	Other
8	Ditch	5252	5253	5806	224025_5075	40	50	95%, A, E, F	-	-	-	-	-	-	-	-	Coal (B - highly fragmented <2mm)
8	Ditch	5256	5257	5806	224025_5076	40	20	90%, A, E	-	-	-	-	-	-	-	-	Coal (A - highly fragmented <2mm)
8	Furrow	5254	5255	5810	224025_5077	10	25	95%, A	-	-	-	C	Tuber/rhizome	P	2	Some mineral coating	Coal/clinker/cinder (B)
8	Ditch	5262	5263	-	224025_5079	40	125	90%, A*, I	-	-	-	-	-	-	<1	-	Coal (A** - highly fragmented <2mm)
8	Furrow	5264	5265		224025_5081	10	15	99%, A, F	-	-	-	-	-	-	<1	Some mineral coating	-
8	Furrow	5276	5277	5200	224025_5083	20	25	95%, A						-		<2mm	Coal (B - highly fragmented <2mm)
8	Ditch	5280	5281	-	224025_5086	40	30	95%, A	-	-	-	-	-	-	-	-	Coal/clinker/cinder (A)
8	Pit	5282	5283	-	224025_5087	40	967	95%, A*, F	-	-	-	-	-	-	-	-	Coal/clinker/cinder (A)
8	Gully	5284	5285	-	224025_5088	20	2	90%, C	-	-	-	-	-	-	-	<2mm	Coal (B - highly fragmented <2mm)
8	Pit	5288	5289	-	224025_5090	30	175	50%, A* (incl. modern wood), E	-	-	-	-	-	-	1	Some mineral coating	Coal/clinker/cinder (A**)
8	Ditch	5290	5291	5809	224025_5091	40	30	95%, (inc. modern crop chaff) A, E, I	-	-	-	-	-	-	-	-	Coal (A* - highly fragmented <2mm)

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal notes	Charred other	Charred other notes	Preservation	Charcoal >2mm (ml)	Charcoal notes	Other
8	Gully	5308	5309	-	224025_5096	10	30	60%, B, F	C	-	*Hordeum vulgare*	C	*Avena* sp. (large seeded)	G	<1	Some mineral coating	moll-t (C), Clinker/cinder (A), Coal (A* - highly fragmented <2mm)
8	Pit	5323	5324	-	224025_5098	10	25	40%, A (incl. modern wood), I	-	-	-	C	Tubers/rhizomes	P	2	Some mineral coating	Coal/clinker/cinder (A)
8	Ditch	5327	5328	5812	224025_5102	40	45	80%, C, E	-	-	-	-	-	-	-	-	Coal/clinker/cinder (A)
8	Pit	5314	5315	-	224025_5105	10	15	30% (inc. modern leaves), C, I	-	-	-	-	-	-	<1	-	Coal/clinker/cinder (A)
8	Gully	5333	5334	5817	224025_5107	40	45	90%, C, F	-	-	-	-	-	-	-	-	-
8	Pit	5338	5339	5810	224025_5108	20	228	85%, A*, E	-	-	-	-	-	-	<1	-	clinker/cinder (A*), coal (A), fuel ash slag (B)
8	Pit	5342	5343	-	224025_5110	40	250	5%, B	-	-	-	C	*Avena* sp., tuber/rhizome	P	2	-	Coal/clinker/cinder (A***)
8	Ditch	5344	5345	5812	224025_5111	20	10	90%, B, F	-	-	-	C	Rumex sp.	P	-	-	Coal (A* - highly fragmented)
8	Ditch	5355	5356	5813	224025_5112	20	15	90%, A*, E	-	-	-	-	-	-	-	-	Coal/clinker/cinder (C)
8	Furrow	5369	5370	5810	224025_5117	20	40	90%, C, E	-	-	-	-	-	-	<1	-	Coal (A)
8	Ditch	5371	5372	5812	224025_5118	40	65	95%, B, E	-	-	-	C	*Rumex* sp., tuber/rhizome	P	20	Some mineral coating	Coal/clinker/cinder (B)
8	Furrow	5375	5376	5816	224025_5127	40	80	85%, C	-	-	-	-	-	-	-	-	-

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal notes	Charred other	Charred other notes	Preservation	Charcoal >2mm (ml)	Charcoal notes	Other
8	Ditch	5396	5398	5814	224025_5130	40	25	80% (inc. modern leaves), B, E	-	-	-	-	-	-	-	-	Coal/clinker/cinder (C), fuel ash slag (A)
8	Ditch	5403	5404	5806	224025_5134	40	25	60%, A	-	-	-	-	-	-	<1	Some mineral coating	Coal/clinker/cinder (A)
8	Furrow	5405	5406	5810	224025_5135	20	32	95%, C, F	-	-	-	-	-	-	-	-	-
8	Pit	5427	5428	-	224025_5138	30	60	50%, A*, F, I	-	-	-	-	-	-	<1	-	A. bone (C), moll-t (A), fuel ash slag (A*), Clinker/cinder (A**), Coal (A*** - highly fragmented <2mm)
8	Ditch	5429	5430	5825	224025_5139	40	30	95%, B, I, E	-	-	-	-	-	-	<1	-	Clinker/cinder (A), Coal (A* - highly fragmented <2mm)
8	Pit	5437	5438	-	224025_5141	40	25	95%, A*, F	-	-	-	-	-	-	-	-	-
8	Ditch	5423	5424	5423	224025_5149	40	3	50%, C, E, F	-	-	-	-	-	-	-	-	Coal (A** - highly fragmented <2mm)
8	Pit	5462	5463	-	224025_5153	10	7	60%, C	-	-	-	C	Poaceae, tuber/rhizome, *Calluna vulgaris*-tp stem	P	2	Some mineral coating	Fuel ash slag (A)
8	Ditch	5473	5474	-	224025_5156	40	15	50%, C, I	-	-	-	-	-	-	<1	Some mineral coating	moll-t (A), Coal/clinker/cinder (B)

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal notes	Charred other	Charred other notes	Preservation	Charcoal >2mm (ml)	Charcoal notes	Other
8	Ditch	5435	5436	5824	224025_5157	40	172	85%, C	-	-	-	-	-	-	<1	-	-
8	Ditch	5477	5478	5824	224025_5160	40	178	40%, B, I	-	-	-	-	-	-	-	-	-
8	Pit	5481	5482	-	224025_5162	10	30	95%, C	B	-	*Secale cereale*, Triticeae	A*	Poaceae (inc. *Avena* sp.), *Corylus avellana* nutshell, tubers/rhizomes	P	10	Some mineral coating	-
8	Furrow	5491	5492	5816	224025_5163	10	2	70%, C	-	-	-	-	-	-	-	-	Coal (A - highly fragmented <2mm)
8	Pit	5531	5532	-	224025_5174	40	25	90%, C, E	B	-	*Secale cereale,* cf. *Hordeum vulgare,* Triticeae	C	*Corylus avellana* nutshell	P	4	Some mineral coating	Coal/clinker/cinder (C)
8	Ditch	5540	5541	5808	224025_5175	40	25	99%, C, F, I	-	-	-	-	-	-	-	<2mm	Coal (A* - highly fragmented <2mm)
9	Ditch	3001	3002	3092	224025_3001	40	5	70%, A, F, I	-	-	-	C	*Ranunculus* subg. *Ranunculus, Plantago lanceolata*	F	-	<2mm	Coal/clinker/cinder (A)
9	Ditch	3005	3006	3094	224025_3004	40	60	<1%, A, E	-	-	-	-	-	-	2	Incl. twig	Clinker/cinder (A)
9	Ditch	3038	3039	3092	224025_3006	40	60	1%, B, E	-	-	-	-	-	-	1	Some mineral coating	Coal/clinker/cinder (A*)
9	Posthole	3049	3050	3077	224025_3009	10	10	10%, C, F	A*	-	*Secale cereale, Triticum aestivum/turgidum,* Triticeae	C	*Ranunculus* subg. *Ranunculus*	H	1	Roundwood	Fuel ash slag (A*)
9	Posthole	3053	3054	3077	224025_3011	10	3	60%,B, F	-	-	-	-	-	-	-	<2mm	-

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal notes	Charred other	Charred other notes	Preservation	Charcoal >2mm (ml)	Charcoal notes	Other
9	Posthole	3055	3056	3077	224025_3012	10	5	80%, B	C	C	*Secale cereale, Triticum* sp., glume bases	A	*Ranunculus* subg. *Ranunculus, Avena* sp., *Avena/Bromus, Corylus avellana* nutshell, tubers/rhizomes, *Calluna vulgaris*-tp. Stems	H	3	Some mineral coating	-
9	Posthole	3059	3060	3077	224025_3014	10	10	75%, A, I	C	-	*Secale cereale, Hordeum vulgare,* Triticeae	C	*Avena* sp., *Corylus avellana* nutshell	H	3	Some mineral coating	Fuel ash slag (C)
9	Posthole	3063	3064	3077	224025_3016	10	0.5	95%, C	-	-	-	-	-	-	-	-	-
9	Posthole	3067	3068	3077	224025_3018	10	5	1%, C, E	-	-	-	C	*Avena/Bromus*	P	4	-	-
9	Posthole	3073	3074	3077	224025_3021	10	10	50%, A*	-	-	-	C	*Ranunculus* subg. *Ranunculus,* Poaceae	P	<1	Some mineral coating	Clinker/cinder (A)
9	Ditch	3078	3080	3078	224025_3025	40	250	<1%, A, I	C	-	*Triticum aestivum/turgidum*	A*	Tubers/rhizomes, monocot stems, Poaceae	F	4	Roundwood	Clinker/cinder (A***), coal (A*)
9	Ditch	3102	3104	3093	224025_3031	40	15	40%, A	C	-	*Hordeum vulgare,* cf. *Secale cereale,* Triticeae	A	*Avena* sp., *Persicaria* sp.	P	10	Some mineral coating	Coal/clinker/cinder (A)
9	Ditch	3102	3105	3093	224025_3032	40	20	30%, A	-	-	-	B	Poaceae	F	10	Some mineral coating	Coal/clinker/cinder (A)
9	Gully	3108	3109	3086	224025_3034	40	10	50%, A**, E	C	-		C	*Calluna vulgaris*-tp stem	F	-	<2mm	Coal/clinker/cinder (A)
9	Gully	3110	3111	3086	224025_3035	40	50	5%, A*, I, F, E	-	-	-	C	Tuber/rhizome	P	1	-	Clinker/cinder (A**), Coal (A)

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal notes	Charred other	Charred other notes	Preservation	Charcoal >2mm (ml)	Charcoal notes	Other
9	Gully	3112	3113	3086	224025_3036	40	40	20%, A*, E	-	-	-	-	-	-	<1	-	Clinker/cinder (A**), Coal (A)
9	Ditch	3095	3097	3094	224025_3039	40	1	50%, B, E	-	-	-	-	-	-	<1	-	-
9	Pit	3116	3117	3116	224025_3042	40	15	5%, A, I, E	-	-	-	C	*Avena* sp., tuber/rhizome	F	1	Some mineral coating	Coal/clinker/cinder (A)
9	Structure	3140	3141	3146	224025_3048	40	3	5%, C	-	-	-	-	-	-	<1	-	-
9	Structure	3144	3145	3146	224025_3050	40	1	75%, C	-	-	-	-	-	-	-	<2mm	-
9	Furrow	3130	3131	3085	224025_3054	0.4	20	30%, A*	-	-	-	-	-	-	<1	-	Coal/clinker/cinder (A)
9	Furrow	3134	3135	3085	224025_3056	20	4	10%, B, E	-	-	-	-	-	-	-	<2mm	Coal (A - highly fragmented <2mm)
9	Ditch	3154	3155	3093	224025_3058	40	4	90%, A	-	-	-	-	-	-	<1	-	-
9	Furrow	3159	3160	3085	224025_3062	40	5	60%, A*, I	-	-	-	-	-	-	-	<2mm	Coal/clinker/cinder (A*)
9	Furrow	3187	3188	3085	224025_3067	40	4	75%, A, I	-	-	-	C	Tuber/rhizome	P	-	<2mm	Coal/clinker/cinder (A)
9	Ditch	3192	3195	3245	224025_3069	40	10	75%, B, E	-	-	-	-	-	-	-	<2mm	Coal (B - highly fragmented <2mm)
9	Furrow	3203	3204	3085	224025_3073	10	2	80%, A	-	-	-	-	-	-	-	-	Coal/clinker/cinder (B)
9	Gully	3166	3167	3235	224025_3085	40	15	10%, A, E, I, F	C	C	*Triticum spelta,* (grain and glume base*), Hordeum vulgare*	C	*Avena* sp., tuber/rhizome	H	3	-	Coal/clinker/cinder (B)

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal notes	Charred other	Charred other notes	Preservation	Charcoal >2mm (ml)	Charcoal notes	Other
9	Gully	3236	3237	3235	224025_3089	40	10	75%, A, F	-	-	-	-	-	-	-	<2mm	-
9	Ditch	3268	3269	3244	224025_3105	40	10	95%, A, F	-	-	-	-	-	-	-	-	Coal/clinker/cinder (C)
9	Furrow	3273	3274	-	224025_3108	40	3	20%, C	-	-	-	-	-	-	2	-	Coal/clinker/cinder (C)
14	Pit	104	105	-	224022_1	40	30	40%, A*, E	-	-	-	A	Monocot stems, trubers/rhizomes	H	22	-	Clinker/cinder (A)
14	Ditch	110	111	447	224022_2	40	25	40% (inc. modern crop chaff), A*, I	C	-	Triticeae	B	Monocot stems, trubers/rhizomes inc *Arrhenatherum elatius* ssp. *bulbosum,* Poaceae	G	1	-	Clinker/cinder (A**), fuel ash slag (C)
14	Pit	128	129	-	224022_9	40	30	25%, A*, E, I	C	C	Triticeae, *Triticum spelta/dicoccum* spikelet fork frag	A*	*Rumex* sp., Trifolieae, monocot stems/culms, tubers/rhizomes (inc. *Arrhenatherum elatius* ssp. *bulbosum* tubers), *Persicaria* sp., *Galeopsis* sp., *Galium* sp., Poaceae, indets	H	5	Twig/roundwood	Coal/clinker/cinder (A**), fuel ash slag (C)
14	Ditch	136	137	447	224022_13	40	20	60%, A*, E, I	C	C	Triticeae, indet cereal rachis	B	Monocot stems, Poaceae culms, *Arrhenatherum elatius* ssp. *bulbosum* tuber, *Calluna vulgaris*-tp stems	P	1	-	Coal/clinker/cinder (A*)

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal notes	Charred other	Charred other notes	Preservation	Charcoal >2mm (ml)	Charcoal notes	Other
14	Ditch	165	166	447	224022_16	40	15	<1%, A,I,E	C	-	*Hordeum vulgare*	B	Poaceae (inc. culms), *Rumex* sp.., *Galium* sp., tuber/rhizome	P	6	Incl. twig	Coal/clinker/cinder (A*)
14	Ditch terminus	180	181	-	224022_20	40	5	60%, A*, I	C	-	*Triticum spelta/dicoccum,* Triticeae	A	Tubers/rhizomes inc. *Arrhenatherum elatius* ssp. *bulbosum* tubers, monocot stems, *Galeopsis* sp., Trifolieae, *Rumex* sp., indet	H	<1	-	Coal/clinker/cinder (A)
14	Ditch terminus	130	131	-	224022_24	40	30	30%, A*, E, I	C	C	*Triticum* sp., Triticeae, glume bases	A	Tubers/rhizomes inc. *Arrhenatherum elatius* ssp. *bulbosum* tubers, monocot stems/culms, *Avena* sp.	H	<5	-	Clinker/cinder (A**), Coal (B)
14	Pit	116	117	-	224022_25	40	30	10%, A	B	C	*Triticum* sp., Triticeae, glume base	A	Tubers/rhizomes inc*. Arrhenatherum elatius* ssp. *bulbosum* tubers, monocot stems/culms, *Rumex* sp.	H	6	-	Clinker/cinder (A**), Coal (B)
14	Ditch	169	170	451	224022_31	40	5	40%, A*, I	C	-	Triticeae	B	Tubers/rhizomes, Poaceae culm, monocot stems, Poaceae	H	1	-	Coal/clinker/cinder (A)

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal notes	Charred other	Charred other notes	Preservation	Charcoal >2mm (ml)	Charcoal notes	Other
14	Ditch	157	158	447	224022_35	40	20	40%, A, E	C	-	*Hordeum vulgare,* Triticeae	B	Tubers/rhizomes, Poaceae culm, *Galium* sp.	H	<5	-	Clinker/cinder (A**), Coal (C)
14	Ditch	281	282	456	224022_40	40	25	90%, A, E, F	C	C	*Triticum* sp., Triticeae (one germinated), *T. spelta glume* base	A	Galeopsis sp., *Rumex* sp.., monocot stem/culms, *Ranunculus* subg. *Ranunculus,* indets	H	<1	-	Clinker/cinder (A*), Coal (B)
14	Gully	288	289	460	224022_45	30	30	50% (inc. modern crop chaff), A, I	C	-	Triticeae	A	Tubers/rhizomes inc. *Arrhenatherum elatius* ssp. *bulbosum* tubers, monocot stems/culms, Lamiaceae, *Galeopsis* sp., *Rumex* sp..	H	3	-	Clinker/cinder (A**), Coal (B)
14	Ditch	277	278	452	224022_49	40	5	50%, A*	-	-	-	C	*Galium* sp., monocot stems, *Calluna vulgaris*-tp stem	H	<1	-	Clinker/cinder (A)
14	Ditch	292	293	452	224022_51	40	4	1%, A*, E	C	-	*Triticum* sp., Triticeae	B	Monocot stems/culms, tubers/rhizomes, Trifolieae, Poaceae	P	<1	-	Coal/clinker/cinder (A)
14	Ditch	294	295	452	224022_52	40	15	50%, B, I	C	-	Triticeae	C	*Arrhenatherum elatius* ssp. *bulbosum* tuber, Chenopodiaceae, tuber/rhizome, poaceae culm	H	5	-	Clinker/cinder (A)

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal notes	Charred other	Charred other notes	Preservation	Charcoal >2mm (ml)	Charcoal notes	Other
14	Ditch	304	305	463	224022_56	40	15	60%, A**	C	C	Triticeae, *Triticum spelta* glume base	A	Tubers/rhizomes, monocot stems/culms	P	1	-	Coal/clinker/cinder (A*)
14	Ditch	298	299	-	224022_59	40	30	30%, A, I, F	B	B	Triticeae, glume bases inc. *Triticum spelta,* rachis frag.	A*	Tubers/rhizomes inc*. Arrhenatherum elatius* ssp. *bulbosum* tubers, monocot stems/culms, *Persicaria* sp., *Plantago lanceolata*, Poaceae, Vicieae, *Rumex* sp., Chenopodiaceae, *Calluna vulgaris*-tp stems, Trifolieae, *Ranunculus* subg. *Ranunculus*, indet	H	2	-	Clinker/cinder (A**), Coal (A* - very fragmented <2mm)
14	Ditch	326	327	465	224022_60	40	30	90%, A**, F	C	-	Triticeae	C	Poaceae	P	<1	-	Fuel ash slag (B), Clinker/cinder (A*), Coal (B)
14	Ditch	296	297	451	224022_63	30	30	10%, A*, I	C	B	Triticeae grain frags, glume bases (inc. *Triticum spelta*), rachis frag, spikelet fork frags	A	Tubers/rhizomes, monocot stems, Poaceae (inc. *Avena* sp.), *Calluna vulgaris*-tp stem	P	5	-	Clinker/cinder (A***), Coal (A* - very fragmented <2mm)

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal notes	Charred other	Charred other notes	Preservation	Charcoal >2mm (ml)	Charcoal notes	Other
14	Ditch	252	253	455	224022_69	40	25	1%, A, I, F	C	C	*Triticum* sp., Triticeae, glume base	A	Tubers/rhizomes inc. *Arrhenatherum elatius* ssp. *bulbosum* tubers, Poaceae (inc. *Avena* sp.), *Persicaria* sp., *Rumex* sp.	H	10	Some mineral coating	Clinker/cinder (A**), Coal (A - very fragmented <2mm)
14	Gully	342	343	453	224022_70	40	15	40%, A, E, F	C	-	Triticeae	A	Tubers/rhizomes inc. *Arrhenatherum elatius* ssp. *bulbosum* tubers, Poaceae *(Avena/Bromus, Poa/Phleum)*	H	<10	-	Clinker/cinder (A*), fuel ash slag (B)
14	Ditch	318	319	455	224022_72	40	30	1%, A, E	B	C	*Triticum* sp., Triticeae, *T.spelta* glume bases, rachis frag	A	Tubers/rhizomes, Poaceae (*Avena* sp.), monocot stems, *Galeopsis* sp., Trifolieae, Polygonaceae	P	7	-	Clinker/cinder (A*), Coal (A** highly fragmented <2mm)
14	Ditch	334	335	334	224022_74	40	3	75%, A*	-	-	-	C	*Arrhenatherum elatius* ssp. *bulbosum* tuber frag, monocot stem, cf. Trifolieae	P	<1	-	Coal (A* highly fragmented <2mm, clinker/cinder (B), Fuel ash slag (C)
14	Ditch	338	339	449	224022_75	40	2	80%, A*, I	-	-	-	-	-	-	-	<2mm	Coal/clinker/cinder (C)
14	Ditch	336	337	449	224022_77	40	30	50%, A***(mainly Sambucus sp.), E, I	C	-	*Triticum* sp., Triticeae	-	-	P	4	-	Clinker/cinder (A*), Coal (B)

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal notes	Charred other	Charred other notes	Preservation	Charcoal >2mm (ml)	Charcoal notes	Other
14	Pit	410	411	-	224022_82	40	25	5%, C	-	-	-	C	Indet bud	P	5	-	Clinker/cinder (A*)
14	Ditch	355	357	462	224022_83	40	125	5% (inc. modern crop chaff), A, I, E	A*	A**	*Triticum spelta* (some germinated grains, glume bases and spikelet forks), *Hordeum* sp. (grains and rachis internodes), *T.spelta/dicoccum* (grains, glume bases and spikelet forks), culm nodes, coleoptiles	A*	Poaceae (*Avena* sp., *Avena/Bromus, Lolium/Festuca, Poa/Phleum*), tubers/rhizomes, monocot stems, *Galium* sp., *Rumex* sp., *Rumex* sp., *Stellaria* sp., *Polygonum aviculare*	H	15	Twig/roundwood	Clinker/cinder (A***), Coal (A*), Moll-t (C)
14	Ditch	355	357	462	224022_84	10	5	20%, C	A	B	*Triticum* sp. (inc. one germinated), Triticeae, *T.spelta* glume bases	C	Poaceae, indet seed	P	1	-	Clinker/cinder (A*)
14	Ditch	427	428	-	224022_87	40	40	<1%, A, I, E	A	A	*Triticum spelta* (grains and glume bases), *Triticum* sp., Triticeae, *T.spelta/dicoccum* spikelet forks and glume bases	A	Tubers/rhizomes inc. *Arrhenatherum elatius* ssp. *bulbosum* tubers, monocot stems/culms, *Calluna vulgaris*-tp stems, Poaceae (inc. *Danthonia decumbens, Poa/Phleum*), *Plantago lanceolata*, thorns, indet seed	H	3	-	Clinker/cinder (A***), Coal (A* - quite fragmented <2mm)

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal notes	Charred other	Charred other notes	Preservation	Charcoal >2mm (ml)	Charcoal notes	Other
14	Gully terminus	425	426	-	224022_90	40	15	60%, A*, E, I	C	-	Triticeae	-	-	P	0.5	-	Clinker/cinder (A*), Coal (B)
15	Pit	6302	6304	-	224025_6300	40	50	95%, A, F, E	-	-	-	-	-	-	<1	-	Coal (A - highly fragmented <2mm)
15	Posthole	6305	6306	-	224025_6301	10	15	99%, C, F, E	-	-	-	-	-	-	3	-	-
15	Pit/posthole	6307	6308	-	224025_6302	20	30	90%, B, E	-	-	-	-	-	-	<1	-	Coal (A - highly fragmented <2mm)
15	Pit	6309	6310	-	224025_6303	40	50	95%, B, E, F	-	-	-	C	Tuber/rhizome	F	<1	Highly fragmented <2mm	-
15	Pit	6311	6312	-	224025_6304	20	15	60%, C, E	-	-	-	-	-	-	-	<2mm	-
15	Posthole	6315	6316	-	224025_6306	10	2	99%, C, F	-	-	-	-	-	-	-	-	-
15	Ditch	6323	6324	-	224025_6310	20	25	50%, A*, E	-	-	-	-	-	-	-	-	Clinker/cinder (A*), Coal (A - highly fragmented <2mm)
15	Horticultural feature (planting)	6343	6344	7609	224025_6318	20	175	90%, A**, E	-	-	-	-	-	-	-	<2mm	Coal/cinder/clinker (A)
15	Pit/tree throw	6371	6370	-	224025_6329	5	125	70% (inc. modern crop chaff), A, I, E	-	-	-	-	-	-	-	-	Moll-t (B), Coal/cinder/clinker (B)

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal notes	Charred other	Charred other notes	Preservation	Charcoal >2mm (ml)	Charcoal notes	Other
15	Pit	6380	6381	-	224025_6334	15	125	5%, A**, E	-	-	-	-	-	-	<1	-	Clinker/cinder (A***), Coal (A*** - highly fragmented <2mm)
15	Pit	6386	6387	-	224025_6338	20	30	90%	-	-	-	-	-	-	-	-	Coal (A* - highly fragmented <2mm)
15	Pit	7500	7501	-	224025_6342	10	10	99%, C, F	-	-	-	-	-	-	-	<2mm	Coal (A* - highly fragmented <2mm)
19	Pit	3507	3508	-	224025_3503	20	125	30%, C	-	-	-	-	-	-	60	Some mineral coating	-
19	Pit	3509	3510	-	224025_3504	20	125	40%, C, I	-	-	-	-	-	-	40	Some mineral coating	-
19	Furrow	3511	3512	-	224025_3505	40	230	95%, A	-	-	-	-	-	-	-	-	Coal/clinker/cinder (C)
19	Ditch	3525	3526		224025_3512	40	250	95%, C, E	-	-	-	-	-	-	-	-	-
19	Furrow	3532	3533	-	224025_3515	40	250	90%, C, E, F	-	-	-	-	-	-	-	-	Coal/clinker/cinder (B)
19	Layer	-	3540	-	224025_3517	10	100	40%, C, E	-	-	-	-	-	-	30	-	-
19	Furrow	3538	3539	-	224025_3518	40	50	80%, B, I	C	-	Triticeae	C	Poaceae	P	<1	-	Clinker/cinder (A)
19	Pit	3525	3536	-	224025_3519	40	40	50%, B, E	-	-	-	C	Poaceae, indet	P	<1	-	Clinker/cinder (A*)
19	Pit	3535	3537	-	224025_3520	40	40	80%, C, I	C	-	Triticeae	-	-	P	<1	Some mineral coating	Clinker/cinder (A)
19	Furrow	3542	3543	-	224025_3521	40	50	95%, A, E, I	-	-	-	-	-	F	-	<2mm	Coal/clinker/cinder (A)

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal notes	Charred other	Charred other notes	Preservation	Charcoal >2mm (ml)	Charcoal notes	Other
19	Furrow	3544	3545	-	224025_3522	40	60	99%, C, E	-	-	-	-	-	-	<1	-	-
19	Furrow	3559	3560	-	224025_3528	40	40	99%, F	-	-	-	-	-	-	-	-	-
19	Furrow	3593	3594	-	224025_3536	40	60	99%, C	-	-	-	-	-	-	-	-	-
19	Furrow	3595	3596	-	224025_3537	40	125	90%, B, E	C	-	Triticeae	C	Poaceae, *Chrysanthemum segetum*	H	1	-	Coal/clinker/cinder (A)
19	Ditch	3575	3576	-	224025_3545	40	50	90%, A**, I, E, F	C	-	Triticeae	C	Poaceae	P	-	<2mm	Coal/clinker/cinder (B)
19	?Spread	3613	3614	-	224025_3548	40	150	99%, A, E	-	-	-	-	-	-	<1	-	Coal/clinker/cinder (A)
20	Gully	2019	2020	2060	224025_2005	40	15	30%,A, I, E, F	-	C	*Triticum spelta* glume base	C	Tubers/rhizomes, Poaceae	H	-	<2mm	Coal (A* - highly fragmented <2mm)
20	Ditch	2069	2070	2063	224025_2008	40	10	90% (inc. modern crop chaff), A, F, I	-	-	-	-	-	-	-	-	-
20	Trackway	2075	2076	2091	224025_2010	40	20	60%, A**, F, E	-	-	-	C	Tubers/rhizomes	P	1	Roundwood	-
20	Trackway	2073	2074	2091	224025_2013	40	120	90%, A*, F, I	-	-	-	C	*Arrhenatherum elatius* ssp. *bulbosum*	P	<1	-	Coal/clinker/cinder (A)
20	Gully terminus	2040	2041	-	224025_2016	40	60	75%, A*, F	-	-	-	-	-	-	-	-	Coal (A - highly fragmented <2mm)
20	Ditch	2069	2090	2063	224025_2022	40	10	60%, A, I, E, F	-	-	-	-	-	-	-	-	moll-t (C), Coal (C)

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal notes	Charred other	Charred other notes	Preservation	Charcoal >2mm (ml)	Charcoal notes	Other
20	Ditch	2031	2032	2068	224025_2027	40	40	40%, A, F, I, E	-	-	-	A	Tubers/rhizomes, *Rubus* sp., Vicieae, Rosaceae (inc. *Malus/Pyrus/Sorbus* seeds), Cyperaceae, indets	P	10	Roundwood (twigs)	Coal/clinker/cinder (A), charred insect coprolite
20	Ditch	2031	2033	2068	224025_2028	40	40	10%, A, I, E	C	-	*Triticum aestivum/turgidum*	A*	Tubers/rhizomes, monocot stems, *Rubus* spp., indets	P	13	Roundwood (twigs)	Coal/clinker/cinder (A), charred insect coprolite
20	Posthole	2071	2072	-	224025_2034	10	10	40%, A*, I, E	-	-	-	-	-	-	1	-	-
20	Ditch	2155	2156	2130	224025_2041	40	5	95%, B, F, I	-	-	-	-	-	-	-	<2mm	-
20	Ditch	2138	2139	-	224025_2053	40	15	99%, B	-	-	-	-	-	-	-	-	Coal (A - highly fragmented)
20	Ditch	2172	2173	2193	224025_2055	40	30	50%, A*, F	-	-	-	-	-	-	<1	-	Clinker/cinder (A), Coal (A* highly fragmented <2mm),
20	Ditch	2166	2168	2169	224025_2058	40	25	30%, C, F	-	-	-	C	Tuber/rhizome	P	2	Some mineral coating	Clinker/cinder (A)
20	Ditch	2166	2167	2169	224025_2059	40	15	40%, C, F	-	-	-	-	-	-	<1	-	Clinker/cinder (B)
20	Ditch	2159	2160	2169	224025_2060	40	3	95%, C, F, I	-	-	-	-	-	-	-	<2mm	-
20	Ditch	2170	2171	2169	224025_2061	40	15	90%, C, F, I	-	-	-	-	-	-	<1	-	-
21	Ditch	1621	1622	1620	224025_1617	40	3	95%, B, F	-	-	-	-	-	-	<1	-	Coal/clinker/cinder (B)
21	Ditch	1608	1609	1620	224025_1623	40	15	80%, C, F, E	-	-	-	C	Tuber/rhizome, Poaceae	P	<1	-	-

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal notes	Charred other	Charred other notes	Preservation	Charcoal >2mm (ml)	Charcoal notes	Other
21	Ditch	1662	1663	1620	224025_1626	40	10	90%, C, I, F	-	-	-	-	-	-	-	<2mm	-
21	Horticultural feature	1688	1689	1650	224025_1630	40	40	75%, A, F, E	-	-	-	-	-	-	-	-	Clinker/cinder (A)
21	Pit	1673	1674	-	224025_1635	40	15	50% (inc. modern crop chaff), A, F	-	-	-	-	-	-	1	-	-
21	Ditch	1676	1678	1675	224025_1637	40	2	80%, A, F	-	-	-	-	-	-	-	<2mm	-
21	Layer	-	1717	-	224025_1642	40	30	75%, B, F, I	-	-	-	-	-	-	10	Some mineral coating	-
21	Ditch	1708	1709	1710	224025_1646	40	45	85%, A*, E, F	-	-	-	A	Tubers/rhizomes, monocot stems, Poaceae culms	P	5	Some mineral coating	-
23	Pit	1005	1006	-	224023_1002	40	987	<1%, C, F	-	-	-	-	-	-	64	-	-
23	Gully	1009	1010	1041	224023_1006	40	30	70%, A, F, I	-	-	-	-	-	-	<1	-	Coal shale (A - fairly fragmented)
23	Layer	-	1032	1032	224023_1011	40	15	95%, B, F, E	-	-	-	-	-	-	<1	-	-
23	Gully	1025	1026	1041	224023_1012	40	15	20%, A, E, I, F	-	-	-	-	-	-	-	-	Coal (B)
23	Ditch	1045	1046	1031	224023_1022	40	3	60%, A*, F	-	-	-	-	-	-	<1	-	-
23	Gully	1075	1077	1041	224023_1026	30	50	10%, A*, E, F	-	-	-	-	-	-	<1	-	Coal shale (A***)
23	Gully	1053	1055	1041	224023_1033	40	15	90%, C, F, I	-	-	-	-	-	-	-	<2mm	Coal shale (A - fairly fragmented <2mm)
23	Ditch	1078	1080	1372	224023_1036	40	10	95%, C, F	-	-	-	-	-	-	-	<2mm	Coal (C)

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23	Ditch	1303	1304	1242	224023_1053	40	100	50%, A*** (mainly *Rubus* sp.), E, F	-	-	-	-	-	-	1	<2mm	Coal/coal shale (A** - fairly fragmented <2mm)
23	Ditch	1314	1316	1041	224023_1055	40	50	30%, A*** (mainly *Rubus* sp.), E, I, F	-	-	-	-	-	-	-	-	Clinker/cinder (C)
23	Ditch	1331	1332	1371	224023_1064	40	20	50% (Inc. modern crop chaff), C, I, F, E	-	-	-	-	-	-	-	-	-
23	Ditch	1127	1128	1051	224023_1067	40	25	80% (inc. modern crop chaff), A, E, F	-	-	-	C	*Linum catharticum*	P	-	<2mm	Coal (B - highly fragmented <2mm)
23	Pit	1154	1153	-	224023_1077	30	6	95%, C, F	-	-	-	-	-	-	3	Some mineral coating	-
23	Pit	1156	1157	-	224023_1078	10	15	95%, C, F	-	-	-	-	-	-	10	Some mineral coating	-
23	Ditch	1158	1159	1051	224023_1079	40	10	80%, B, F	-	-	-	-	-	-	-	-	Coal/coal shale (A - highly fragmented <2mm)
23	Pit	1160	1161	-	224023_1081	30	15	60%, A, F, E	-	-	-	-	-	-	1	-	-
23	Ditch	1179	1180	1373	224023_1089	40	20	60%, A, F	C	-	Triticeae	-	-	P	<1	Twig/roundwood. Some mineral coating	Clinker/cinder (A)
23	Ditch	1201	1202	1373	224023_1098	40	5	90%, C, F	-	-	-	-	-	-	-	-	Coal/clinker/cinder (B)

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal notes	Charred other	Charred other notes	Preservation	Charcoal >2mm (ml)	Charcoal notes	Other
23	Ditch	1203	1204	1373	224023_1099	40	15	90%, A, F	-	-	-	-	-	-	-	-	-
23	Ditch	1209	1210	1081	224023_1107	40	15	40%, A, F, E	-	-	-	-	-	-	-	-	-
23	Ditch	1226	1227	1242	224023_1115	40	20	75%, C, E, F	-	-	-	-	-	-	-	-	-
23	Ditch	1232	1233	1242	224023_1118	40	30	70%, A*, F, E	C	-	*Hordeum vulgare*	-	-	P	-	<2mm	-
23	Pit	1236	1237	-	224023_1120	10	30	60%, C, F	-	-	-	-	-	-	15	-	Clinker/cinder (A*)
23	Pit	1276	1277	-	224023_1136	40	25	80% (inc. modern crop chaff), A, E, F	-	-	-	-	-	-	-	<2mm	Coal/coal shale (B)
23	Gully	1278	1279	-	224023_1137	30	4	50%, B, F	-	-	-	-	-	-	<1	-	Fuel ash slag (A*), Clinker/cinder (A*), Coal (C)
23	Pit	1276	1280	-	224023_1138	40	10	90%, B, F, E	-	-	-	-	-	-	1	Some mineral coating	-
23	Ditch	1294	1283	1041	224023_1140	0.1	30	30% (inc. modern crop chaff), A*	-	-	-	-	-	-	<1	-	Coal shale (A***, fairly fragmented <2mm)
23	Ditch	1245	1246	1242	224023_1146	40	15	20%, C, F, E	-	-	-	-	-	-	<1	-	-
23	Ditch	1297	1298	1051	224023_1148	40	15	80%, C, E, F	-	-	-	-	-	-	<1	-	-
23	Ditch	1312	1313	1371	224023_1152	40	240	2%, A, E, F	-	-	-	-	-	-	125	Some mineral coating	-
23	Ditch	1314	1316	1041	224023_1155	40	4	50%, C, F	-	-	-	-	-	-	2	-	-

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal notes	Charred other	Charred other notes	Preservation	Charcoal >2mm (ml)	Charcoal notes	Other
23	Ditch	1320	1321	1371	224023_1158	40	10	80%, B, I, F, E	-	-	-	-	-	-	<1	-	Coal/coal shale (B)
23	Ditch	1318	1319	1371	224023_1159	40	25	60%, A*, F, E	-	-	-	C	Tuber/rhizome frags	Poor	-	<2mm	-
23	Ditch	1309	1311	1370	224023_1162	40	30	90%, A*, F	-	-	-	-	-	-	<1	-	Coal shale (A - highly fragmented <2mm)
23	Ditch	1345	1346	1374	224023_1167	40	10	90%, C, F	-	-	-	-	-	-	-	-	Cinder/clinker (C)
23	Ditch	1353	1354	1374	224023_1171	10	40	1%, A, F	-	-	-	-	-	-	-	-	Cinder/clinker (A*)
23	Ditch	1350	1351	1371	224023_1175	40	20	10%, B, F	-	-	-	-	-	-	<1	-	Coal shale (A** - highly fragmented <2mm)
23	Ditch	1333	1334	1375	224023_1176	20	2	80%, B, E, F	-	-	-	-	-	-	-	<2mm	-
23	Ditch	1327	1330	1370	224023_1182	40	20	50%, B, I, F	-	-	-	-	-	-	<1	-	Coal shale (A - highly fragmented <2mm)
23	Ditch	1305	1306	1370	224023_1183	40	15	25%, C, F	-	-	-	-	-	-	-	<2mm	-
23	Ditch	1360	1361	1374	224023_1184	40	2	90%, C, F	-	-	-	-	-	-	-	-	Coal shale (A* - highly fragmented <2mm)
24	Natural feature?	7	8	-	224025_3	40	20	80% (inc. modern crop chaff), C, E, F	-	-	-	-	-	-	1	Occasional mineral coating	Coal/clinker/cinder (A*

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal notes	Charred other	Charred other notes	Preservation	Charcoal >2mm (ml)	Charcoal notes	Other
24	Uncategorized	30	31	-	224025_30	10	15	40%, C, F	-	-	-	-	-	-	1	-	Clinker/cinder (A*), Coal (A** highly fragmented <2mm), fuel ash slag (B)
24	Pit	32	33	-	224025_31	40	3870	<1%, C	-	-	-	-	-	-	340	-	-
24	Pit	42	43	-	224025_36	30	175	<1%, C, E, F	-	-	-	-	-	-	100	Some moderately sized pieces	-
24	Pit	42	44	-	224025_37	10	400	<1%, C, F	-	-	-	-	-	-	270	Some large pieces	-
24	Pit	45	46	-	224025_38	40	500	5%, E, F	-	-	-	-	-	-	360	Roundwood (twig), some moderately sized pieces	-
24	Pit	47	48	-	224025_39	30	500	5%, B, F, E	-	-	-	-	-	-	400	Roundwood, some large pieces, occasional mineral coating	-
24	Pit	49	50	-	224025_40	10	125	<1%, C, E, F	-	-	-	-	-	-	80	Occasional mineral coating	-
24	Pit	49	53	-	224025_41	10	250	<1%, F	-	-	-	-	-	-	225	Some large pieces, rare mineral coating	-
24	Pit	51	52	-	224025_42	10	3	50%, C, F	-	-	-	-	-	-	1	-	-

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l)	Flot vol. (ml)	Bioturbation proxies	Grain	Chaff	Cereal notes	Charred other	Charred other notes	Preservation	Charcoal >2mm (ml)	Charcoal notes	Other
24	Pit	47	56	-	224025_43	10	220	<1%, C, E, F	-	-	-	-	-	-	150	Roundwood (twig), occasional mineral coating	-
24	Pit	61	62	-	224025_45	40	300	20%, B, F	-	-	-	-	-	-	275	Some large pieces	-
24	Pit	61	63	-	224025_46	10	1778	<1%	-	-	-	-	-	-	1000	Roundwood (twig)	-
24	Ditch	64	66	-	224025_48	40	10	90%, C, I, F	-	-	-	C	Poaceae, *Ranunculus* subg. *Ranunculus*	P	<1	-	-
24	Ditch	67	68	-	224025_50	40	15	90%, A, F, E	-	-	-	-	-	-	-	<2mm	Coal (A* - highly fragmented <2mm)
24	Ditch	74	75	-	224025_53	40	20	95%, A*, F, I	-	-	-	-	-	-	-	<2mm	Coal (A* - highly fragmented <2mm)
24	Ditch	80	81	88	224025_60	40	15	90%, B, F, E	C	C	Triticeae*, Triticum spelta* glume bases	A	Tubers/rhizomes, cf. *Calluna vulgaris*-tp stem	P	2	Some mineral coating	-

Scale of abundance: C = <5, B = 5–10, A = 10–30, A* = 30–100, A** = 100–500, A*** = >500; Bioturbation proxies: Roots (%), Uncharred seeds (scale of abundance), F = mycorrhizal fungi sclerotia, E = earthworm eggs, I = insects. Preservation: H = Heterogeneous. P = Poor. G = Good. F = Fair.

Table 11 Assessment of the environmental evidence: waterlogged remains

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l.)	Flot vol. (ml.)	Bioturbation proxies	Charred plant remains	Preservation	Charcoal (>2mm) (ml.)	Charcoal notes	Other	Waterlogged vegetative material	Waterlogged taxa	Invertebrates
8	Ditch	5359	5360	5812	224025_5114	40	30	5%, I	-	-	-	<2mm	Coal/clinker/cinder (C)	A*	C - *Sonchus* sp., indet	-
8	Tree bole	5363	5364	-	224025_5116	20	30	30%, I, E	-	-	-	-	moll-t (A), clinker/cinder (A**), coal (A), fuel ash slag (A)	A**	B - *Rubus* sp., Chenopodiaceae, *Betula* sp.	-
8	Ditch	5373	5374	5806	224025_5119	40	15	30%	-	F	-	-	Coal/clinker/cinder (B)	A**	A - *Ranunculus* subg. *Ranunculus, Betula* sp., *Rubus* sp., *Sambucus* sp., *Viola* sp., Chenopodiaceae	-
8	Ditch	5387	5388	5823	224025_5125	40	30	5%, E	C - Poaceae	P	-	<2mm	Coal (A* - highly fragmented <2mm)	A** - inc. woody roots	C - *Sambucus* sp.	-
8	Posthole?	5390	5391	5390	224025_5128	40	15	50% (inc. modern leaves)	-	F	-	-	Coal/clinker/cinder (C), fuel ash slag (A)	A*	C - *Rumex* sp.	-
8	Ditch	5396	5397	5814	224025_5131	40	25	<1%, E	-	F	-	-	Clinker/cinder (A), Coal (A* highly fragmented <2mm),	A*** - inc. some woody frags	B - *Sonchus* sp., indet	-
8	Ditch	5401	5402	5814	224025_5133	40	30	10%, E	-	F	-	<2mm	Clinker/cinder (A), Coal (A* highly fragmented <2mm) - some mineral coating	A** - inc. some woody frags	A - *Ranunculus* subg. *Ranunculus, Betula* sp., *Rubus* sp., indet, *Urtica dioica, Ficus carica*	-
8	Tree throw or pit	5407	5408	5407	224025_5136	10	15	10%	-	-	-	-	Coal/clinker/cinder (A)	A* - inc some woody roots	*Crataegus monogyna, Rubus* sp., *Betula* sp., Chenopodiaceae, Lamiaceae	I (B)

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l.)	Flot vol. (ml.)	Bioturbation proxies	Charred plant remains	Preservation	Charcoal (>2mm) (ml.)	Charcoal notes	Other	Waterlogged vegetative material	Waterlogged taxa	Invertebrates
8	Gully	5445	5446	5815	224025_5144	20	20	5%, E	-	-	-	-	-	A** - inc woody roots	A* - *Crataegus monogyna, Betula* sp., *Urtica dioica, Carduus/Cirsium*	I (C)
8	Trackway	5455	5456	5814	224025_5148	40	160	1%, E	-	F	<1	-	Coal/cinder/clinker (A), fuel ash slag (C)	A*** - inc. a moderate amount of woody roots and twigs.	A* - *Crataegus monogyna, Betula* sp., *Rubus* sp., *Sonchus* sp., Cyperaceae, *Sambucus* sp., *Urtica dioica*	-
8	Ditch	5452	5453	5823	224025_5150	20	90	5%, E	A* - *Triticum/Secale cereale* Cyperaceae, *Calluna vulgaris*-tp stems, tubers/rhizomes	P	60	Some mineral coating	Coal/cinder/clinker (*)	A* - inc. woody roots	A* - *Crataegus monogyna, Urtica dioica, Betula* sp., *Rubus* sp., *Sambucus* sp., Chenopodiaceae	-
8	Ditch	5452	5454	5823	224025_5151	20	20	1%, E	B - tuber/rhizome, *Calluna vulgaris*-tp stems	P	10	Some mineral coating	-	A** - inc. woody roots	A* - *Rubus* sp., *Betula* sp., *Sambucus* sp., *Ranunculus* subg. *Ranunculus, Urtica dioica*	-
8	Trackway	5457	5458	5814	224025_5152	40	60	20%, I, E	-	F	-	<2mm	Coal/cinder/clinker (A* - fairly fragmented <2mm), fuel ash slag (A)	A**	A* - *Ranunculus* subg. *Ranunculus, Betula* sp., *Rubus* sp., Cyperaceae, *Viola* sp., Chenopodiaceae	-
8	Ditch	5460	5469	5806	224025_5154	40	100	1%, E	-	-	-	-	-	A*** - inc woody roots	A* - *Crataegus monogyna, Sambucus* sp., *Rubus* sp, Lamiaceae, *Urtica dioica, Betula* sp.	-

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l.)	Flot vol. (ml.)	Bioturbation proxies	Charred plant remains	Preservation	Charcoal (>2mm) (ml.)	Charcoal notes	Other	Waterlogged vegetative material	Waterlogged taxa	Invertebrates
8	Furrow	5493	5494	5816	224025_5164	40	15	5%, E, F	-	F	-	<2mm	Coal (A** - highly fragmented <2mm)	A** - inc some woody frags	A* - Asteraceae (inc. *Sonchus* sp., *Picris echioides, Carduus/Cirsium*), *Ranunculus* subg. *Ranunculus, Betula* sp.	I (C)
8	Gully	5495	5495	5825	224025_5165	40	15	10%, E, F	-	F	-	-	Coal (A* - highly fragmented <2mm), clinker/cinder (B)	A** - inc some woody frags	B - Cyperaceae, *Ranunculus* subg. *Ranunculus, Betula* sp.	-
8	Pit	5500	5501	-	224025_5166	10	10	<1%, E, F	-	F	<1	-	Coal (A* - highly fragmented <2mm), clinker/cinder (B)	A* - inc some woody roots	A - *Sambucus* sp., *Betula* sp., *Rubus* sp.	-
8	Trackway	5510	5511	5814	224025_5167	40	1518	<1%,	-	F	1	-	-	A*** - predominantly wood with some veg material	B - *Crataegus monogyna*	-
8	Pit	5522	5523	-	224025_5171	10	25	5%, E	-	F	-	<2mm	Coal (A** - highly fragmented <2mm)	A*** - predominantly wood with some veg material	A* - *Crataegus monogyna, Sambucus* sp., *Betula* sp., *Rubus* sp., Cyperaceae	-
8	Trackway	5538	5539	5814	224025_5173	40	125	1%, F (A***)	B - Amorphous charred plant material, indet bud, *Plantago lanceolata, Avena* sp.	H	1	-	Moll-t (C), coal/clinker/cinder (A*), fuel ash slag (B)	A*** - inc. woody roots and twigs.	A* - *Crataegus monogyna, Sambucus* sp., *Betula* sp., *Urtica dioica, Rubus* sp.,	I (C)

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l.)	Flot vol. (ml.)	Bioturbation proxies	Charred plant remains	Preservation	Charcoal (>2mm) (ml.)	Charcoal notes	Other	Waterlogged vegetative material	Waterlogged taxa	Invertebrates
15	Modern feature	6313	6314	-	224025_6305	20	20	5%, E	B - *Ranunculus* subg. *Ranunculus, Rumex* sp.	H	2	Some mineral coating	Clinker/cinder (B), Coal (A - highly fragmented <2mm)	A* - some woody frags	A** - *Ranunculus* subg. *Ranunculus,* Chenopodiaceae, Caryophyllaceae, Rubus sp.,	-
15	Pit	6317	6318	-	224025_6307	10	15	10%, E	-	-	-	-	Coal (A** - highly fragmented <2mm)	A* - some woody frags	A** - *Urtica dioica, Ranunculus* subg. *Ranunculus,* Chenopodiaceae, Caryophyllaceae, *Rubus* sp.,	-
15	Horticultural feature (planting)	6341	6342	7609	224025_6314	5	60	30%, E	-	H	<1	Some mineral coating	Coal/cinder/clinker (A* - some highly fragmented <2mm)	A** - some woody frags	A** - *Urtica dioica, Ranunculus* subg. *Ranunculus,* Chenopodiaceae, Caryophyllaceae, *Rubus* sp., *Leucanthemum vulgare,* Rumex sp.	-
15	Posthole	6339	6340	-	224025_6317	5	25	60%, E	-	F	-	-	Coal/cinder/clinker (A)	A**	A* - *Urtica dioica, Ranunculus* subg. *Ranunculus*, Chenopodiaceae, Caryophyllaceae*, Rubus* sp	-
15	Horticultural feature (planting)	6351	6352	7609	224025_6320	15	125	10%, E	C - *Rumex* sp., indet thorn	P	10	Roundwood	Cinder/clinker (A), Coal (A* - highly fragmented <2mm)	A*** - mainly woody frags	A* - Chenopodiaceae, *Ranunculus* subg. *Ranunculus, Betula* sp., *Urtica dioica,* Caryophyllaceae, *Rumex* sp., *Rubus* sp., *Polygonum aviculare,*	I (C)

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l.)	Flot vol. (ml.)	Bioturbation proxies	Charred plant remains	Preservation	Charcoal (>2mm) (ml.)	Charcoal notes	Other	Waterlogged vegetative material	Waterlogged taxa	Invertebrates
15	Garden feature	6356	6357	-	224025_6322	20	400	20%, E	-	H	2	Roundwood	Moll-t (B), Coal/cinder/clinker (A* - some highly fragmented <2mm)	A*** - inc. wood and woody frags	A* - Chenopodiaceae, *Ranunculus* subg. *Ranunculus, Betula* sp., *Urtica dioica,, Betula* sp.,	I (C)
15	Uncategorized	6347	6348	-	224025_6323	40	175	10%, E	-	H	1	Some mineral coating	Coal/cinder/clinker (A* - some large pieces), Coal (A* - highly fragmented <2mm)	A** - inc. woody frags	A** - *Rumex* sp., Chenopodiaceae, *Ranunculus* subg. *Ranunculus,* Caryophyllaceae, *Urtica dioica, Rubus* sp., *Polygonum aviculare*	I (C)
15	Garden feature	6362	6363	-	224025_6324	40	160	-	-	-	2	Some mineral coating	Coal/cinder/clinker (A*)	A***	A*** - Caryophyllaceae, Chenopodiaceae, Cyperaceae, *Urtica dioica, Ranunculus* subg. *Ranunculus, Rumex* sp., *Polygonum aviculare,* Lamiaceae	-
15	Gully	6358	6359	-	224025_6327	10	987	1%, E	-	H	-	-	Moll-t (C), fuel ash slag (C), Coal (A - highly fragmented <2mm)	-	A* - Chenopodiaceae, *Ranunculus* subg. *Ranunculus*, Caryophyllaceae, *Rumex* sp.	-
15	Pit/tree throw	6371	6372	-	224025_6330	20	125	10%, E	-	H	-	-	Moll-t (C), coal/clinker/cinder (A)	A***- inc wood	A* - *Crataegus monogyna, Betula* sp., *Rubus* sp., Lamiaceae, Asteraceae	I (C)

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l.)	Flot vol. (ml.)	Bioturbation proxies	Charred plant remains	Preservation	Charcoal (>2mm) (ml.)	Charcoal notes	Other	Waterlogged vegetative material	Waterlogged taxa	Invertebrates
15	Posthole	6376	6377	-	224025_6332	20	200	E	-	F	1	-	Clinker/cinder (A**), Coal (A)	A***- inc wood	A*** - *Urtica dioica, Ranunculus* subg. *Ranunculus, Crataegus monogyna, Betula* sp., Cyperaceae, Chenopodiaceae, Lamiaceae, Caryophyllaceae, *Rubus* sp.,	-
15	Pit	6388	6389	-	224025_6335	5	15	5%	-	H	-	-	Coal (A - highly fragmented <2mm)	A** - inc woody frags	A* - *Crataegus monogyna, Betula* sp., *Sonchus* sp., *Rubus* sp., *Urtica dioica,* Chenopodiaceae, *Ranunculus* subg. *Ranunculus*	I (C)
15	Gully	6390	6391	-	224025_6339	10	30	5%	-	-	<1	-	Clinker/cinder (A*), Coal (A* - highly fragmented <2mm)	A** - inc woody frags	A** - *Crataegus monogyna, Betula* sp., *Rubus* sp., *Urtica dioica,* Chenopodiaceae, *Ranunculus* subg. *Ranunculus,* Caryophyllaceae, *Carduus/Cirsium*	-
15	Gully	7518	7519	-	224025_6349	15	30	40%, E	-	H	-	<2mm	Coal/clinker/cinder (B)	A** - mainly woody roots	A* - *Ranunculus* subg. *Ranunculus, Betula* sp., Chenopodiaceae, Caryophyllaceae, *Urtica dioica, Polygonum aviculare*	I (C)

Area	Feature type	Feature	Context	Group	Sample code	Sample volume (l.)	Flot vol. (ml.)	Bioturbation proxies	Charred plant remains	Preservation	Charcoal (>2mm) (ml.)	Charcoal notes	Other	Waterlogged vegetative material	Waterlogged taxa	Invertebrates
15	Pit/tree throw	7512	7513	-	224025_6350	20	100	75%, E	-	H	-	<2mm	Coal/clinker/cinder (A* - fairly fragmented, some <2mm)	A** - mainly wood frags	A* - *Ranunculus* subg. *Ranunculus, Betula* sp., Chenopodiaceae, *Carduus/Cirsium,* Caryophyllaceae, *Urtica dioica, Polygonum aviculare*	I (C)
15	Ditch	7553	7554	-	224025_6366	30	45	10%, E	-	H	1	-	Coal/clinker/cinder (A* - fairly fragmented, some <2mm), moll-t (C)	A** - mainly wood frags	A* - *Ranunculus* subg. *Ranunculus, Betula* sp., Chenopodiaceae, *Carduus/Cirsium,* Caryophyllaceae, *Urtica dioica, Polygonum aviculare, Rumex* sp., *Rubus* sp.	-
23	Uncategorized ?pit	1106	1107	-	224023_1046	40	15	20%, F	-	F	<1	-	-	A (mainly woody frags)	A*** - Mainly *Rubus* sp., also *Ranunculus* subg. *Ranunculus*, Lamiaceae	-
23	Land drain	1108	1109	1061	224023_1047	40	20	30%, F	-	F	-	-	Coal shale (A)	A** (mainly woody frags)	B - *Rubus* sp., Lamiaceae, Chenopodaceae	-
23	Land drain	1120	1121	1061	224023_1049	40	50	75%, F, E	B - Tubers/rhizomes, Poaceae (inc. *Avena* sp.), monocot stems, *Valerianella dentata*	H	5	Some mineral coating	Coal (A* - highly fragmented <2mm)	A** (mainly woody frags)	A - *Rubus* sp., Lamiaceae, Cyperaceae, Polygonaceae, Caryophyllaceae, Chenopodiaceae, *Urtica dioica*	-

Scale of abundance: C = <5, B = 5–10, A = 10–30, A* = 30–100, A** = 100–500, A*** = >500; Bioturbation proxies: Roots (%), Uncharred seeds (scale of abundance), F = mycorrhizal fungi sclerotia, E = earthworm eggs, I = insects. Preservation: H = Heterogeneous. P = Poor. G = Good. F = Fair.

Table 12 Assessment of the environmental evidence: monolith sample 9

Location: ELOR Area 9			**Monolith sample:** 3043	**Comments:** monolith through ditch 3078	
Level (top): 97.55 m OD			**Drawing:** 3014		
Depth		**Context**	**Sediment description**	**Interpretation**	
Mono (b.g.l.)	m OD				
0–0.44m	97.55–97.11	3082/3081	Fairly friable 2.5Y 4/4 olive brown silt. Very occasional-occasional degraded small-large sandstone pebbles. Occasional manganese flecks. Occasional iron staining. 2% fine-medium pores.	Manganese and iron staining indicate fluctuating water levels	Ditch fill
0.44–0.52m	97.11–97.03	3000	Very similar to above, very slightly sandy silt. Occasional-moderate small-medium laminar sandstone pebbles. Occasional-moderate iron staining.	Iron staining indicates fluctuating water levels	Archaeological natural

Table 13 Environmental evidence: analysis potential and recommendations (inc. selected samples from evaluation)

Area	Feature type	Feature	Context	Group	Sample code	Analysis potential	Analysis recommendations
2	Pit	6604	6605	-	224025_6601	-	-
2	Pit	6604	6608	-	224025_6602	-	-
2	Pit	6609	6610	-	224025_6603	-	-
4	Pit	6809	6810	-	224025_6802	-	-
4	Pit	6811	6812	-	224025_6803	-	-
5	Pit	6211	6212	-	224025_6201	-	-
5	Pit	6221	6222	-	224025_6206	-	-
6	Pit	6802	6803	-	224025_6801	-	-
8	Tree throw	5004	5005	-	224025_5004	-	-
8	Tree throw	5016	5017	-	224025_5005	-	-
8	Ditch	5003	5002	-	224025_5006	-	-
8	Pit	5022	5023	-	224025_5009	-	-
8	Trackway	5052	5053	5802	224025_5011	-	-
8	Gully	5044	5045	5803	224025_5014	-	-
8	Pit	5080	5081	-	224025_5022	-	-
8	Wheel rut	5082	5083	-	224025_5023	-	-
8	Wheel rut	5084	5085	-	224025_5024	-	-
8	Linear	5088	5089	-	224025_5026	-	-
8	Ditch	5094	5095	5813	224025_5030	-	-
8	Pit	5096	5097	-	224025_5031	-	-
8	Pit	5096	5098	-	224025_5032	-	-
8	Pit	5101	5102	-	224025_5033	-	-
8	Pit/tree throw	5105	5106	-	224025_5035	-	-
8	Posthole?	5107	5108	-	224025_5036	-	-
8	Posthole?	5109	5110	-	224025_5037	-	-
8	Posthole?	5111	5112	-	224025_5038	-	-

Area	Feature type	Feature	Context	Group	Sample code	Analysis potential	Analysis recommendations
8	Posthole?	5113	5114	-	224025_5039	-	-
8	Pit/tree throw	5117	5118	-	224025_5041	-	-
8	Pit/tree throw	5119	5120	-	224025_5042	-	-
8	Pit/tree throw	5121	5122	-	224025_5043	-	-
8	Gully	5143	5144	5803	224025_5046	-	-
8	Ditch	5135	5136	5808	224025_5048	-	-
8	Pit	5150	5151	-	224025_5049	-	-
8	Gully	5156	5157	5803	224025_5052	-	-
8	Gully	5162	5163	5818	224025_5055	-	-
8	Ditch	5141	5142	5804	224025_5056	-	-
8	Gully	5176	5177	5803	224025_5058	-	-
8	Pit?	5188	5189	-	224025_5059	-	-
8	Ditch	5127	5128	5808	224025_5062	-	-
8	Ditch	5190	5191	5809	224025_5063	C	-
8	Pit	5204	5205	-	224025_5065	-	-
8	Furrow	5212	5213	5810	224025_5066	-	-
8	Furrow	5222	5223	5810	224025_5068	-	-
8	Furrow	5220	5221	5810	224025_5069	-	-
8	Furrow	5224	5225	5810	224025_5070	-	-
8	Ditch	5228	5229	5809	224025_5072	-	-
8	Ditch	5238	5239	5809	224025_5073	-	-
8	Ditch	5252	5253	5806	224025_5075	-	-
8	Ditch	5256	5257	5806	224025_5076	-	-
8	Furrow	5254	5255	5810	224025_5077	-	-
8	Ditch	5262	5263	-	224025_5079	-	-
8	Furrow	5264	5265	-	224025_5081	-	-
8	Furrow	5276	5277	5200	224025_5083	-	-
8	Ditch	5280	5281	-	224025_5086	-	-

Area	Feature type	Feature	Context	Group	Sample code	Analysis potential	Analysis recommendations
8	Pit	5282	5283	-	224025_5087	-	-
8	Gully	5284	5285	-	224025_5088	-	-
8	Pit	5288	5289	-	224025_5090	-	-
8	Ditch	5290	5291	5809	224025_5091	-	-
8	Gully	5308	5309	-	224025_5096	-	-
8	Pit	5323	5324	-	224025_5098	-	-
8	Ditch	5327	5328	5812	224025_5102	-	-
8	Pit	5314	5315	-	224025_5105	-	-
8	Gully	5333	5334	5817	224025_5107	-	-
8	Pit	5338	5339	5810	224025_5108	-	-
8	Pit	5342	5343	-	224025_5110	-	-
8	Ditch	5344	5345	5812	224025_5111	-	-
8	Ditch	5355	5356	5813	224025_5112	-	-
8	Ditch	5359	5360	5812	224025_5114	-	-
8	Tree bole	5363	5364	-	224025_5116	-	-
8	Furrow	5369	5370	5810	224025_5117	-	-
8	Ditch	5371	5372	5812	224025_5118	-	-
8	Ditch	5373	5374	5806	224025_5119	-	-
8	Ditch	5387	5388	5823	224025_5125	-	-
8	Furrow	5375	5376	5816	224025_5127	-	-
8	Posthole?	5390	5391	5390	224025_5128	-	-
8	Ditch	5396	5398	5814	224025_5130	-	-
8	Ditch	5396	5397	5814	224025_5131	-	-
8	Ditch	5401	5402	5814	224025_5133	-	-
8	Ditch	5403	5404	5806	224025_5134	-	-
8	Furrow	5405	5406	5810	224025_5135	-	-
8	Tree throw or pit	5407	5408	5407	224025_5136	-	-
8	Pit	5427	5428	-	224025_5138	-	-

Area	Feature type	Feature	Context	Group	Sample code	Analysis potential	Analysis recommendations
8	Ditch	5429	5430	5825	224025_5139	-	-
8	Pit	5437	5438	-	224025_5141	-	-
8	Gully	5445	5446	5815	224025_5144	-	-
8	Trackway	5455	5456	5814	224025_5148	-	-
8	Ditch	5423	5424	5423	224025_5149	-	-
8	Ditch	5452	5453	5823	224025_5150	C	-
8	Ditch	5452	5454	5823	224025_5151	C	-
8	Trackway	5457	5458	5814	224025_5152	-	-
8	Pit	5462	5463	-	224025_5153	-	-
8	Ditch	5460	5469	5806	224025_5154	-	-
8	Ditch	5473	5474	-	224025_5156	-	-
8	Ditch	5435	5436	5824	224025_5157	-	-
8	Ditch	5477	5478	5824	224025_5160	-	-
8	Pit	5481	5482	-	224025_5162	C, P	-
8	Furrow	5491	5492	5816	224025_5163	-	-
8	Furrow	5493	5494	5816	224025_5164	-	-
8	Gully	5495	5495	5825	224025_5165	-	-
8	Pit	5500	5501	-	224025_5166	-	-
8	Trackway	5510	5511	5814	224025_5167	-	-
8	Pit	5522	5523	-	224025_5171	-	-
8	Trackway	5538	5539	5814	224025_5173	-	-
8	Pit	5531	5532	-	224025_5174	C, P	-
8	Ditch	5540	5541	5808	224025_5175	-	-
9	Ditch	3001	3002	3092	224025_3001	-	-
9	Ditch	3005	3006	3094	224025_3004	-	-
9	Ditch	3038	3039	3092	224025_3006	-	-
9	Posthole	3049	3050	3077	224025_3009	P	-
9	Posthole	3053	3054	3077	224025_3011	-	-

Area	Feature type	Feature	Context	Group	Sample code	Analysis potential	Analysis recommendations
9	Posthole	3055	3056	3077	224025_3012	P	-
9	Posthole	3059	3060	3077	224025_3014	P	-
9	Posthole	3063	3064	3077	224025_3016	-	-
9	Posthole	3067	3068	3077	224025_3018	-	-
9	Posthole	3073	3074	3077	224025_3021	-	-
9	Ditch	3078	3080	3078	224025_3025	P	-
9	Ditch	3102	3104	3093	224025_3031	P, C	-
9	Ditch	3102	3105	3093	224025_3032	C	-
9	Gully	3108	3109	3086	224025_3034	-	-
9	Gully	3110	3111	3086	224025_3035	-	-
9	Gully	3112	3113	3086	224025_3036	-	-
9	Ditch	3095	3097	3094	224025_3039	-	-
9	Pit	3116	3117	3116	224025_3042	-	-
9	Structure	3140	3141	3146	224025_3048	-	-
9	Structure	3144	3145	3146	224025_3050	-	-
9	Furrow	3130	3131	3085	224025_3054	-	-
9	Furrow	3134	3135	3085	224025_3056	-	-
9	Ditch	3154	3155	3093	224025_3058	-	-
9	Furrow	3159	3160	3085	224025_3062	-	-
9	Furrow	3187	3188	3085	224025_3067	-	-
9	Ditch	3192	3195	3245	224025_3069	-	-
9	Furrow	3203	3204	3085	224025_3073	-	-
9	Ditch	3166	3167	3085	224025_3085	P	-
9	Ditch	3236	3237	3235	224025_3089	-	-
9	Ditch	3268	3269	3244	224025_3105	-	-
9	Furrow	3273	3274	-	224025_3108	-	-
14	Pit	104	105	-	224022_1	C	-
14	Ditch	110	111	447	224022_2	P	-

Area	Feature type	Feature	Context	Group	Sample code	Analysis potential	Analysis recommendations
14	Pit	128	129	-	224022_9	P	-
14	Ditch	136	137	447	224022_13	P	-
14	Ditch	165	166	447	224022_16	P	-
14	Ditch terminus	180	181	-	224022_20	P	-
14	Ditch terminus	130	131	-	224022_24	P	-
14	Pit	116	117	-	224022_25	P	-
14	Ditch	169	170	451	224022_31	P	-
14	Ditch	157	158	447	224022_35	P	-
14	Ditch	281	282	456	224022_40	P	-
14	Gully	288	289	460	224022_45	P	-
14	Ditch	277	278	452	224022_49	P	-
14	Ditch	292	293	452	224022_51	P	-
14	Ditch	294	295	452	224022_52	P	-
14	Ditch	304	305	463	224022_56	P	-
14	Ditch terminus or pit	298	299	-	224022_59	P	P
14	Ditch	326	327	465	224022_60	-	-
14	Ditch	296	297	451	224022_63	P	P
14	Ditch	252	253	455	224022_69	P	-
14	Ditch	342	343	453	224022_70	P	-
14	Ditch	318	319	455	224022_72	P	-
14	Ditch	334	335	334	224022_74	P	-
14	Ditch	338	339	449	224022_75	-	-
14	Ditch	336	337	449	224022_77	-	-
14	Pit	410	411	-	224022_82	-	-
14	Ditch terminus	355	357	462	224022_83	P	P
14	Ditch terminus	355	357	462	224022_84	P	P
14	Ditch	427	428	-	224022_87	P	P
14	Gully terminus	425	426	-	224022_90	-	-

Area	Feature type	Feature	Context	Group	Sample code	Analysis potential	Analysis recommendations
15	Pit	6302	6304	-	224025_6300	-	-
15	Posthole	6305	6306	-	224025_6301	-	-
15	Pit/posthole	6307	6308	-	224025_6302	-	-
15	Pit	6309	6310	-	224025_6303	-	-
15	Pit	6311	6312	-	224025_6304	-	-
15	Modern feature	6313	6314	-	224025_6305	-	-
15	Posthole	6315	6316	-	224025_6306	-	-
15	Pit	6317	6318	-	224025_6307	-	-
15	Ditch	6323	6324	-	224025_6310	-	-
15	Horticultural feature (planting)	6341	6342	7609	224025_6314	-	-
15	Posthole	6339	6340	-	224025_6317	-	-
15	Horticultural feature (planting)	6343	6344	7609	224025_6318	-	-
15	Horticultural feature (planting)	6351	6352	7609	224025_6320	-	-
15	Garden feature	6356	6357	-	224025_6322	-	-
15	Uncategorized	6347	6348	-	224025_6323	-	-
15	Garden feature	6362	6363	-	224025_6324	-	-
15	Gully	6358	6359	-	224025_6327	-	-
15	Pit/tree throw	6371	6370	-	224025_6329	-	-
15	Pit/tree throw	6371	6372	-	224025_6330	-	-
15	Posthole	6376	6377	-	224025_6332	-	-
15	Pit	6380	6381	-	224025_6334	-	-
15	Pit	6388	6389	-	224025_6335	-	-
15	Pit	6386	6387	-	224025_6338	-	-
15	Gully	6390	6391	-	224025_6339	-	-
15	Pit	7500	7501	-	224025_6342	-	-
15	Gully	7518	7519	-	224025_6349	-	-
15	Pit/tree throw	7512	7513	-	224025_6350	-	-
15	Ditch	7553	7554	-	224025_6366	-	-

Area	Feature type	Feature	Context	Group	Sample code	Analysis potential	Analysis recommendations
19	Pit	3507	3508	-	224025_3503	C	-
19	Pit	3509	3510	-	224025_3504	C	-
19	Furrow	3511	3512	-	224025_3505	-	-
19	Ditch	3525	3526	-	224025_3512	-	-
19	Furrow	3532	3533	-	224025_3515	-	-
19	Layer	-	3540	-	224025_3517	C	-
19	Furrow	3538	3539	-	224025_3518	-	-
19	Pit	3525	3536	-	224025_3519	-	-
19	Pit	3535	3537	-	224025_3520	-	-
19	Furrow	3542	3543	-	224025_3521	-	-
19	Furrow	3544	3545	-	224025_3522	-	-
19	Furrow	3559	3560	-	224025_3528	-	-
19	Furrow	3593	3594	-	224025_3536	-	-
19	Furrow	3595	3596	-	224025_3537	-	-
19	Ditch	3575	3576	-	224025_3545	-	-
19	Uncategorized ?Spread	3613	3614	-	224025_3548	-	-
20	Gully	2019	2020	2060	224025_2005	-	-
20	Ditch	2069	2070	2063	224025_2008	-	-
20	Trackway	2075	2076	2091	224025_2010	-	-
20	Trackway	2073	2074	2091	224025_2013	-	-
20	Gully terminus	2040	2041	-	224025_2016	-	-
20	Ditch	2069	2090	2063	224025_2022	-	-
20	Ditch	2031	2032	2068	224025_2027	P	-
20	Ditch	2031	2033	2068	224025_2028	P	-
20	Posthole	2071	2072	-	224025_2034	-	-
20	Ditch	2155	2156	2130	224025_2041	-	-
20	Ditch	2138	2139	-	224025_2053	-	-
20	Ditch	2172	2173	2193	224025_2055	-	-

Area	Feature type	Feature	Context	Group	Sample code	Analysis potential	Analysis recommendations
20	Ditch	2166	2168	2169	224025_2058	-	-
20	Ditch	2166	2167	2169	224025_2059	-	-
20	Ditch	2159	2160	2169	224025_2060	-	-
20	Ditch	2170	2171	2169	224025_2061	-	-
21	Ditch	1621	1622	1620	224025_1617	-	-
21	Ditch	1608	1609	1620	224025_1623	-	-
21	Ditch	1662	1663	1620	224025_1626	-	-
21	Horticultural feature	1688	1689	1650	224025_1630	-	-
21	Pit	1673	1674	-	224025_1635	-	-
21	Ditch	1676	1678	1675	224025_1637	-	-
21	Layer	-	1717	-	224025_1642	-	-
21	Ditch	1708	1709	1710	224025_1646	-	-
23	Pit	1005	1006	-	224023_1002	C	-
23	Gully	1009	1010	1041	224023_1006	-	-
23	Layer	-	1032	1032	224023_1011	-	-
23	Gully	1025	1026	1041	224023_1012	-	-
23	Ditch	1045	1046	1031	224023_1022	-	-
23	Gully	1075	1077	1041	224023_1026	-	-
23	Gully	1053	1055	1041	224023_1033	-	-
23	Ditch	1078	1080	1372	224023_1036	-	-
23	Uncategorized ?pit	1106	1107	-	224023_1046	-	-
23	Land drain	1108	1109	1061	224023_1047	-	-
23	Land drain	1120	1121	1061	224023_1049	-	-
23	Ditch	1303	1304	1242	224023_1053	-	-
23	Ditch	1314	1316	1041	224023_1055	-	-
23	Ditch	1331	1332	1371	224023_1064	-	-
23	Ditch	1127	1128	1051	224023_1067	-	-
23	Pit	1154	1153	-	224023_1077	-	-

Area	Feature type	Feature	Context	Group	Sample code	Analysis potential	Analysis recommendations
23	Pit	1156	1157	-	224023_1078	-	-
23	Ditch	1158	1159	1051	224023_1079	-	-
23	Pit	1160	1161	-	224023_1081	-	-
23	Ditch	1179	1180	1373	224023_1089	-	-
23	Ditch	1201	1202	1373	224023_1098	-	-
23	Ditch	1203	1204	1373	224023_1099	-	-
23	Ditch	1209	1210	1081	224023_1107	-	-
23	Ditch	1226	1227	1242	224023_1115	-	-
23	Ditch	1232	1233	1242	224023_1118	-	-
23	Pit	1236	1237	-	224023_1120	C	-
23	Pit	1276	1277	-	224023_1136	-	-
23	Gully	1278	1279	-	224023_1137	-	-
23	Pit	1276	1280	-	224023_1138	-	-
23	Ditch	1294	1283	1041	224023_1140	-	-
23	Ditch	1245	1246	1242	224023_1146	-	-
23	Ditch	1297	1298	1051	224023_1148	-	-
23	Ditch	1312	1313	1371	224023_1152	-	-
23	Ditch	1314	1316	1041	224023_1155	-	-
23	Ditch	1320	1321	1371	224023_1158	-	-
23	Ditch	1318	1319	1371	224023_1159	-	-
23	Ditch	1309	1311	1370	224023_1162	-	-
23	Ditch	1345	1346	1374	224023_1167	-	-
23	Ditch	1353	1354	1374	224023_1171	-	-
23	Ditch	1350	1351	1371	224023_1175	-	-
23	Ditch	1333	1334	1375	224023_1176	-	-
23	Ditch	1327	1330	1370	224023_1182	-	-
23	Ditch	1305	1306	1370	224023_1183	-	-
23	Ditch	1360	1361	1374	224023_1184	-	-

Area	Feature type	Feature	Context	Group	Sample code	Analysis potential	Analysis recommendations
24	Natural feature?	7	8	-	224025_3	-	-
24	Uncategorized	30	31	-	224025_30	-	-
24	Pit	32	33	-	224025_31	C	C
24	Pit	42	43	-	224025_36	C	C
24	Pit	42	44	-	224025_37	C	C
24	Pit	45	46	-	224025_38	C	C
24	Pit	47	48	-	224025_39	C	C
24	Pit	49	50	-	224025_40	C	C
24	Pit	49	53	-	224025_41	C	C
24	Pit	51	52	-	224025_42	-	-
24	Pit	47	56	-	224025_43	C	C
24	Pit	61	62	-	224025_45	C	C
24	Pit	61	63	-	224025_46	C	C
24	Ditch	64	66	-	224025_48	-	-
24	Ditch	67	68	-	224025_50	-	-
24	Ditch	74	75	-	224025_53	-	-
24	Ditch	80	81	88	224025_60	-	-
Tr 42	Pit	4205	4206	-	224020_4202	C	C
Tr 42	Pit	4207	4208	-	224020_4203	C	C
Tr 149	Pit	14907	14908	-	224020_14903	P	-
Tr 177	Pit	17703	17704	-	224020_17701	P	-
Tr 198	Pit	19803	19804	-	224020_19801	C	-

Key: C = Charcoal potential. P = Charred plant remains potential.

Table 14 Radiocarbon dating recommendations

Area	Feature type	Feature	Context	Group	Sample code(s)	Material type	No. of dates	Comments
8	Ditch	5190	5191	5818	224025_5063	Charred plant remain and/or wood charcoal	2	Improve site phasing – assess whether feature is early medieval. Paired dating recommended, focusing on false oat-grass (*Arrhenatherum elatius* ssp*. bulbosum*) tuber if sufficient weight and short-lived wood charcoal.
9	Posthole	3049	3050	3077	224025_3009	Charred plant remain	2	Date post-built structure of probable medieval date. Obtain dates on rye (*Secale cereale*) and free-threshing wheat (*Triticum aestivum/turgidum*) grain if sufficient weight.
9	Posthole	3055	3056	3077	224025_3012	Charred plant remain	2	Date post-built structure of probable medieval date. Obtain dates on cereal grain, either rye (*Secale cereale*) or wheat (*Triticum* sp.) if sufficient weight, and heather-type stems (*Calluna vulgaris* tp. stem).
9	Gully	3166	3167	3235	224025_3085	Charred plant remain	1	Improve site phasing, and confirm later prehistoric/RB activity. Date spelt wheat (*Triticum spelta*) grain.
14	Gully	288	289	460	224022_45	Charred plant remain	1	Improve site phasing, confirm dating of rectilinear gullies within enclosure. Date false oat-grass (*Arrhenatherum elatius* ssp. *bulbosum*) if sufficient weight.
14	Gully	342	343	453	224022_70	Charred plant remain	2	Improve site phasing and confirm date of suspected roundhouse ring gully. Date false oat-grass (*Arrhenatherum elatius* ssp. *bulbosum*) tuber if large enough, and short-lived wood charcoal or other suitable material
14	Ditch	318	319	455	224022_72	Charred plant remain and wood charcoal	2	Improve site phasing and date stratigraphically early ditch. Obtain date on charred plant remains, possibly wheat (*Triticum* sp.) grain if sufficient weight and short-lived wood charcoal
14	Ditch	355	357	462	224022_83	Charred plant remain	1	Improve site phasing, assess relationship with ditch 427 and confirm the date of the cereal-rich deposit. Date spelt wheat (*Triticum spelta*) grain. Medieval pottery also recovered from feature.
14	Ditch	427	428	-	224022_87	Charred plant remain	1	Improve site phasing and assess relationship with ditch group 462. Rich deposit of cereal remains.

24	Pit	47	48	-	224025_39	Wood charcoal	1	Date possible charcoal production pit, which forms part of a cluster, and support charcoal analysis.
24	Pit	61	63	-	224025_46	Wood charcoal	1	Date possible charcoal production pit and support charcoal analysis
Tr. 42	Pit	4207	4208	-	224020_4203	Wood charcoal	1	Date possible charcoal production pit and support charcoal analysis

Table 15 Processed samples recommended for retention and discard

Area	Feature type	Feature	Context	Group	Sample code	Selection strategy
2	Pit	6604	6605	-	224025_6601	Discard
2	Pit	6604	6608	-	224025_6602	Discard
2	Pit	6609	6610	-	224025_6603	Discard
4	Pit	6809	6810	-	224025_6802	Retain
4	Pit	6811	6812	-	224025_6803	Discard
5	Pit	6211	6212	-	224025_6201	Discard
5	Pit	6221	6222	-	224025_6206	Discard
6	Pit	6802	6803	-	224025_6801	Discard
8	Tree throw	5004	5005	-	224025_5004	Discard
8	Tree throw	5016	5017	-	224025_5005	Discard
8	Ditch	5003	5002	-	224025_5006	Discard
8	Pit	5022	5023	-	224025_5009	Discard
8	Trackway	5052	5053	5802	224025_5011	Discard
8	Gully	5044	5045	5803	224025_5014	Discard
8	Pit	5080	5081	-	224025_5022	Discard
8	Wheel rut	5082	5083	-	224025_5023	Discard
8	Wheel rut	5084	5085	-	224025_5024	Discard
8	Linear	5088	5089	-	224025_5026	Discard
8	Ditch	5094	5095	5813	224025_5030	Discard
8	Pit	5096	5097	-	224025_5031	Discard
8	Pit	5096	5098	-	224025_5032	Discard
8	Pit	5101	5102	-	224025_5033	Discard
8	Pit/tree throw	5105	5106	-	224025_5035	Discard
8	Posthole?	5107	5108	-	224025_5036	Discard
8	Posthole?	5109	5110	-	224025_5037	Discard
8	Posthole?	5111	5112	-	224025_5038	Discard
8	Posthole?	5113	5114	-	224025_5039	Discard
8	Pit/tree throw	5117	5118	-	224025_5041	Discard
8	Pit/tree throw	5119	5120	-	224025_5042	Discard
8	Pit/tree throw	5121	5122	-	224025_5043	Discard
8	Gully	5143	5144	5803	224025_5046	Discard
8	Ditch	5135	5136	5808	224025_5048	Discard
8	Pit	5150	5151	-	224025_5049	Discard
8	Gully	5156	5157	5803	224025_5052	Discard
8	Gully	5162	5163	5818	224025_5055	Discard
8	Ditch	5141	5142	5804	224025_5056	Discard
8	Gully	5176	5177	5803	224025_5058	Discard
8	Pit?	5188	5189	-	224025_5059	Discard
8	Ditch	5127	5128	5808	224025_5062	Discard
8	Ditch	5190	5191	5809	224025_5063	Retain
8	Pit	5204	5205	-	224025_5065	Discard
8	Furrow	5212	5213	5810	224025_5066	Discard
8	Furrow	5222	5223	5810	224025_5068	Discard
8	Furrow	5220	5221	5810	224025_5069	Discard

Area	Feature type	Feature	Context	Group	Sample code	Selection strategy
8	Furrow	5224	5225	5810	224025_5070	Discard
8	Ditch	5228	5229	5809	224025_5072	Discard
8	Ditch	5238	5239	5809	224025_5073	Discard
8	Ditch	5252	5253	5806	224025_5075	Discard
8	Ditch	5256	5257	5806	224025_5076	Discard
8	Furrow	5254	5255	5810	224025_5077	Discard
8	Ditch	5262	5263	-	224025_5079	Discard
8	Furrow	5264	5265		224025_5081	Discard
8	Furrow	5276	5277	5200	224025_5083	Discard
8	Ditch	5280	5281	-	224025_5086	Discard
8	Pit	5282	5283	-	224025_5087	Discard
8	Gully	5284	5285	-	224025_5088	Discard
8	Pit	5288	5289	-	224025_5090	Discard
8	Ditch	5290	5291	5809	224025_5091	Discard
8	Gully	5308	5309	-	224025_5096	Discard
8	Pit	5323	5324	-	224025_5098	Discard
8	Ditch	5327	5328	5812	224025_5102	Discard
8	Pit	5314	5315	-	224025_5105	Discard
8	Gully	5333	5334	5817	224025_5107	Discard
8	Pit	5338	5339	5810	224025_5108	Discard
8	Pit	5342	5343	-	224025_5110	Discard
8	Ditch	5344	5345	5812	224025_5111	Discard
8	Ditch	5355	5356	5813	224025_5112	Discard
8	Ditch	5359	5360	5812	224025_5114	Discard
8	Tree bole	5363	5364	-	224025_5116	Discard
8	Furrow	5369	5370	5810	224025_5117	Discard
8	Ditch	5371	5372	5812	224025_5118	Discard
8	Ditch	5373	5374	5806	224025_5119	Discard
8	Ditch	5387	5388	5823	224025_5125	Discard
8	Furrow	5375	5376	5816	224025_5127	Discard
8	Posthole?	5390	5391	5390	224025_5128	Discard
8	Ditch	5396	5398	5814	224025_5130	Discard
8	Ditch	5396	5397	5814	224025_5131	Discard
8	Ditch	5401	5402	5814	224025_5133	Discard
8	Ditch	5403	5404	5806	224025_5134	Discard
8	Furrow	5405	5406	5810	224025_5135	Discard
8	Tree throw or pit	5407	5408	5407	224025_5136	Discard
8	Pit	5427	5428	-	224025_5138	Discard
8	Ditch	5429	5430	5825	224025_5139	Discard
8	Pit	5437	5438	-	224025_5141	Discard
8	Gully	5445	5446	5815	224025_5144	Discard
8	Trackway	5455	5456	5814	224025_5148	Discard
8	Ditch	5423	5424	5423	224025_5149	Discard
8	Ditch	5452	5453	5823	224025_5150	Retain
8	Ditch	5452	5454	5823	224025_5151	Retain
8	Trackway	5457	5458	5814	224025_5152	Discard

Area	Feature type	Feature	Context	Group	Sample code	Selection strategy
8	Pit	5462	5463	-	224025_5153	Discard
8	Ditch	5460	5469	5806	224025_5154	Discard
8	Ditch	5473	5474	-	224025_5156	Discard
8	Ditch	5435	5436	5824	224025_5157	Discard
8	Ditch	5477	5478	5824	224025_5160	Discard
8	Pit	5481	5482	-	224025_5162	Retain
8	Furrow	5491	5492	5816	224025_5163	Discard
8	Furrow	5493	5494	5816	224025_5164	Discard
8	Gully	5495	5495	5825	224025_5165	Discard
8	Pit	5500	5501	-	224025_5166	Discard
8	Trackway	5510	5511	5814	224025_5167	Discard
8	Pit	5522	5523	-	224025_5171	Discard
8	Trackway	5538	5539	5814	224025_5173	Discard
8	Pit	5531	5532	-	224025_5174	Retain
8	Ditch	5540	5541	5808	224025_5175	Discard
9	Ditch	3001	3002	3092	224025_3001	Discard
9	Ditch	3005	3006	3094	224025_3004	Discard
9	Ditch	3038	3039	3092	224025_3006	Discard
9	Posthole	3049	3050	3077	224025_3009	Retain
9	Posthole	3053	3054	3077	224025_3011	Discard
9	Posthole	3055	3056	3077	224025_3012	Retain
9	Posthole	3059	3060	3077	224025_3014	Retain
9	Posthole	3063	3064	3077	224025_3016	Discard
9	Posthole	3067	3068	3077	224025_3018	Discard
9	Posthole	3073	3074	3077	224025_3021	Discard
9	Ditch	3078	3080	3078	224025_3025	Retain
9	Ditch	3102	3104	3093	224025_3031	Retain
9	Ditch	3102	3105	3093	224025_3032	Retain
9	Gully	3108	3109	3086	224025_3034	Discard
9	Gully	3110	3111	3086	224025_3035	Discard
9	Gully	3112	3113	3086	224025_3036	Discard
9	Ditch	3095	3097	3094	224025_3039	Discard
9	Pit	3116	3117	3116	224025_3042	Discard
9	Structure	3140	3141	3146	224025_3048	Discard
9	Structure	3144	3145	3146	224025_3050	Discard
9	Furrow	3130	3131	3085	224025_3054	Discard
9	Furrow	3134	3135	3085	224025_3056	Discard
9	Ditch	3154	3155	3093	224025_3058	Discard
9	Furrow	3159	3160	3085	224025_3062	Discard
9	Furrow	3187	3188	3085	224025_3067	Discard
9	Ditch	3192	3195	3245	224025_3069	Discard
9	Furrow	3203	3204	3085	224025_3073	Discard
9	Ditch	3166	3167	3085	224025_3085	Retain
9	Ditch	3236	3237	3235	224025_3089	Discard
9	Ditch	3268	3269	3244	224025_3105	Discard
9	Furrow	3273	3274	-	224025_3108	Discard
14	Pit	104	105	-	224022_1	Retain

Area	Feature type	Feature	Context	Group	Sample code	Selection strategy
14	Ditch	110	111	447	224022_2	Retain
14	Pit	128	129	-	224022_9	Retain
14	Ditch	136	137	447	224022_13	Retain
14	Ditch	165	166	447	224022_16	Retain
14	Ditch terminus	180	181	-	224022_20	Retain
14	Ditch terminus	130	131	-	224022_24	Retain
14	Pit	116	117	-	224022_25	Retain
14	Ditch	169	170	451	224022_31	Retain
14	Ditch	157	158	447	224022_35	Retain
14	Ditch	281	282	456	224022_40	Retain
14	Gully	288	289	460	224022_45	Retain
14	Ditch	277	278	452	224022_49	Retain
14	Ditch	292	293	452	224022_51	Retain
14	Ditch	294	295	452	224022_52	Retain
14	Ditch	304	305	463	224022_56	Retain
14	Ditch terminus or pit	298	299	-	224022_59	Retain
14	Ditch	326	327	465	224022_60	Discard
14	Ditch	296	297	451	224022_63	Retain
14	Ditch	252	253	455	224022_69	Retain
14	Ditch	342	343	453	224022_70	Retain
14	Ditch	318	319	455	224022_72	Retain
14	Ditch	334	335	334	224022_74	Retain
14	Ditch	338	339	449	224022_75	Discard
14	Ditch	336	337	449	224022_77	Discard
14	Pit	410	411	-	224022_82	Discard
14	Ditch terminus	355	357	462	224022_83	Retain
14	Ditch terminus	355	357	462	224022_84	Retain
14	Ditch	427	428	-	224022_87	Retain
14	Gully terminus	425	426	-	224022_90	Discard
15	Pit	6302	6304	-	224025_6300	Discard
15	Posthole	6305	6306	-	224025_6301	Discard
15	Pit/posthole	6307	6308	-	224025_6302	Discard
15	Pit	6309	6310	-	224025_6303	Discard
15	Pit	6311	6312	-	224025_6304	Discard
15	Modern feature	6313	6314	-	224025_6305	Discard
15	Posthole	6315	6316	-	224025_6306	Discard
15	Pit	6317	6318	-	224025_6307	Discard
15	Ditch	6323	6324	-	224025_6310	Discard
15	Horticultural feature (planting)	6341	6342	7609	224025_6314	Discard
15	Posthole	6339	6340	-	224025_6317	Discard
15	Horticultural feature (planting)	6343	6344	7609	224025_6318	Discard
15	Horticultural feature (planting)	6351	6352	7609	224025_6320	Discard

Area	Feature type	Feature	Context	Group	Sample code	Selection strategy
15	Garden feature	6356	6357	-	224025_6322	Discard
15	Uncategorized	6347	6348	-	224025_6323	Discard
15	Garden feature	6362	6363	-	224025_6324	Discard
15	Gully	6358	6359	-	224025_6327	Discard
15	Pit/tree throw	6371	6370	-	224025_6329	Discard
15	Pit/tree throw	6371	6372	-	224025_6330	Discard
15	Posthole	6376	6377	-	224025_6332	Discard
15	Pit	6380	6381	-	224025_6334	Discard
15	Pit	6388	6389	-	224025_6335	Discard
15	Pit	6386	6387	-	224025_6338	Discard
15	Gully	6390	6391	-	224025_6339	Discard
15	Pit	7500	7501	-	224025_6342	Discard
15	Gully	7518	7519	-	224025_6349	Discard
15	Pit/tree throw	7512	7513	-	224025_6350	Discard
15	Ditch	7553	7554	-	224025_6366	Discard
19	Pit	3507	3508	-	224025_3503	Retain
19	Pit	3509	3510	-	224025_3504	Retain
19	Furrow	3511	3512	-	224025_3505	Discard
19	Ditch	3525	3526	-	224025_3512	Discard
19	Furrow	3532	3533	-	224025_3515	Discard
19	Layer	-	3540	-	224025_3517	Retain
19	Furrow	3538	3539	-	224025_3518	Discard
19	Pit	3525	3536	-	224025_3519	Discard
19	Pit	3535	3537	-	224025_3520	Discard
19	Furrow	3542	3543	-	224025_3521	Discard
19	Furrow	3544	3545	-	224025_3522	Discard
19	Furrow	3559	3560	-	224025_3528	Discard
19	Furrow	3593	3594	-	224025_3536	Discard
19	Furrow	3595	3596	-	224025_3537	Discard
19	Ditch	3575	3576	-	224025_3545	Discard
19	Uncategorized ?Spread	3613	3614	-	224025_3548	Discard
20	Gully	2019	2020	2060	224025_2005	Discard
20	Ditch	2069	2070	2063	224025_2008	Discard
20	Trackway	2075	2076	2091	224025_2010	Discard
20	Trackway	2073	2074	2091	224025_2013	Discard
20	Gully terminus	2040	2041	-	224025_2016	Discard
20	Ditch	2069	2090	2063	224025_2022	Discard
20	Ditch	2031	2032	2068	224025_2027	Retain
20	Ditch	2031	2033	2068	224025_2028	Retain
20	Posthole	2071	2072	-	224025_2034	Discard
20	Ditch	2155	2156	2130	224025_2041	Discard
20	Ditch	2138	2139	-	224025_2053	Discard
20	Ditch	2172	2173	2193	224025_2055	Discard
20	Ditch	2166	2168	2169	224025_2058	Discard
20	Ditch	2166	2167	2169	224025_2059	Discard
20	Ditch	2159	2160	2169	224025_2060	Discard

Area	Feature type	Feature	Context	Group	Sample code	Selection strategy
20	Ditch	2170	2171	2169	224025_2061	Discard
21	Ditch	1621	1622	1620	224025_1617	Discard
21	Ditch	1608	1609	1620	224025_1623	Discard
21	Ditch	1662	1663	1620	224025_1626	Discard
21	Horticultural feature	1688	1689	1650	224025_1630	Discard
21	Pit	1673	1674	-	224025_1635	Discard
21	Ditch	1676	1678	1675	224025_1637	Discard
21	Layer	-	1717	-	224025_1642	Discard
21	Ditch	1708	1709	1710	224025_1646	Discard
23	Pit	1005	1006	-	224023_1002	Retain
23	Gully	1009	1010	1041	224023_1006	Discard
23	Layer	-	1032	1032	224023_1011	Discard
23	Gully	1025	1026	1041	224023_1012	Discard
23	Ditch	1045	1046	1031	224023_1022	Discard
23	Gully	1075	1077	1041	224023_1026	Discard
23	Gully	1053	1055	1041	224023_1033	Discard
23	Ditch	1078	1080	1372	224023_1036	Discard
23	Uncategorized ?pit	1106	1107	-	224023_1046	Discard
23	Land drain	1108	1109	1061	224023_1047	Discard
23	Land drain	1120	1121	1061	224023_1049	Discard
23	Ditch	1303	1304	1242	224023_1053	Discard
23	Ditch	1314	1316	1041	224023_1055	Discard
23	Ditch	1331	1332	1371	224023_1064	Discard
23	Ditch	1127	1128	1051	224023_1067	Discard
23	Pit	1154	1153	-	224023_1077	Discard
23	Pit	1156	1157	-	224023_1078	Discard
23	Ditch	1158	1159	1051	224023_1079	Discard
23	Pit	1160	1161	-	224023_1081	Discard
23	Ditch	1179	1180	1373	224023_1089	Discard
23	Ditch	1201	1202	1373	224023_1098	Discard
23	Ditch	1203	1204	1373	224023_1099	Discard
23	Ditch	1209	1210	1081	224023_1107	Discard
23	Ditch	1226	1227	1242	224023_1115	Discard
23	Ditch	1232	1233	1242	224023_1118	Discard
23	Pit	1236	1237	-	224023_1120	Retain
23	Pit	1276	1277	-	224023_1136	Discard
23	Gully	1278	1279	-	224023_1137	Discard
23	Pit	1276	1280	-	224023_1138	Discard
23	Ditch	1294	1283	1041	224023_1140	Discard
23	Ditch	1245	1246	1242	224023_1146	Discard
23	Ditch	1297	1298	1051	224023_1148	Discard
23	Ditch	1312	1313	1371	224023_1152	Retain
23	Ditch	1314	1316	1041	224023_1155	Discard
23	Ditch	1320	1321	1371	224023_1158	Discard
23	Ditch	1318	1319	1371	224023_1159	Discard

Area	Feature type	Feature	Context	Group	Sample code	Selection strategy
23	Ditch	1309	1311	1370	224023_1162	Discard
23	Ditch	1345	1346	1374	224023_1167	Discard
23	Ditch	1353	1354	1374	224023_1171	Discard
23	Ditch	1350	1351	1371	224023_1175	Discard
23	Ditch	1333	1334	1375	224023_1176	Discard
23	Ditch	1327	1330	1370	224023_1182	Discard
23	Ditch	1305	1306	1370	224023_1183	Discard
23	Ditch	1360	1361	1374	224023_1184	Discard
24	Natural feature?	7	8	-	224025_3	Discard
24	Uncategorized	30	31	-	224025_30	Discard
24	Pit	32	33	-	224025_31	Retain
24	Pit	42	43	-	224025_36	Retain
24	Pit	42	44	-	224025_37	Retain
24	Pit	45	46	-	224025_38	Retain
24	Pit	47	48	-	224025_39	Retain
24	Pit	49	50	-	224025_40	Retain
24	Pit	49	53	-	224025_41	Retain
24	Pit	51	52	-	224025_42	Discard
24	Pit	47	56	-	224025_43	Retain
24	Pit	61	62	-	224025_45	Retain
24	Pit	61	63	-	224025_46	Retain
24	Ditch	64	66	-	224025_48	Discard
24	Ditch	67	68	-	224025_50	Discard
24	Ditch	74	75	-	224025_53	Discard
24	Ditch	80	81	88	224025_60	Discard

APPENDIX 2 SELECTION STRATEGY

224020–5
East Leeds Orbital Route
version 1, August 2022

Selection Strategy

Project Information

Project Management		
Project Manager	John Winfer	
Archaeological Archive Manager	Lorraine Mepham	
Organisation	Wessex Archaeology (WA)	
Stakeholders		**Date Contacted**
Collecting Institution(s)	Leeds Museum (curator contact Katherine Baxter) Archaeology Data Service	27/10/2020
Project Lead / Project Assurance	Lead: Emily Eastwood Assurance: John Winfer	N/A
Landowner / Developer	Balfour Beatty	
Other (external)	External finds specialists (see WSI) West Yorkshire Archaeology Advisory Service (WYAAS)	
Other (internal)	WA Finds Manager (Rachael Seager Smith) WA Environmental Manager (Sander Aerts) WA Geomatics & BIM Manager (Chris Breeden) WA internal finds & environmental specialists (see WSI)	N/A; briefed as part of standard project process
Resources		
Resources required	WA Finds and Environmental specialists; external finds specialists; WA archives team	
Context		

This overarching selection strategy document is based on the CIfA Archives Selection Toolkit (2019) and relates to archaeological project work being undertaken by Wessex Archaeology as defined in the WSIs.

Relevant standards, policies and guidelines consulted include:

General

- *Selection, Retention and Dispersal of Archaeological Collections* (Society of Museum Archaeologists, 1993)
- *Archaeological archives: a guide to best practice in creation, compilation, transfer and curation* (AAF, revised edition 2011, section 4)
- Leeds Museum's *Archiving Requirements* (latest version 2007)

Relevant research agendas

- Chadwick, A M 2009 *Research agenda; The Iron Age and Romano-British periods in West Yorkshire*. WYAAS
- Roskams, S and Whyman, M, 2007 *Yorkshire Archaeological Research Framework: research agenda*
- WYAAS, 2005 *Research agenda; Archaeology from the end of the Roman period to the Normal Conquest*
- Wrathmell, S 2018 Research *agenda; Medieval rural settlement in West Yorkshire*. WYAAS

Finds

- *Standard Guidance for the collection, documentation, conservation & research of archaeological materials* (CIFA, 2014)
- *A Standard for Pottery Studies in Archaeology* (Prehistoric Ceramics Research Group, Study Group for Roman Pottery, Medieval Pottery Research Group 2016)

Environmental

- *Environmental Archaeology: A Guide to the Theory, Practice of Methods, from Sampling and Recovery to Post-excavation* (English Heritage 2011)
- *Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record* (Historic England 2015)
- *Guidelines for the Curation of Waterlogged Macroscopic Plant and Invertebrate Remains* (English Heritage 2008)

Research objectives of the project

Following consideration of the archaeological potential of the site and the regional research framework (see above), the relevant research objectives of the excavation are to:

Areas 2, 3, 4 - Romano-British roads

- Future developer-funded and research projects should give some thought to identifying the physical traces of past human and animal movement through the landscape.

Areas 8, 11, 19 - medieval settlement/ridge and furrow

- Whatever the type of dispersed settlement, its significance can best be understood in its relation to the wider landscape, the lands and other resources its occupants exploited. Documentary research is essential to place them in their social and economic setting.

- If evidence for possible medieval settlement activity is located, attention should focus on attempting to establish the date of settlement origin and whether there is any evidence for settlement planning.

- The date of transition from post-built medieval structures to buildings with stone foundations is undated in West Yorkshire and there are no excavated peasant houses of

13th and 14th century date to compare to surviving farmhouses and barns of the 15th and 16th centuries.

- One of the greatest gaps is our understanding of the lives of ordinary medieval farmers. The forms, construction and functions of their buildings and general level of material culture still needs to be established and attempts made to relate such evidence to that of their successors in the 16th and 17th centuries.

- Sealed contexts containing medieval and/or post-medieval pottery and animal bone etc. are particularly important.

Areas 3, 4, 5, 8, 9, 13, 14, 16, 17, 18, 19, 20, 21, 23, 24 - Iron Age/Roman-British field systems and enclosures

- The reasons for the many variations in the form, shape and size of field systems and fields are not yet understood, and it is not clear if functional or social factors (or both) were important to this.

- The purpose of most Iron Age and Romano-British fields is not yet known, nor the concomitant extent of pasture or arable regimes.

- The nature of land tenure and/or ownership during the Iron Age and Romano-British periods is not known.

- Were some enclosures and fields inhabited or utilized year-round, and others seasonally or even more episodically (and is there unenclosed activity adjacent to the prehistoric/Romano-British enclosures)?

- Linear field and trackway ditches need to be more intensively sampled on excavation projects, both to retrieve more artefacts and 14C/OSL samples for dating purposes, but also for potential palaeo-environmental information.

- Linear field systems generally have a mid–late Iron Age origin with small-scale 'organic' fields; later, in the Roman period, there is significantly increased land-take with larger sub-rectangular field systems. The few dated examples that exist have shown that the field systems go out of use in the post-Roman period possibly as late at the 6th–7th century but this is based on few examples. The following research aims were added for linear field systems in which excavations should consider:

  - their date and initial construction;
  - their morphology, ie, evidence for accompanying banks and hedges;
  - evidence of re-cutting;
  - how they were used (eg, drainage, boundary markers, animal management) and;
  - the date they go out of use.

Areas 13 and 25 – post-medieval quarries

- Priority should be given to identifying surviving sites where working had ceased by the 1880s. This is a high priority, as sites of this type are particularly vulnerable both to legitimate landfill and illegal tipping.

Areas 20, 21, 14, 23 - enclosures

- Rectangular and sub-rectangular enclosures are the most commonly identified enclosures seen on aerial photographs across eastern West Yorkshire, dating from the Late Iron Age and extend into the Roman period, possibly beyond; although dating can be problematic

due to the rarity of identifying Iron Age pottery in West Yorkshire and the apparent relative late adoption of Roman pottery in rural West Yorkshire.

- The following research aims were added for the investigation of enclosure complexes and associated features:
  - identify enclosure complexes' date of origin, functions (which may be multiple), phasing and date of abandonment;
  - investigate chronological and functional relationships with adjacent trackways and field systems;
  - investigate evidence for possible external enclosure-related activity and structures;
  - identify if possible different uses for different internal compartments (whether for stock holding, residential, crop storage etc.);
  - define the nature of construction and their uses for internal structures; different surfaces and the different morphologies of possible entrances considered and what this might have meant for stock handling;
  - environmental evidence should be sought as should any evidence for metal-working or other industrial activity;
  - the possibility of internal and external fence lines should be considered, and possible evidence for remaining banks, palisades or hedges and bridging points across ditches sought;
  - previously excavated examples have produced evidence for selective and differential deposition of querns, often broken, and human and animal burials in ditch terminals and pits (internal and external), and if present, what this reveals about the nature of the belief systems needs to be considered.

REVIEW POINTS

Consultation with all Stakeholders regarding project-specific selection decisions will be undertaken at a maximum of two project review points:

1. End of data gathering (assessment stage)
2. Archive compilation

1 – Digital Data

Stakeholders

WA Project Manager; WA Archives Manager; WA Geomatics & BIM Manager; WYAAS; ADS

Selection

Location of Data Management Plan (DMP)

This document is designed to link to the project Data Management Plan (DMP), which can be supplied on request.

To promote long-term future reuse deposition file formats will be of archival standard, open source and accessible in nature following national guidance from ADS 2013, CIfA 2014c and the requirements of the digital repository.

Any sensitive data to be handled according to Wessex Archaeology data policy to ensure it is stored and transferred securely. The identity of individuals will be protected in line with GDPR. If required, data will be anonymised and redacted. Selection and retention of sensitive data for archival purposes will occur in consultation with the client and relevant stakeholders. Confidential data will not be selected for archiving and will be handled as per contractual obligation.

Document type	Selection Strategy	Review Points
Site records	Most records will be completed digitally on site (with the exception of registers). All will be selected for deposition.	2
Reports	To include WSIs, Interim reports, post-excavation assessment reports, publication reports. Final versions only will be selected for deposition.	1, 2
Specialist reports	Specialist reports will generally be incorporated in other documents with only minimal editing (reformatting, etc), and will be selected only if the original differs significantly from the incorporated version.	1, 2
Photographic media (site recording)	Substandard and duplicate images will be eliminated; pre-excavation images may not be selected where duplicated by post-excavation shots; working shots will be very rigorously selected to include only good quality images with potential for reuse and those integral to understanding features, their inter-relationships and location on site; site condition and reinstatement photos will not be selected.	1, 2
Photographic media (objects)	Images of individual or groups of objects, to include those of significance selected for publication and reporting. Substandard and duplicate images will be eliminated; all others will be selected.	2
Survey data	Site survey data will be used to generate CAD/GIS files for use in post-excavation activities. Shapefiles of both the original tidied survey data, and the final phased drawings will be selected.	1, 2
Databases and spreadsheets	Context, finds and environmental data in linked databases. Final versions will be selected. Any specialist data submitted separately will also be selected.	1, 2
Geophysical data	RAW data and Interpretation Geo-tiffs	1, 2
Administrative records	Includes invoices, receipts, timesheets, financial information, email correspondence. None will be selected, with the exception of any correspondence relating directly to the archaeology.	2
De-Selected Digital Data		

De-selected data will be stored on WA secured servers on offsite storage locations. The WA IT department has a backup strategy and policies that involves daily, weekly and monthly and annual backups of data as stated in the DMP. This strategy is non-migratory, and original files will be held at WA under their unique project identifier, as long as they remain useful and usable in their final version format. This data may also be used for teaching or reference collections by the museum, or by WA unless otherwise required by contractual or copyright obligations.

Amendments

Date	Amendment	Rationale	Stakeholders

2 – Documents

Stakeholders

WA Project Manager; WA Archives Manager; Leeds Museum; WYAAS

Selection

A security copy of all paper/drawn records is a requirement of CIfA guidelines. This will be prepared on completion of the project, in the form of a digital PDF/A file. If the security copy is not required for deposition by Stakeholders, it will be retained on backed-up servers belonging to Wessex Archaeology.

Note that some information may be redacted to comply with GDPR legislation (personal data).

Document type	Selection Strategy	Review Points
Site records	Selected records only will be completed in hard copy on site (registers, some graphics). All will be selected for deposition.	2
Reports	Hard copies of all reports (SSWSIs, Interim reports, post-excavation assessment reports, publication reports). All will be selected for deposition, with the exception of earlier versions of reports which have been clearly superseded.	1, 2
Specialist reports & data	Specialist reports will generally be incorporated in other documents with no significant editing. Supporting data is more likely to be included in the digital archive, but if supplied in hard copy and not incorporated elsewhere, this will be selected.	1, 2
Photographic media	X-radiographic plates: all will be selected.	2
Secondary sources	Hard copies of secondary sources will not be selected.	2
Working notes	Rough working notes, annotated plans, preliminary versions of matrices etc, will not be selected.	2

Administrative records	Invoices, receipts, timesheets, financial information, hard copy correspondence. None will be selected, with the exception of any hard copy correspondence relating directly to the archaeology.	2

De-Selected Documents

De-selected sensitive analogue data will be destroyed (shredded) subject to final checking by the WA Archives team with the remainder recycled. Possible exceptions include records retained for business purposes, including promotional material, teaching and internal WA library copies of reports.

Amendments

Date	Amendment	Rationale	Stakeholders

3 – Materials

Material type	Artefacts (bulk and registered finds)	**Section 3.**	3.1

Stakeholders

WA Archives Manager; WA Finds Manager; WA internal specialists; external specialists; Leeds Museum; WYAAS; landowner

Selection

The following proposals have been prepared by internal and external specialists following scanning and recording conducted during the assessment stage.

Find Type	Selection Strategy	Review Points
Animal bone (418 frags)	Small assemblage, mostly from post-medieval or modern contexts, no further potential, limited intrinsic value. Retain none.	1, 2
Ceramic building material (338 frags)	All commonly occurring and well documented types of relatively recent date. No further research potential, although record photographs of manufacturers' marks are recommended. Retain none.	1, 2
Ceramic objects (8 objs)	Negligible quantity; both mass-produced items of relatively recent date. No archaeological significance and no further research potential; retain none.	1, 2
Clay tobacco pipes (156 frags)	Very few datable bowls; no makers' marks; no large stratified groups. Some very limited chronological value in supporting ceramic dating, particularly for areas 8 and 19, but no further research potential. Retain three complete and four partial (but datable)	1, 2

	bowls only.	
Glass (312 frags)	Vessel and window glass all commonly occurring and well documented types of relatively recent date. Some chronological value in supporting ceramic dating, particularly for areas 8 and 19, but no further research potential. Retain none. Single glass bead is item of intrinsic interest; retain.	1, 2
Leather and textile (2 objects)	Negligible quantity; both items of modern date. No archaeological significance, no further research potential; retain none.	1, 2
Marine shell (125 frags)	Very small quantity, mostly from one modern feature. No archaeological significance, no further research potential; retain none	1, 2
Metalwork (MD survey) (2216 objs)	Large assemblage but overwhelming consisting of undatable items, many of them unidentifiable. Identifiable objects are almost entirely of relatively recent origin. Ironwork in particular is vulnerable to continued deterioration but does not warrant conservation treatment. Some items of intrinsic interest (eg coins and tokens, personal items). A preliminary selection for retention has been made of 99 objects; this could be trimmed further by the elimination of some objects that were selected for X-raying but showed no diagnostic features.	1, 2
Metalwork (evaluation & mitigation) (177 objs)	Range replicates that seen in the metal-detected assemblage, and the same comments apply. Three objects of intrinsic interest (nutcrackers, buckle, spindlewhorl) should be retained, but other objects have little or no archaeological significance and no further research potential; these should not be retained.	1, 2
Slag (3952 g)	Small quantity, not chronologically distinctive but assumed to be of relatively recent date; not all material recorded as ‘slag’ is necessary representative of metalworking. Little or no archaeological significance; no further research potential; retain none.	1, 2
Pottery (2514 sherds)	Assemblage of significant size; Romano-British and medieval components of particular interest, the latter for including pre-Conquest material and in illustrating also a range of probably locally made wares. Post-medieval/modern assemblage also of interest in containing some good, well stratified groups. Archaeological significance in supplying primary chronological evidence for the project and evidence for sources of supply; further research potential beyond the immediate remit of the current project. Retain all.	1, 2
Stone (1 obj + 27 frags)	Negligible quantity, but some items of intrinsic interest (complete medieval quernstone and fragments of	1, 2

	further lava querns, also medieval); other items comprise undated building material and a slate pencil; these have little or no archaeological significance and no further research potential. Retain quernstones only.	
Worked flint (5 pieces)	Negligible quantity but includes one piece of intrinsic interest (Early Neolithic leaf arrowhead); other pieces are undiagnostic flakes. Retain arrowhead only.	1, 2
Worked wood (2 frags)	negligible quantity, not datable although almost certainly post-medieval/modern. No archaeological significance; no further research potential; retain none	1, 2

De-Selected Material

Consideration will be given to the suitability for use for handling or teaching collections by the museum or Wessex Archaeology, or whether they are of particular interest to the local community. De-selected material will either be returned to the landowner or disposed of. All will be adequately recorded to the appropriate level before de-selection.

Amendments

Date	Amendment	Rationale	Stakeholders

3 – Materials

Material type	Palaeoenvironmental material	Section 3.	3.2

Stakeholders

WA Archives Manager; WA Environmental Officer; WA internal specialists; external specialists; Leeds Museum; WYAAS

Selection

All contexts suitable for environmental sampling have been considered for sampling. All environmental sampling has been undertaken following Wessex Archaeology's in-house guidance, which adheres to the principles outlined in Historic England's guidance (English Heritage 2011 and Historic England 2015a) and as stated in relevant WSIs.

Env Material Type	Selection Strategy	Review Points
Unprocessed samples	In the event of any samples being eliminated from processing due to lack of archaeological significance, these will not be retained.	1, 2
Unsorted residues	Residues from samples not proposed for further analysis will be de-selected, with the possible exception of any taken for the recovery of human remains.	1, 2

Assessed flots with no extracted materials	Assessed flots with no extracted materials are considered to be devoid of any significant environmental evidence and will be de-selected.	1, 2
Assessed or analysed flots with extracted materials	All analysed samples will be selected; assessed flots with extracted materials with no further research potential (to be established on a sample by sample case) may be de-selected.	1, 2
Charred & waterlogged plant remains	All extracted plant remains will be selected	2
Mollusca	All extracted mollusca will be selected	2
All other analysed material (eg insects, pollen)	All material will be selected	2

De-Selected Material

De-selected material from samples will be disposed of after processing and post-excavation recording. All processed material will be adequately recorded to the appropriate level before de-selection.

Amendments

Date	Amendment	Rationale	Stakeholders

APPENDIX 3 OASIS RECORD

Summary for wessexar1-396907

OASIS ID (UID)	wessexar1-396907
Project Name	East Leeds Orbital Route Strip Map and Sample
Sitename	East Leeds Orbital Route Areas 7, 8, 9, 19 , East Leeds Orbital Route Area 14, East Leeds Orbital Route Area 23, East Leeds Orbital Route Areas 1, 15, 16, East Leeds Orbital Route Area 20, East Leeds Orbital Route Areas 11 and 21, East Leeds Orbital Route Area 24, East Leeds Orbital Route Areas 2, 3, 4, 6, 5, 18
Activity type	EVALUATION, Strip Map And Sample
Project Identifier(s)	224028
Planning Id	17/04351/LA
Reason For Investigation	Planning requirement
Organisation Responsible for work	Wessex Archaeology
Project Dates	04-May-2020 - 22-Jun-2020

Location	East Leeds Orbital Route Areas 7, 8, 9, 19 NGR : SE 36917 37372 LL : 53.8313041083855, -1.44056961912565 12 Fig : 436917,437372 East Leeds Orbital Route Area 14 NGR : SE 38323 34671 LL : 53.8069275137635, -1.41954361056322 12 Fig : 438323,434671 East Leeds Orbital Route Area 23 NGR : SE 37551 36059 LL : 53.8194582793141, -1.43109702852408 12 Fig : 437551,436059 East Leeds Orbital Route Areas 1, 15, 16 NGR : SE 34863 38711 LL : 53.8434797744971, -1.47162498209174 12 Fig : 434863,438711 East Leeds Orbital Route Area 20 NGR : SE 37111 36532 LL : 53.8237408538426, -1.43772321667994 12 Fig : 437111,436532 East Leeds Orbital Route Areas 11 and 21 NGR : SE 37224 36296 LL : 53.8216117542225, -1.43603517781295 12 Fig : 437224,436296 East Leeds Orbital Route Area 24 NGR : SE 37668 35878 LL : 53.8178231087572, -1.4293420322832 12 Fig : 437668,435878 East Leeds Orbital Route Areas 2, 3, 4, 6, 5, 18 NGR : SE 36451 38398 LL : 53.8405580515032, -1.4475283154771 12 Fig : 436451,438398
Administrative Areas	Country : England County : West Yorkshire District : Leeds Parish : Barwick in Elmet and Scholes Parish : Leeds, unparished area
Project Methodology	Proposed archaeological works along a 7 km long route from the A6120 Outer Ring Road at Red Hall to Thorpe Park joining the new Manston Lane Link Road (the 'scheme').

Project Results	The Scheme was divided into 25 areas but following the results of the archaeological evaluation it was deemed that no mitigation works would be undertaken for Areas 10, 22, 12. The works comprised archaeological mitigation works comprising archaeological strip, map and sample excavation in the 22 remaining areas and was undertaken between 04 May 2020 and 06 July 2021. This report discusses the results of the mitigation excavations in Areas 1–9, 11, 13–21, 23–25 and assesses the potential of these results to address the research aims outlined in the WSI. The earliest find was an Early Neolithic leaf shaped flint arrow head recovered as a residual find from a medieval furrow in Area 19, whilst the earliest feature excavated on site was a eaves drip gully for a roundhouse that predated the Romano-British features in Area 14 and was of probable prehistoric date. Two Romano-British enclosure systems were located in Areas 14 and 23, dated through modest pottery assemblages. A small dark blue glass bead of Late Roman date was recovered from a ditch in Area 14. Late pre-Conquest pottery, dating to the period between the mid-9th and mid-10th centuries, was recovered from an enclosure in Area 8. Other features in this area contained pottery dated throughout the medieval period and into the post-medieval period. These remains were probably associated with the settlement of Morwick with ridge and furrow cultivation extending into Areas 7, 9 and 19. Medieval ditches were also excavated in Areas 23 and 14. Post-medieval structures in Area 8 are probably associated with the settlement of Morwick and then the establishment of Morwick Hall. A large irregular pit in Area 14 is perhaps related to coal extraction or quarrying. Modern ditches, pits and postholes were excavated in many of the areas but of note were a range of horticultural planting features in Area 15 connected to the Red Hall estate’s use for public recreation and council nurseries. A range of features including pits, postholes and ditches which could not be securely dated were excavated in many of the areas. A total of 931 bulk sediment samples and one monolith sample were taken from a range of late prehistoric, Romano-British, medieval, post-medieval, modern, and undated features. The flots varied widely in size and composition, with very low to high concentrations of charred plant remains and wood charcoal present across the different areas. A small proportion of the samples contained material preserved in waterlogged (anoxic) conditions. The charred plant remains from Area 8 suggest this area was at the periphery of the medieval village of Morwick. A lack of plant remains from Area 23 suggest that the Romano-British enclosures here were not used for settlement whilst those from Area 14 indicate the nearby presence of a Romano-British settlement. The environmental results also raise the possibility that pits in Area 24 were associated with charcoal production.

Keywords	Enclosure - EARLY MEDIEVAL - FISH Thesaurus of Monument Types Ditch - MEDIEVAL - FISH Thesaurus of Monument Types Ridge And Furrow - MEDIEVAL - FISH Thesaurus of Monument Types Ridge And Furrow - POST MEDIEVAL - FISH Thesaurus of Monument Types Pit - MEDIEVAL - FISH Thesaurus of Monument Types Pit - POST MEDIEVAL - FISH Thesaurus of Monument Types Ditch - POST MEDIEVAL - FISH Thesaurus of Monument Types Pot - EARLY MEDIEVAL - FISH Archaeological Objects Thesaurus Pot - MEDIEVAL - FISH Archaeological Objects Thesaurus Pot - POST MEDIEVAL - FISH Archaeological Objects Thesaurus Pot - ROMAN - FISH Archaeological Objects Thesaurus Pot - MEDIEVAL - FISH Archaeological Objects Thesaurus Pot - ROMAN - FISH Archaeological Objects Thesaurus Pot - MEDIEVAL - FISH Archaeological Objects Thesaurus Pot - LATE IRON AGE - FISH Archaeological Objects Thesaurus Clothes Line Enclosure - ROMAN - FISH Thesaurus of Monument Types Ditch - MEDIEVAL - FISH Thesaurus of Monument Types Ditch - ROMAN - FISH Thesaurus of Monument Types Ditch - POST MEDIEVAL - FISH Thesaurus of Monument Types Ditch - POST MEDIEVAL - FISH Thesaurus of Monument Types Ditch - MEDIEVAL - FISH Thesaurus of Monument Types Pit - ROMAN - FISH Thesaurus of Monument Types Trackway - ROMAN - FISH Thesaurus of Monument Types Trackway - ROMAN - FISH Thesaurus of Monument Types Ring Ditch - LATER PREHISTORIC - FISH Thesaurus of Monument Types Plant Bed - 20TH CENTURY - FISH Thesaurus of Monument Types Trackway - POST MEDIEVAL - FISH Thesaurus of Monument Types Enclosure - UNCERTAIN - FISH Thesaurus of Monument Types Pit - UNCERTAIN - FISH Thesaurus of Monument Types
Funder	
HER	West Yorkshire HER - unRev - STANDARD
Person Responsible for work	
HER Identifiers	
Archives	

APPENDIX 4 DATA MANAGEMENT PLAN

East Leeds Orbital Route
Data Management Plan

224028.2
November 2022

wessexarchaeology

Data Management Plan

1 PROJECT ADMINISTRATION

Project ID / OASIS ID	
Wessex Archaeology project IDs:	224020, 224021, 224022, 224023, 224024, 224025, 224026,224027, 224028, 224029
OASIS IDs:	wessexar1-396907 wessexar1-392476 wessexar1-392474
Project Name	
East Leeds Orbital Route, Leeds, West Yorkshire	
Project Description	
The project consists of archaeological investigations along the East Leeds Orbital Route (ELOR), a 7 km-long road connecting the A6120 Outer Ring Road at Red Hall in the north-west to the new Manston Lane Link Road at Thorpe Park in the south-east (the 'Scheme'). The works conducted by Wessex Archaeology comprised UAV surveys, metal detecting, topographic surveys, evaluation trenching and mitigation works involving excavation, investigation and recording.	
Project Funder / Grant reference	
Wessex Archaeology was commissioned by Atkins Ltd ('the Client'), on behalf of Balfour Beatty.	
Project Manager	
John Winfer Project Manager Wessex Archaeology	
Principal Investigator / Researcher	
Dr Andy Valdez-Tullett Senior Research Officer Wessex Archaeology	
Data Contact Person	
Jess Irwin Senior Finds and Archives Officer Wessex Archaeology	
Date DMP created	
November 2022	
Date DMP last updated	
November 2022	
Version	
Version 1.1	

Related data management policies
ADS 2013 *Caring for Digital Data in Archaeology: a guide to good practice.* Archaeology Data Service & Digital Antiquity Guides to Good Practice ADS 2019 *Guidance on the Selection of Material for Deposit and Archive* Online guidance https://archaeologydataservice.ac.uk/advice/selectionGuidance.xhtml (accessed 31/08/21) Brown, D H 2011 *Archaeological Archives: A guide to best practice in creation, compilation, transfer, and curation* (2nd edition). Reading, Institute of Field Archaeologists/Archaeological Archives Forum Chartered Institute for Archaeologists [CIfA] 2014 *Standard and guidance for the collection, documentation, conservation, and research of archaeological materials* (revised edition June 2020). Reading, Chartered Institute for Archaeologists English Heritage 2012 *MIDAS: the UK Historic Environment Data Standard Version 1.1. Best practice guidelines. Forum on Information Standards in Heritage* (FISH) Forster, M 2019 *Work Digital / Think Archive. A Guide to managing Digital data generated from archaeological investigations*. Dig Ventures Historic England 2015a *Digital Image Capture and File Storage*. Swindon, Historic England Historic England 2015b *Metric Survey Specifications for Cultural Heritage*. Swindon, Historic England Whyte, A and Wilson, A 2010 *How to Appraise & Select Research Data for Curation* (revised 15/08/16, v.1.1), Digital Curation Centre, https://www.dcc.ac.uk/guidance/how-guides/appraise-select-data (accessed 31/08/21)

2 DATA COLLECTION

What data will you collect or create?

- Survey data (raw and tidied) in Esri shapefiles (.shp), points, lines, and polygons, and site plans in an AutoCAD .dwg or .dxf format, where requested.
- Interpreted geophysical survey data in .tif, .tfw or shapefiles and .xyz data files
- Light detection and ranging (LiDAR) and laser scan data, where produced for deposition, will consist of GeoTiff .tif and .E57 files respectively
- Digital site photographs – record, working and condition monitoring, in addition to aerial photos plus UAV photos all captured in high resolution .jpeg with a minimum 16-megapixel sensor
- Digital pro forma fieldwork records created on tablet in .pdf format and automatically exported into server-held project data spreadsheets
- Digital security copy scans of site permatrace drawings will be scanned and converted to .tif format and all site paper register in pdf format
- Excel spreadsheet .csv or .xlsx data files containing site stratigraphic data, environmental data, finds specialist assessment and analysis data and general finds quantification and retention data
- Specialist data – conservation (x-ray etc.), radiocarbon dating data and certificates in Microsoft Word .docx or .pdf format
- Specialist and project reports and figures produced in Microsoft Word .docx or .pdf format stored in Union Square (US) a proprietary project management system (PMS) used by Wessex Archaeology. Upon completion of the work, these will be incorporated into the relevant report.

Type	Format	Estimated volume (Data Archive)

Spreadsheets (Context Register/Finds & Samples Register/Specialist data tables x 6 /metadata tables)	Excel (.xlsx) To be deposited in .xlsx and converted to .csv by ADS	95 objects Size 13.5 MB
Databases (Finds)	Access (.mdb) To be extracted and deposited as .xlsx and converted to .csv by ADS	1 object
Text/documents (Project Brief / Written Scheme of Investigation / Written Scheme of Investigation Addendum / Evaluation report/ Interim reports / Post-excavation assessment/Updated Project Design / Final Report / Individual Specialist Reports)	Word files (.docx) or Adobe Acrobat PDF (.pdf) To be deposited in either .docx or pdf and converted to pdf/a by ADS	77 objects Size 260 MB
Images (Site photographs)	Raster image files (.jpg/.dng) Intended deposition format (.jpg)	17880 objects Size 242.1 GB
GIS Raster Images (UAV Photogrammetry)	Raster image file (.tif/.tfw)	6 objects 6.77 GB
GIS (Overall GIS files and shape layers)	ESRI Shapefile (.shp & .shx & .dbf, plus associated files)	14 objects Size 62 MB
Survey CAD (Site GPS Survey)	AutoCAD files (.dwg)	31 objects Size 124 MB
Digital pro forma site records (context sheets, environmental sample records, trench sheets, day books etc)	PDF To be deposited in pdf and converted to pdf/a by ADS	5092 objects Size 658.87 MB
Digital security copy scans of site permatrace drawings (plan and section drawings)	PDF Lossy graphics file (.jpg) Intended deposition format - uncompressed (.tif)	486 objects Size 505.8 MB
Digital security copy scans of paper site registers (context index, finds and samples registers, photo register, drawing register etc)	PDF To be deposited in pdf and converted to pdf/a by ADS	213 objects Size 355.6 MB

How will the data be collected or created?

Data Standards / Methods

- Standard methods of data collection will be applied throughout the project, working to best practice guidance where applicable / available. In general, data acquisition standards are defined against ADS Guides to Good Practice. Specific or additional guidance relevant to this project are listed below, and will be updated as the project progresses.
- Methods of collection are specified within the WSI (Wessex Archaeology 2020 *East Leeds Orbital Route, Leeds, West Yorkshire. Written Scheme of Investigation for Archaeological Mitigation*. Unpublished report ref. 224025.01) and will meet the requirement set out in the Project Brief, the organisation recording manual and relevant CIfA Standards and guidance.
- Where appropriate, project contributors external to the organisation will be required to include data standards, collection methodology and metadata with individual reports and data.

Data storage / file naming

- The working project archive will be stored in a project specific folder or data specific folder on the internal organisational server. The internal organisation server is backed up twice daily to maintain an up to date security copy of the organisation wide data.
- Project folders are named following established organisational procedures.
- Data collected will be downloaded and raw data will be stored in the appropriate folder.
- Standardised file naming conventions to include project number, type of work undertaken and title/unique identifiers eg, WAProjectNumber_CameraNumber_ImageNumber. For example: 12345_D999_54321.jpg
- File naming conventions following established organisational procedures, based on ADS file naming guidance, and include version control management.
- Project reporting document management system (DMS) with versioning and version control handled automatically.
- Standardised naming conventions and folder structures alongside document version control will be used for consistent and clear data recording and management. Consistency and quality of data collection will be controlled and documented via on site supervision/QA, post-excavation/reporting QA and digital archiving/QA. This may include processes such as calibration, repeat samples or measurements, standardised data capture or recording, data entry validation, peer review of data or representation with controlled vocabularies.

Quality Assurance

- Instruments used in the collection of data are calibrated prior to use and checked to ensure they are in full working order.
- All site records and data collected will be reviewed during project delivery to ensure data is accurate and secure.
- Wessex Archaeology is an ISO 9001 accredited organisation (certificate number FS 606559) independently audited by the British Standard Institution (BSI), confirming the operation of a Quality Management System which complies with the requirements of ISO 9001:2008 – covering professional archaeological and heritage advice and services and including data quality monitoring and logging during survey, and quality control assessments during processing and interpretation. This will be conducted by the project supervisory and post-excavation teams, and the Geomatics department.
- Wessex Archaeology is registered as an archaeological organisation with the Chartered Institute for Archaeologists (CIfA) and fully endorses its Code of Conduct and Regulations for Professional Conduct.

3 DOCUMENTATION AND METADATA

What documentation and metadata will accompany the data?

- Data collected will include standard formats which maximise opportunities for use and reuse in the future (see Section 2, above).
- Collection Level Metadata will be completed as the project is delivered. The Collection Level Metadata brings together the overarching project details and includes a register of data types and number of objects included in the archive, along with all other archive components.
- Data documentation will meet the requirement of the Project Brief, Museum Deposition Guidelines, Digital Repository Guidelines and the methodology described in the Project Design methodology.
- An archive catalogue documenting both physical and digital archive products will be maintained and submitted with both the Museum and Trusted Digital Repository.

4 ETHICS AND LEGAL COMPLIANCE

How will you manage any ethical, copyright and Intellectual Property Rights (IPR) issues?

- Wessex Archaeology has a privacy policy and procedures for dealing with personal information which meets the requirements of the Data Protection Act 2018. These detail what information Wessex Archaeology collects, the purpose for collecting this data, how it will be processed, stored, transferred, and disposed of. These documents are available on request.
- Wessex Archaeology takes appropriate technical and organisational steps to ensure the security of relevant personal data. We have implemented security measures to protect the personal data that we have under our control from:
  - Unauthorised access;
  - Improper use or disclosure; and
  - Unauthorised modification.
- The Company ensures that all staff are aware of their responsibilities under GDPR and the Data Protection Act 2018, and provides them with the necessary advice, guidance, and awareness training in handling personal data.
- Wessex Archaeology is committed to complying with the General Data Protection Regulation (GDPR) and the Data Protection Act 2018 in fulfilling its duty to the rights of individuals and in the collection, processing, and transfer of personal information to ensure that personal data is:
  - Processed lawfully, fairly and in a transparent manner;
  - Collected for specific, explicit, and legitimate purposes only;
  - Adequate, relevant, and limited to what is necessary in relation to the purposes for which it is collected;
  - Accurate and, where necessary, kept up to date. We will take every reasonable step to erase or rectify inaccurate personal data;
  - Not kept in a form which allows identification of the subject for longer than is necessary for the specified purpose(s);
  - Processed in an appropriately secure manner including protection against unauthorised use, accidental loss, destruction, or damage; and
  - Where required, personal data will be redacted prior to the exchange of project documents or data with external organisations and individuals.
- All relevant data collected as part of the project will be curated in line with these principles.
- The full copyright of the written/illustrative/digital archive relating to the project will be retained by Wessex Archaeology under the Copyright, Designs and Patents Act 1988 with all rights reserved. The Client will be licenced to use each report for the purposes that it was produced in relation to the project as described in the specification. The museum, however, will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use conforms to the Copyright and Related Rights Regulations 2003.
- Information relating to the project will be deposited with the Historic Environment Record (HER) where it can be freely copied without reference to Wessex Archaeology for the purposes of archaeological research or development control within the planning process.
- This document and the project archive may contain material that is non-Wessex Archaeology copyright (e.g., Ordnance Survey, British Geological Survey, Crown Copyright), or the intellectual

property of third parties, which Wessex Archaeology are able to provide for limited reproduction under the terms of our own copyright licences, but for which copyright itself is non-transferable by Wessex Archaeology. Users remain bound by the conditions of the Copyright, Designs and Patents Act 1988 with regard to multiple copying and electronic dissemination of such material.

5 DATA SECURITY: STORAGE AND BACKUP

How will the data be stored, accessed, and backed up during the research?

- Risks to data security will be managed in accordance with Wessex Archaeology's data security policy and procedures. Access will be controlled by secure user accounts and the implementation of document and folder level security.
- All Wessex Archaeology office networks are secured behind managed firewalls which are upgraded, updated, and reviewed on a regular basis. All internal core systems are Microsoft licensed products (Windows 10, Windows Server 2016, Windows Server 2019) and we implement Active Directory to manage all user accounts, security, services and access to systems data and resources.
- External access to Wessex Archaeology's systems and network is controlled via secured Virtual Private Network connections (encrypted and security controlled). Access is granted to Wessex Archaeology staff only.
- Collaboration will be enabled via data access and sharing protocols that do not jeopardise data security. When creating the primary archive or collecting data in the field, data will be backed up daily onto Wessex Archaeology's main secured systems.
- Wessex Archaeology's IT department has a backup strategy and policies that involve daily, weekly, monthly, and annual backups of data. Data will be stored on secured servers and within offsite storage locations.

6 SELECTION AND PRESERVATION

Which data should be retained, shared, and/or preserved?

- The digital archive may include where created, site records, reports (including Written Scheme of Investigation (WSI) , post-excavation reports etc.), photographs, photogrammetric data, GNSS survey data, completed survey drawings, geoarchaeological data, environmental data, and post-excavation databases.
- The digital archive may also include TST data, geophysics data and additional specialist data, depending on the final requirements of the project fieldwork and the resultant archaeological finds.
- Not all born digital data will be archived. In order to create a high quality, sustainable, concise, and easily intelligible archive, all archaeological data/material will undergo a process of selection.
- All data will be subject to this selection and retention process, as defined by the project-specific Selection Strategy, and as agreed with all project stakeholders during the course of the project.
- Relevance of data considered for the archaeological archive will also be dependent upon and defined by the nature and significance of archaeological deposits, methods of recording, outputs created and potential for reuse. Some data may be redacted in order to comply with GDPR legislation.
- This process will be reviewed with project stakeholder agreement and documented at project review and archival stages and updated as necessary. Such documentation will be included in the deposited archaeological archive. All digital data selected for deposition will be deposited as agreed with stakeholders with a Trusted Digital Repository and subject to good practice and repository guidelines.
- Data will be kept in line with obligations to retain certain data, the potential reuse value, what is economically sustainable, and any additional effort required to prepare the data for data sharing and preservation. Data will be reused to validate research findings, conduct new studies, and for teaching. File formats will be stable cross-industry standard formats and deposited following good practice guidance.

• Deselected digital files, those not being archived will be held on backed-up Wessex Archaeology servers for an appropriate and sustainable period of not less than a year following project completion, submission, and archive deposition.
What is the long-term preservation plan for the dataset?
• The digital archive will be deposited with the Archaeology Data Service, which is a certified repository with Core Trust Seal. • The archive will be prepared for deposition by the project team and the costs for the time needed for preparation, and the cost of deposition have been included in the project budget.
Have you contacted the data repository?
• Leeds Museum has been contacted during project initiation and confirmed that the digital archive component should be deposited with a trusted digital repository. • ADS will be contacted as the intended repository for digital data.
Have the costs of archiving been fully considered?
• A costing estimate has been produced based on comparable costings provided by the ADS and sufficient resources to cover these costs, and to allow for the preparation of the archive, have been included in the project budget.

7 DATA SHARING AND ACCESSIBILITY

How will you share the data and make it accessible?
• Data will be shared via a range of accessible media and portals as broadly as possible and via a Core Seal trusted repository. Data will be shared in accordance with project stakeholder requirements and any restrictions, if imposed and shared with consideration of client confidentiality and GDPR restrictions. • An OASIS form will be completed for each phase of archaeological work associated with the project. For some projects with negative archaeological results, this, alongside selected images deposited with OASIS, would form the archaeological archive as agreed with project stakeholders. • A final version of the project reporting will be supplied to the Historic Environment Record directly and/or via OASIS, and any data which they request can also be provided directly if they are manageable and sustainable. Data will be made available as soon after collection as possible, provided it is in accordance with stakeholder agreed requirements and any restrictions. Data archived with the ADS will have a persistent Digital Object Identifier (DOI) after deposition. • In agreement with project stakeholders, the digital archaeological archive and required metadata will be deposited with a Core Trust Seal trusted repository at a level commensurate with its potential for archaeological reuse, value for future research and public benefit. This will follow national and repository guidelines and CIfA standards, as outlined in this DMP. • Wessex Archaeology will attempt to minimise data restrictions as far as practicable. Exclusive use of the data may be required for limited periods where client approval is required, or longer term where sensitivities exist in discussion with project stakeholders. A data sharing agreement (or equivalent) will be adhered to via a deposition licence. • Data for deposition will be shared digitally via downloads accessible by the general public via the specific repository's data sharing guidelines and deposition licence with acknowledged long-term value. The methods used to share data will be dependent on several factors such as the type, size, complexity, and sensitivity of data. Open source and standard formats will form the basis of files comprising the archaeological archive to best enable future data sharing and ease of reuse. • If deposition is not possible at the time of project completion, the archive will be retained by Wessex Archaeology, until a suitable repository is agreed between project stakeholders. • The full copyright of the written/illustrative/digital archive relating to the project will be retained by Wessex Archaeology under the Copyright, Designs and Patents Act 1988 with all rights reserved. The Client will be licenced to use each report for the purposes that it was produced in relation to

the project as described in the specification. The museum, however, will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use conforms to the Copyright and Related Rights Regulations 2003.

- Information relating to the project will be deposited with the Historic Environment Record (HER) where it can be freely copied without reference to Wessex Archaeology for the purposes of archaeological research or development control within the planning process.
- This document and the project archive may contain material that is non-Wessex Archaeology copyright (e.g., Ordnance Survey, British Geological Survey, Crown Copyright), or the intellectual property of third parties, which Wessex Archaeology are able to provide for limited reproduction under the terms of our own copyright licences, but for which copyright itself is non-transferable by Wessex Archaeology. Users remain bound by the conditions of the Copyright, Designs and Patents Act 1988 with regard to multiple copying and electronic dissemination of such material

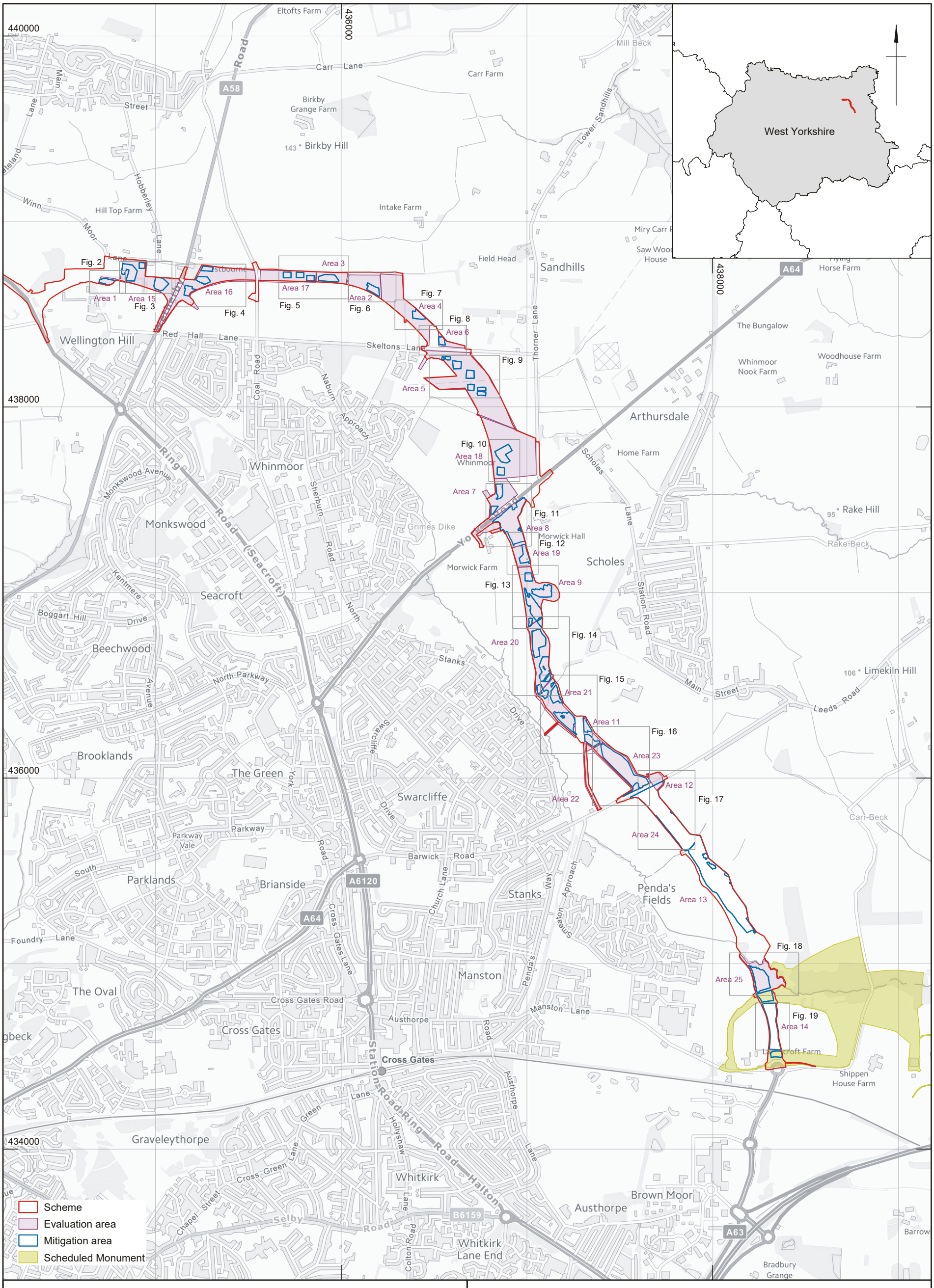
Are any restrictions on data sharing required?

- A temporary embargo may be required on the sharing of the project results. If this is the case, specific details once agreed will be included in the updated version of this DMP and will be documented in the overarching Project Collection Metadata.
- Data specific requirements, ethical issues or embargos which are linked to particular data formats will be documented within the relevant metadata tables accompanying the project archive.

8 RESPONSIBILITIES

Who will be responsible for implementing the data management plan?

- The Project Manager will be responsible for implementing the DMP, and ensuring it is reviewed and revised at each stage of the project.
- Data capture, metadata production and data quality is the responsibility of the Project Team, assured by the Project Manager.
- Storage and backup of data in the field is the responsibility of the field team.
- Once data is incorporated into the organisation's project server, storage and backup is managed by Wessex Archaeology.
- Data archiving is undertaken by the project team under the guidance of the Archives Officer, who is responsible for the transfer of the Archaeological Project Archive to the agreed repository.
- Details of the core project team can be found in the Project Design.



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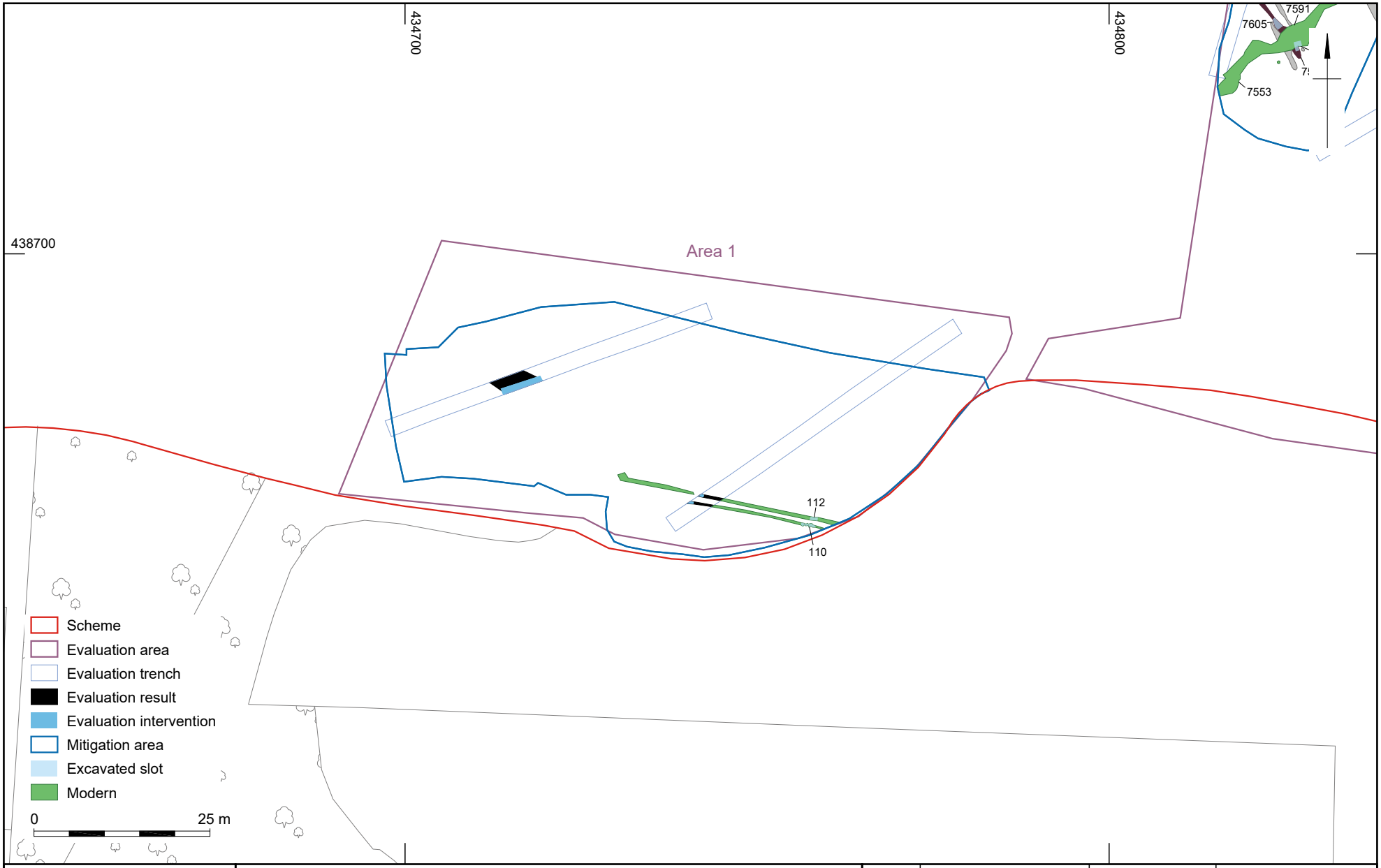
Scale:	1:2000 at A3 (main graphic)	Illustrator:	IA/JD
Path:	S:\PROJECTS\224028\Graphics_Office\Rep figs\PXA\2022_07_22		

Site location

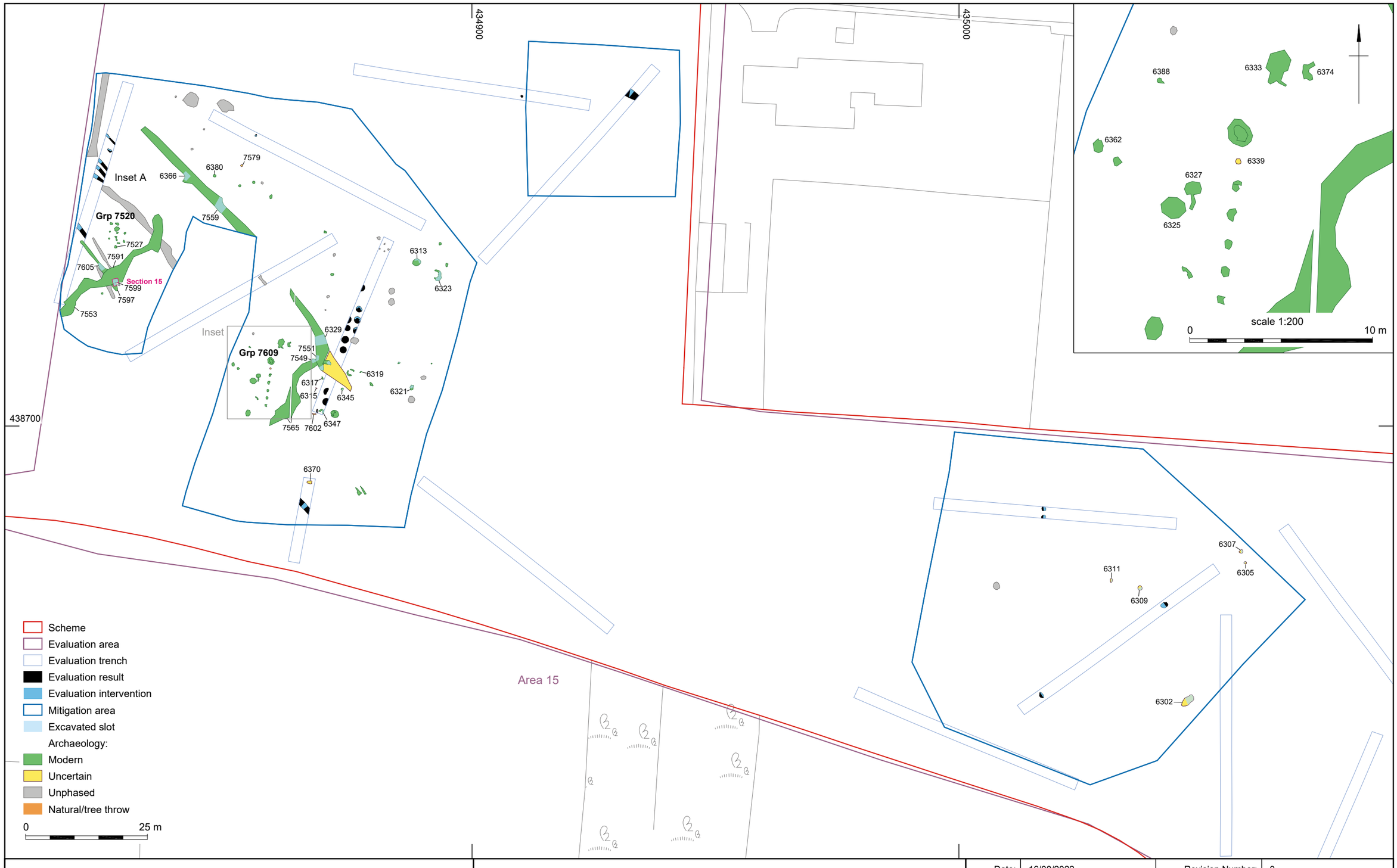
Figure 1



Date:	16/08/2022	Revision Number:	0
Scale:	1:750 at A4	Illustrator:	JD
Path:	S:\PROJECTS\224020\Graphics_Office\Rep figs\Interim\2020_05_27		

Location plan: Area 1

Figure 2



Date:	16/08/2022	Revision Number:	0
Scale:	1:750 at A3	Illustrator:	JD
Path:	S:\PROJECTS\224028\Graphics_Office\Rep figs\PXA\2022_07_22		

Location plan: Area 15

Figure 3

435200

435400

438700

6425

Area 16

6450

6452

6446

Grp 6424

6402

Scheme
Evaluation area
Evaluation trench
Evaluation result
Evaluation slot
Mitigation area
Excavated slot
Archaeology:
Modern
Uncertain
Unphased
Natural/tree throw

0 50 m

Date:	16/08/2022	Revision Number:	0
Scale:	1:1000 at A3	Illustrator:	JD
Path:	S:\PROJECTS\224028\Graphics_Office\Rep figs\PXA\2022_07_22		

Location plan: Area 16

Figure 4

438800

435800

436000

Grp 6518

Grp 6519

6516

6514

6704

6702

Area 17

Area 3

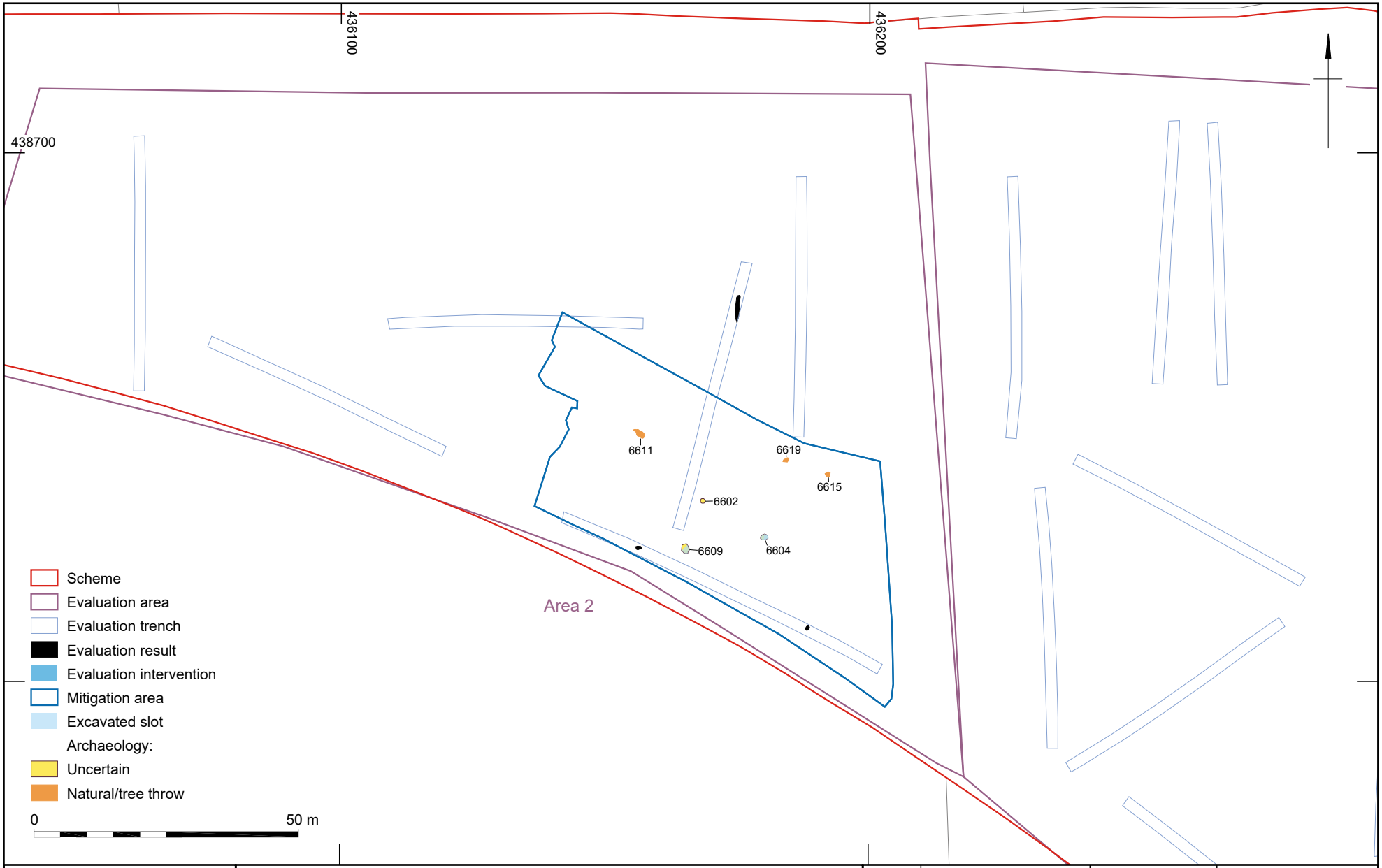
Scheme
Evaluation area
Evaluation trench
Evaluation result
Evaluation intervention
Mitigation area
Excavated slot
Archaeology:
Modern

0 50 m

Date:	16/08/2022	Revision Number:	0
Scale:	1:1000 at A3	Illustrator:	JD
Path:	S:\PROJECTS\224028\Graphics_Office\Rep figs\PXA\2022_07_22		

Location plan: Areas 17 and 3

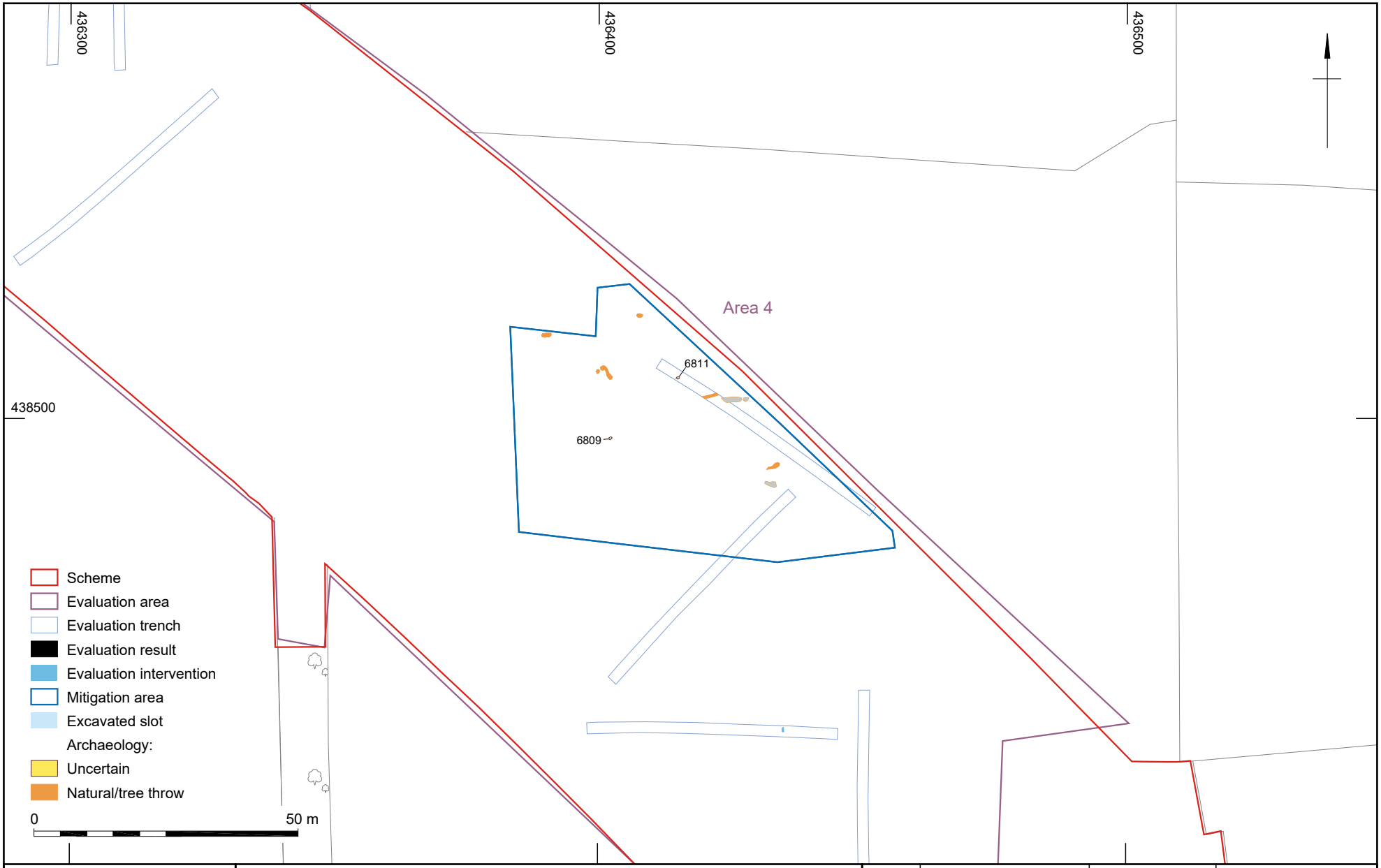
Figure 5



Date:	16/08/2022	Revision Number:	0
Scale:	1:1000 at A4	Illustrator:	JD
Path:	S:\PROJECTS\224020\Graphics_Office\Rep figs\Interim\2020_05_27		

Location plan: Area 2

Figure 6



Date:	16/08/2022	Revision Number:	0
Scale:	1:1000 at A4	Illustrator:	JD
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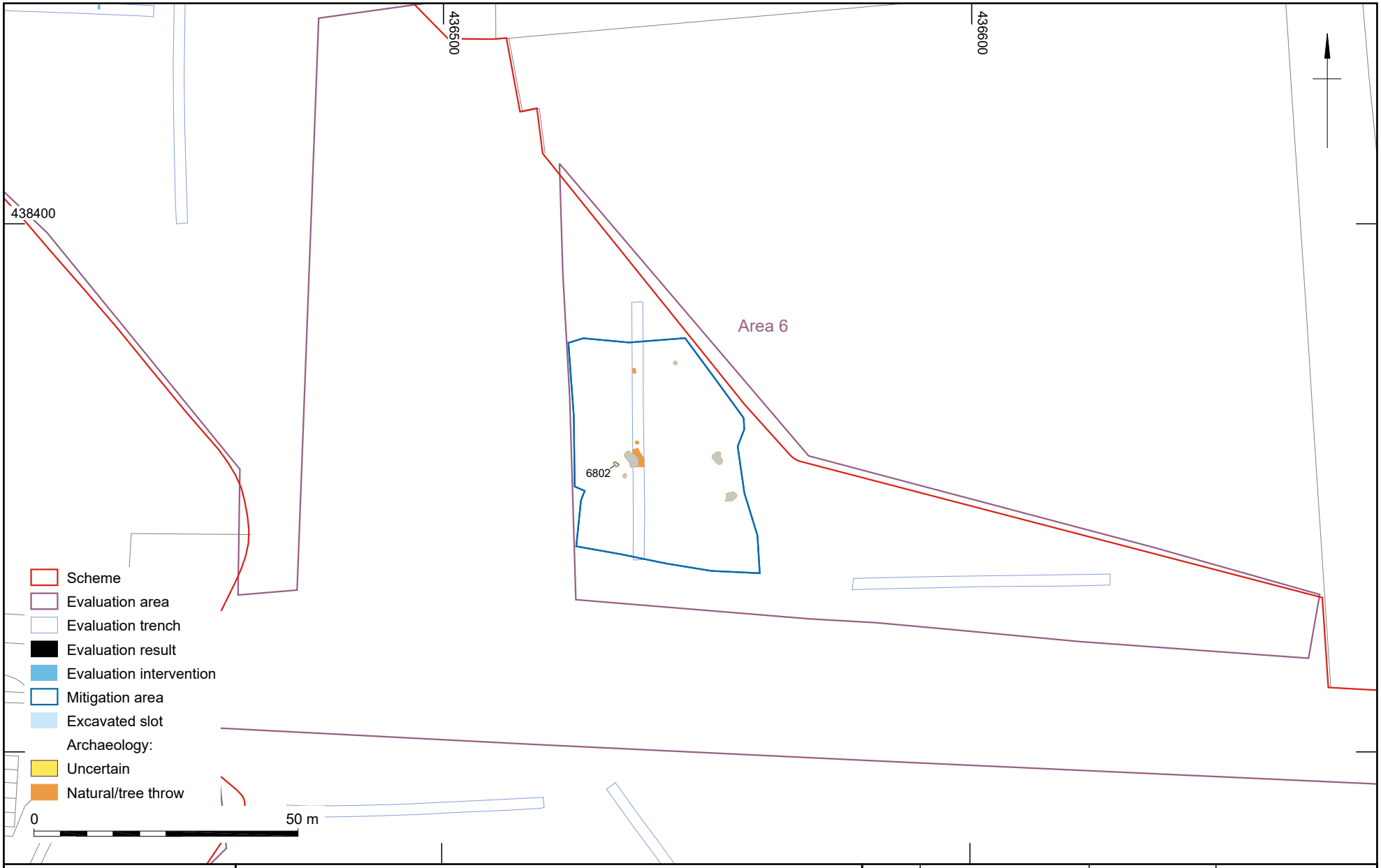
Location plan: Area 4

Figure 7



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Path:	S:\PROJECTS\224020\Graphics_Office\Rep figs\Interim\2020_05_27		

Location plan: Area 6

Figure 8

436600

436800

438200

Area 5

6225

6223

6215

6217

6219

6221

6211

6213

6203

6207

Section 12

6205

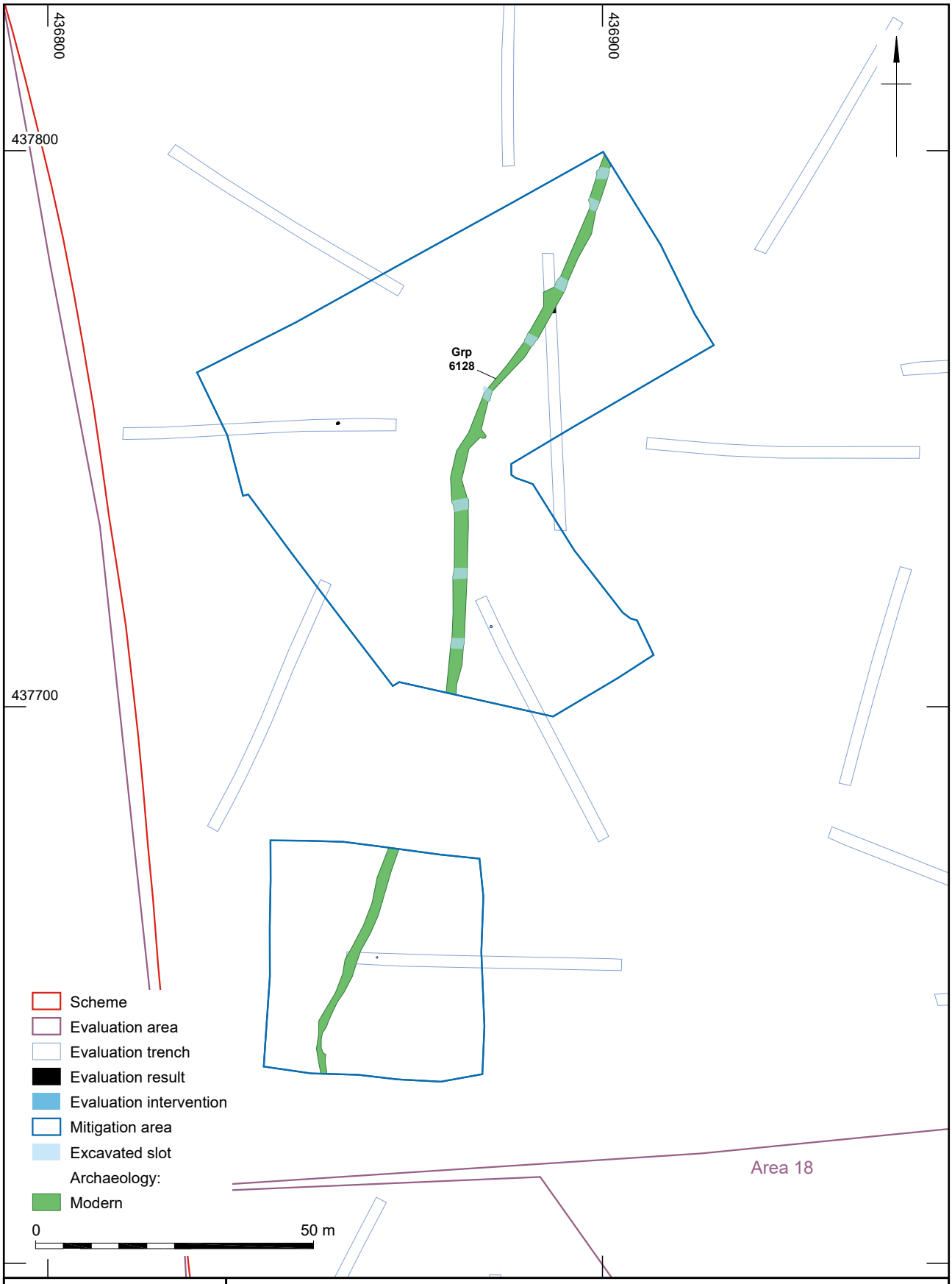
Scheme
Evaluation area
Evaluation trench
Evaluation result
Evaluation intervention
Mitigation area
Excavated slot
Archaeology:
Post-medieval
Uncertain
Unphased
Natural/tree throw

0 50 m

Date:	16/08/2022	Revision Number:	0
Scale:	1:1000 at A3	Illustrator:	JD
Path:	S:\PROJECTS\224028\Graphics_Office\Rep figs\PXA\2022_07_22		

Location plan: Area 5

Figure 9



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Scale:	1:1000 at A4	Illustrator:	JD
Path:	S:\PROJECTS\224028\Graphics_Office\Rep figs\PXA\2022_07_22		

Location plan: Area 18

Figure 10

436800

437000

437400

Area 7

Area 8

Grp 5800
Grp 5801
Grp 5802
Grp 5803
Grp 5804
Grp 5805
Grp 5806
Grp 5807
Grp 5808
Grp 5809
Grp 5810
Grp 5812
Grp 5813
Grp 5814
Grp 5815
Grp 5816
Grp 5817
Grp 5818
Grp 5823
Grp 5824
Grp 5825
Grp 5826
Grp 5827

Section 8
Section 13
Section 16
Section 17
Section 18

6002
6004
6006
6008
6010
6012
6014
5088
5096
5133
5166
5168
5196
5198
5200
5204
5246
5252
5262
5268/
5280
5282
5288
5294
5308
5316
5319
5323
5342
5407
5415
5419
5421
5423
5427
5431
5443
5462
5464
5473
5475
5500
5507
5512
5514
5524
5531
5540
5545

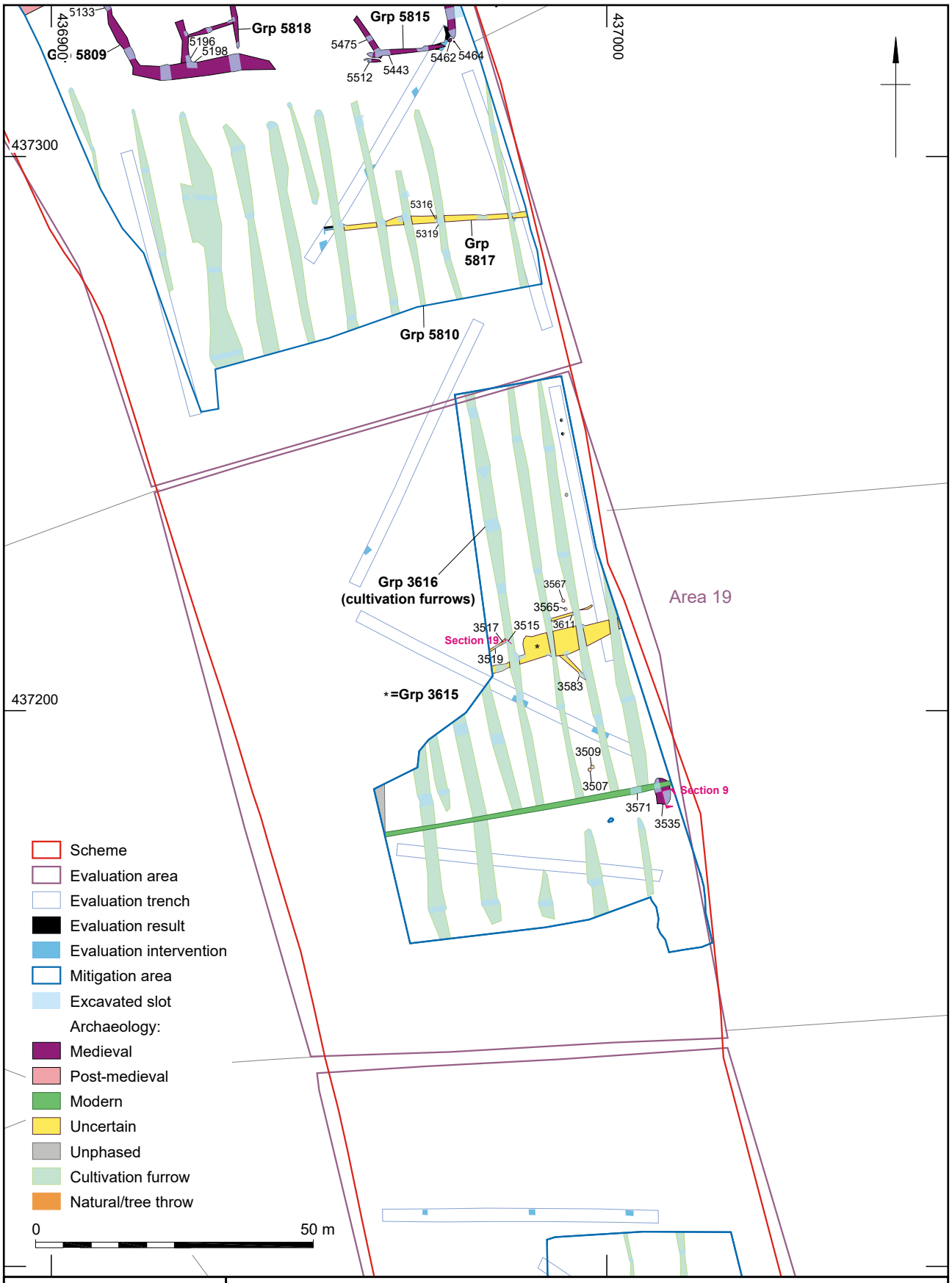
Scheme
Evaluation area
Evaluation trench
Evaluation result
Evaluation intervention
Mitigation area
Excavated slot
Archaeology:
Medieval
Post-medieval
Modern
Uncertain
Unphased
Cultivation furrow
Natural/tree throw

0 50 m

Date:	16/08/2022	Revision Number:	0
Scale:	1:1000 at A3	Illustrator:	JD
Path:	S:\PROJECTS\224028\Graphics_Office\Rep figs\PXA\2022_07_22		

Location plan: Areas 7 and 8

Figure 11



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Path:	S:\PROJECTS\224028\Graphics_Office\Rep figs\PXA\2022_07_22		

Location plan: Area 19

Figure 12

437000

437100

436900

Area 9

Grp 3088

Grp 3089

Grp 3090

Grp 3085
(cultivation furrows)

Grp 3092

Grp 3094

Grp 3093

Grp 3087

Grp 3244

Grp 3245

3116

3078

3011

3009

3182

3184

3219

3225

Section 14

Section 20

Section 21

Inset

Grp 3146

Grp 3077

3166

Grp 3235

scale 1:500

0 20 m

0 50 m

Scheme
Evaluation area
Evaluation trench
Evaluation result
Evaluation intervention
Mitigation area
Excavated slot
Geophysics:
Possible archaeology
Archaeology:
Medieval
Post-medieval
Modern
Uncertain
Unphased
Cultivation furrow

Date:	16/08/2022	Revision Number:	0
Scale:	1:1000 at A3	Illustrator:	JD
Path:	S:\PROJECTS\224028\Graphics_Office\Rep figs\PXA\2022_07_22		

Location plan: Area 9

Figure 13

437000

437200

436800

436600

Area 20

2109

Grp 2130

2150

2138

Grp 2169

17703

2093

Grp 2149

Grp 2180

2190

2186

2071

Grp 2063

Grp 2067

2023/
2025

Grp 2060

Grp 2068

2113/
2116/
2119

Grp 2014

Grp 2092

2040

Grp 2091

2010

Grp 2005

1618

1614

Grp 1650

1706

1708

Grp 1700

Grp 1701

Grp 1675

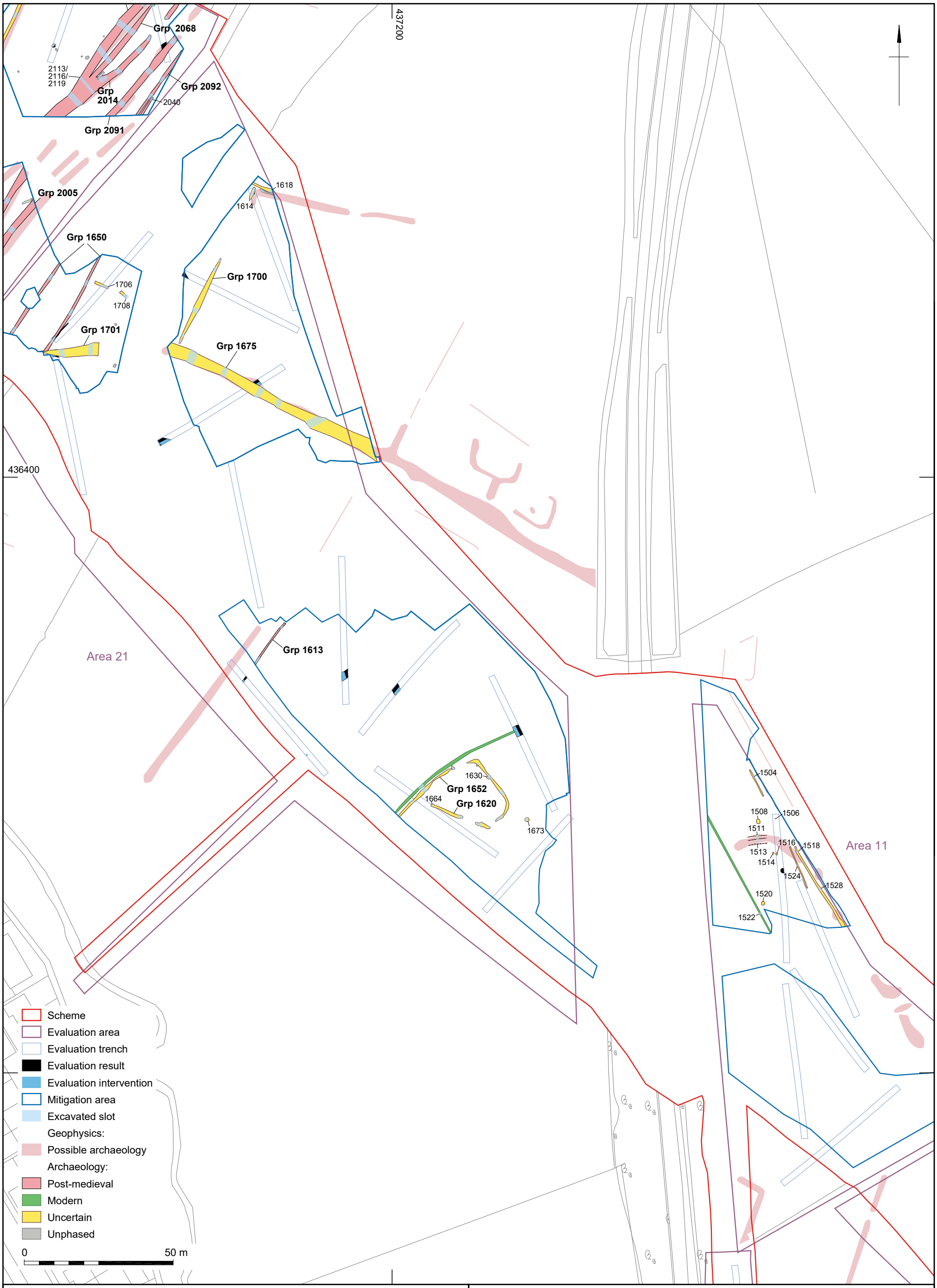
Scheme
Evaluation area
Evaluation trench
Evaluation result
Evaluation intervention
Mitigation area
Excavated slot
Geophysics:
Possible archaeology
Archaeology:
Post-medieval
Modern
Uncertain
Unphased
Natural/tree throw

0 50 m

Date:	16/08/2022	Revision Number:	0
Scale:	1:1250 at A3	Illustrator:	JD
Path:	S:\PROJECTS\224028\Graphics_Office\Rep figs\PXA\2022_07_22		

Location plan: Area 20

Figure 14



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Scale:	1:1250 at A3	Illustrator:	JD
Path:	S:\PROJECTS\224028\Graphics_Office\Rep figs\PXA\2022_07_22		

Location plan: Areas 11 and 21

Figure 15

437400

436200

437600

Grp 1242

Grp 1081

Area 23

Grp 1151

Grp 1376

Grp 1371

Grp 1370

Grp 1041

Grp 1374

Grp 1375

Grp 1373

Grp 1372

Grp 1051

Grp 1031

Grp 1061

Grp 1071

Section 1

Section 2

Section 3

Section 22

Section 23

Inset

scale 1:500

0 20 m

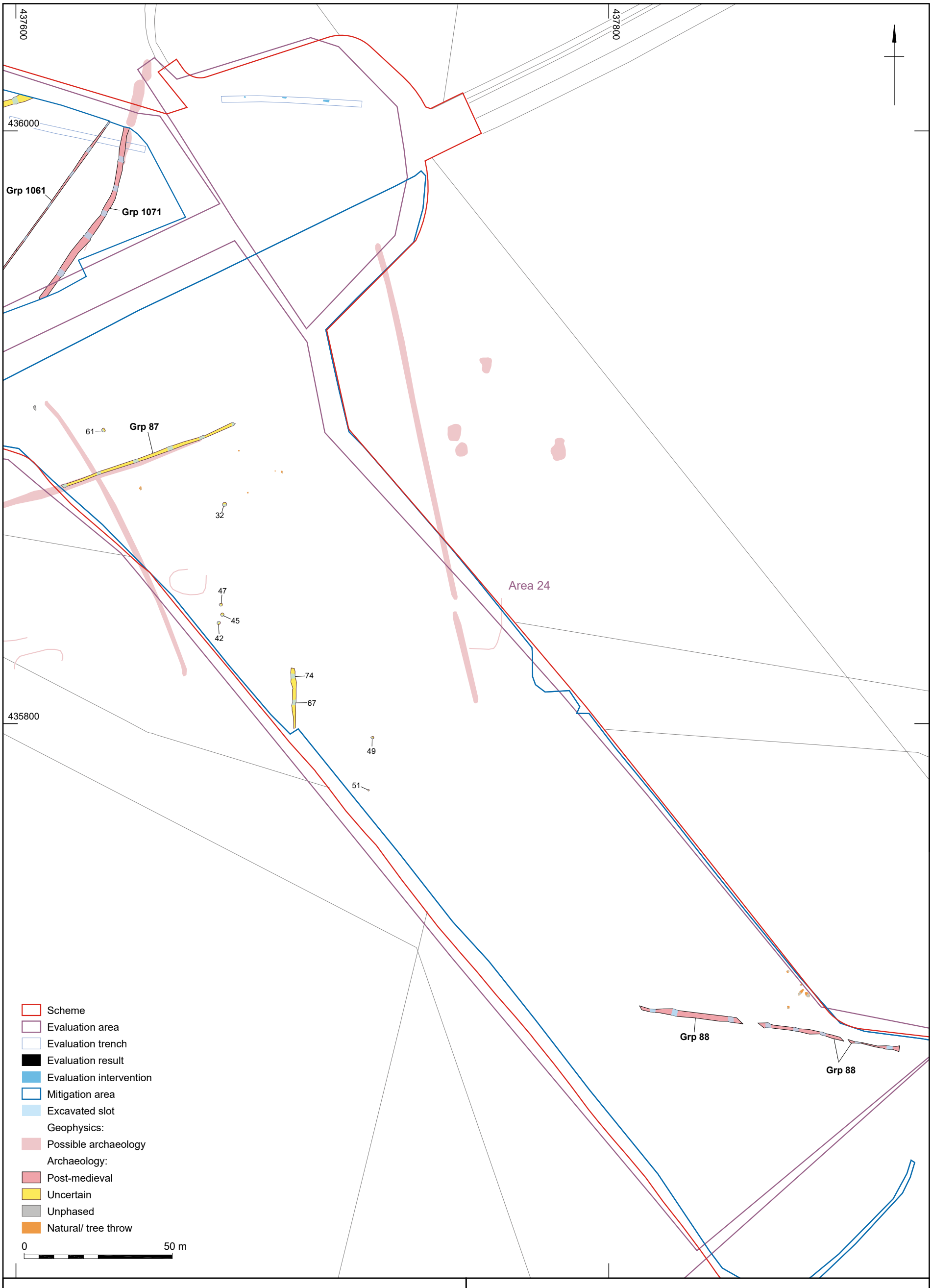
0 50 m

- Scheme
- Evaluation area
- Evaluation trench
- Evaluation result
- Evaluation intervention
- Mitigation area
- Excavated slot
- Geophysics:
- Possible archaeology
- Archaeology:
- Romano-British
- Medieval
- Post-medieval
- Uncertain
- Unphased
- Natural/ tree throw

Date:	16/08/2022	Revision Number:	0
Scale:	1:1250 at A3	Illustrator:	JD
Path:	S:\PROJECTS\224028\Graphics_Office\Rep figs\PXA\2022_07_22		

Location plan: Area 23

Figure 16



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Scale:	1:1250 at A3	Illustrator:	JD
Path:	S:\PROJECTS\224028\Graphics_Office\Rep figs\PXA\2022_07_22		

Location plan: Area 24

Figure 17

438200

438400

435000

991

Area 25

Scheme
Evaluation area
Scheduled Monument
Area with coal-rich deposit beneath topsoil
Mitigation area
Archaeology:
Modern
Unphased

0 50 m

Date:	16/08/2022	Revision Number:	0
Scale:	1:1000 at A3	Illustrator:	JD
Path:	S:\PROJECTS\224028\Graphics_Office\Rep figs\PXA\2022_07_22		

Location plan: Area 25

Figure 18

438300

438400

434700

434600

Grp 447

Grp 465

138

Ditch: A

B

C

D

E

Section 4

132

104

Grp 462

Grp 464

358

360

414

355

116

225/227

Section 5

Grp 448

431

427

410/412

429

402

400

Grp 460

270

272

230

Grp 456

Grp 461

425

Grp 459

154

128

191

Section 6

184/186/189

Grp 450

212

214

Section 7

Grp 451

208

Grp 457

Section 11

248

250

310

306

312

Grp 458

Grp 453

342

Grp 455

266

264

Grp 454

Grp 449

Area 14

298

200

Section 10

292

Grp 452

314

Grp 463

Scheme

Mitigation area

Excavated slot

Geophysics:

Probable archaeology

Possible archaeology

Archaeology:

Late Prehistoric

Romano-British

Medieval

Post-medieval

Modern

Uncertain

Natural/tree throw

0

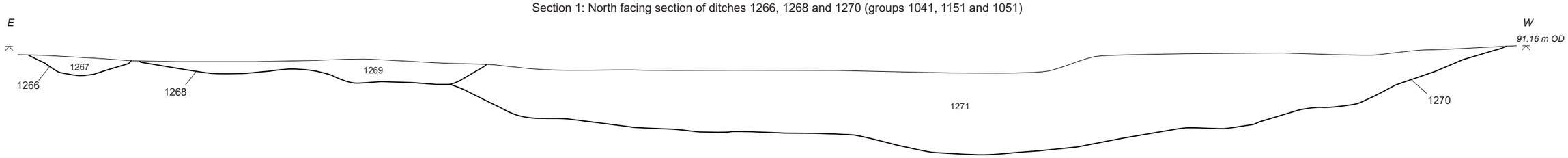
25 m

Date:	16/08/2022	Revision Number:	0
Scale:	1:750 at A3	Illustrator:	JD
Path:	S:\PROJECTS\224028\Graphics_Office\Rep figs\PXA\2022_07_22		

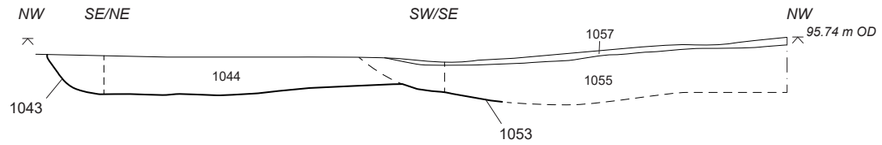
Location plan: Area 14

Figure 19

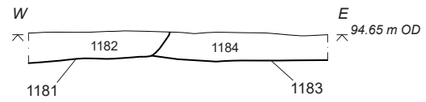
Section 1: North facing section of ditches 1266, 1268 and 1270 (groups 1041, 1151 and 1051)



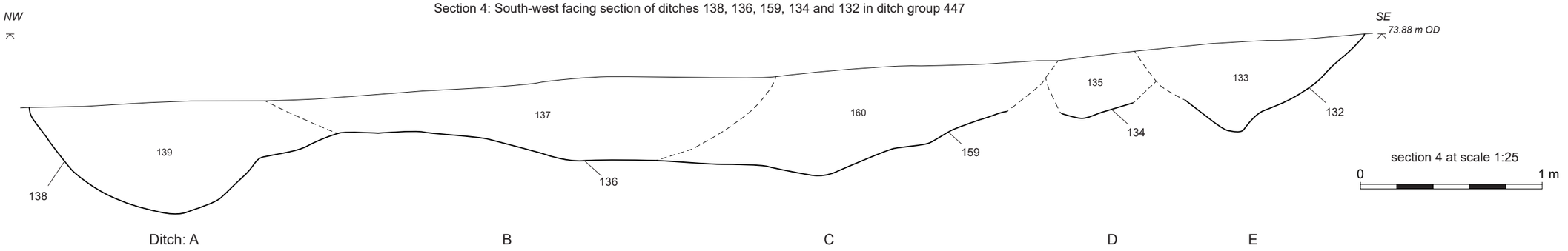
Section 2: Wraparound section of ditches 1043 and 1053 (groups 1041 and 1371)



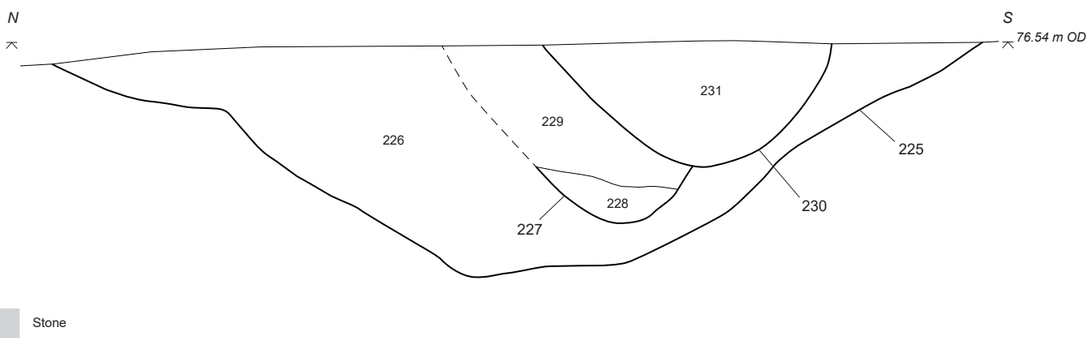
Section 3: South facing section of ditches 1181 and 1183 (groups 1373, 1375)



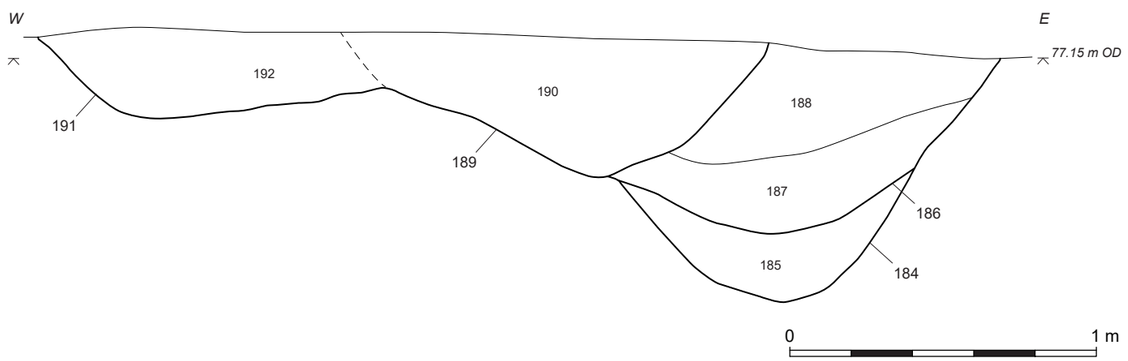
Section 4: South-west facing section of ditches 138, 136, 159, 134 and 132 in ditch group 447



Section 5: West facing section of ditch slots 225, 227 and 230 in ditch group 448



Section 6: South facing section of ditches 191, 189 and 184 in ditch group 450



Stone

Date:	25/07/2022	Revision Number:	0
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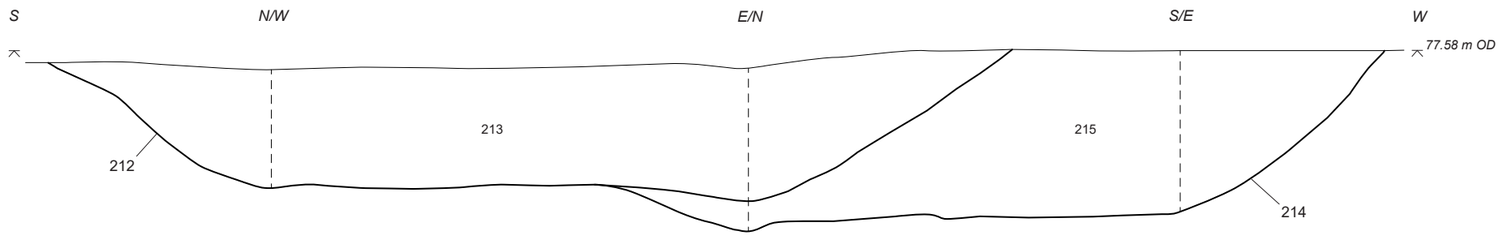
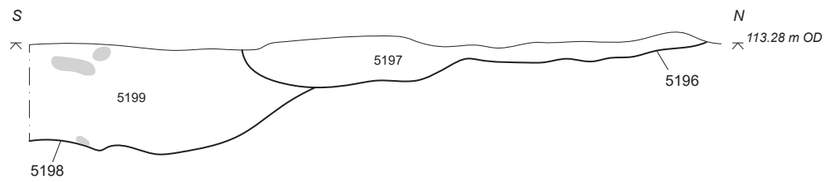
Path:	S:\PROJECTS\224028\Graphics_Office\Rep figs\PXA\2022_07_22		

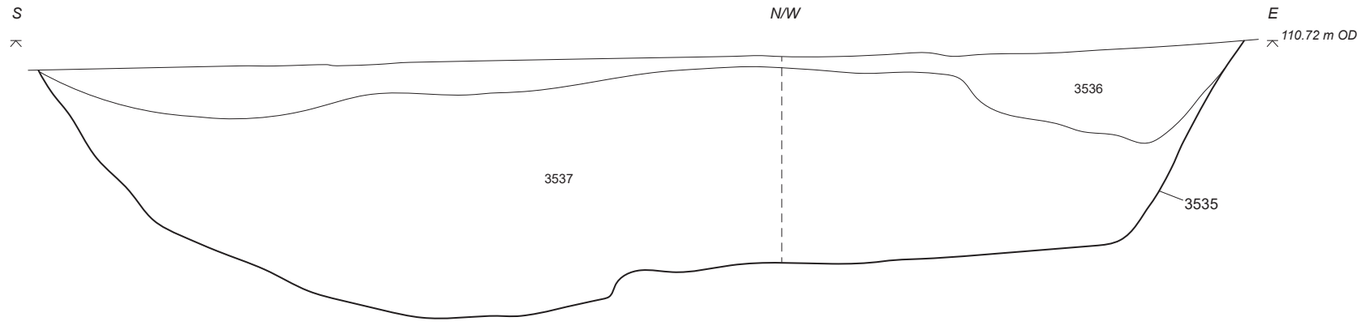
Section 7: Wraparound section of ditches 212 (ditch group 451) and 214 (ditch group 449)



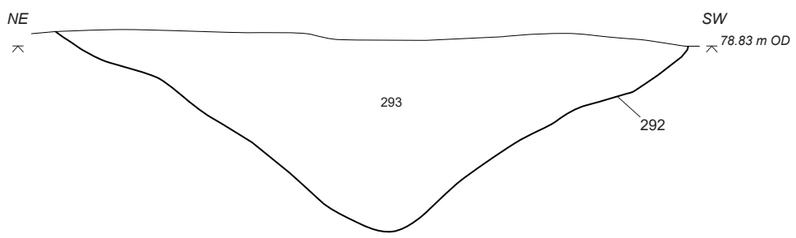
Section 8: East facing section across ditch 5198 (ditch group 5809) and ditch 5196 (ditch group 5818)



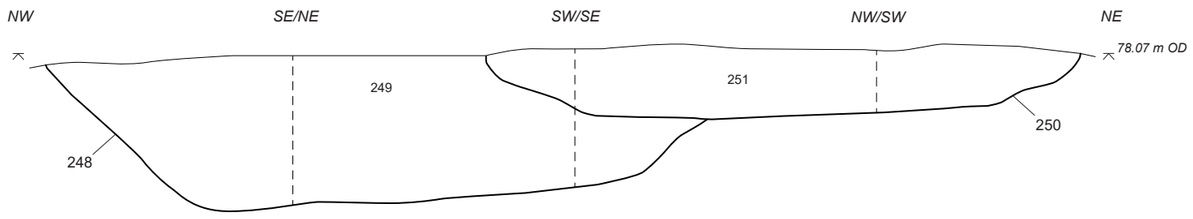
Section 9: Wraparound sections of pit 3535



Section 10: NW facing section of ditch slot 292 (ditch group 452)



Section 11: Wraparound section of ditches 248 (ditch group 449) and 250 (ditch group 457)



Stone

0 1 m

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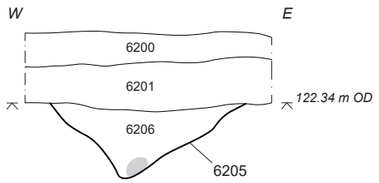
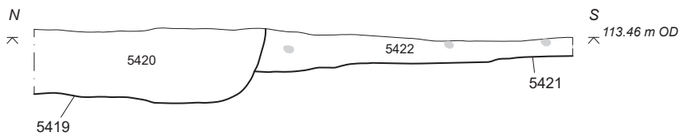
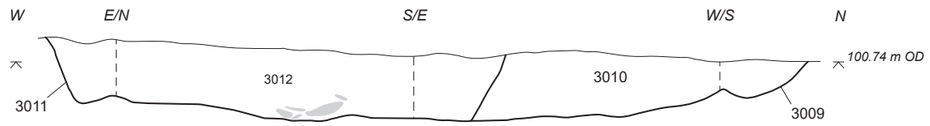
Section 12:
South facing section of ditch 6205



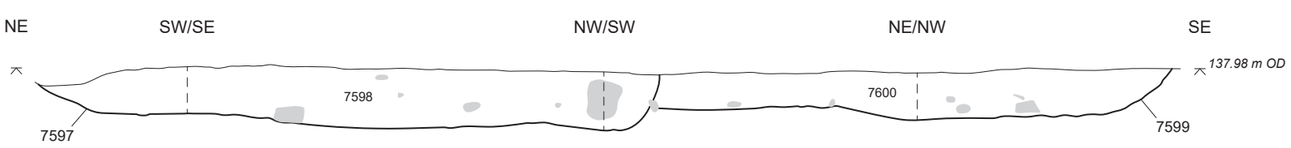
Section 13:
West facing section of ditches 5419 (group 5806) and 5421 (group 5814)



Section 14: Wraparound section of ditches 3009 and 3011 (groups 3094 and 3092)

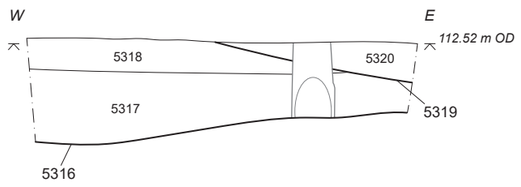


Section 15: Wraparound section showing ditch 7597 cutting ditch 7599

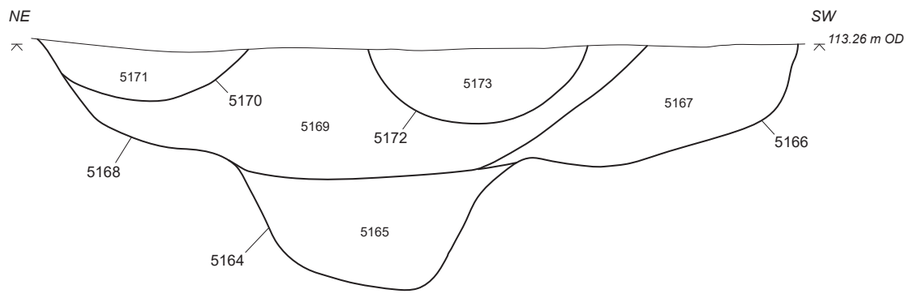


Section 16: North facing section of dich 6012

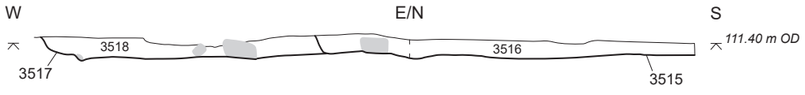
Section 17: South facing section of furrow 5319 cutting ditch 5316



Section 18: North-west facing section across ditches 5164, 5166, 5168, 5170, 5172



Section 19: South-east facing section of ditch 3517 and furrow 3515



Section 20:
South facing section across furrow
3182 and ditch 3184 (ditch group 3807)

Stone

0 1 m

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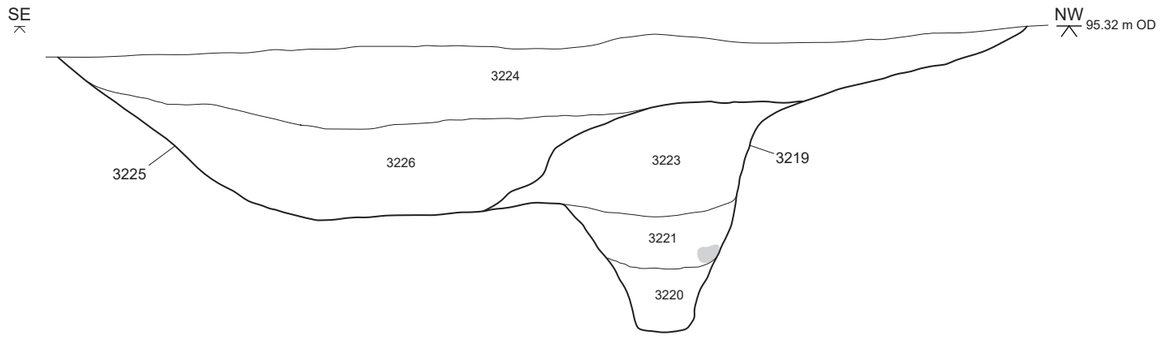
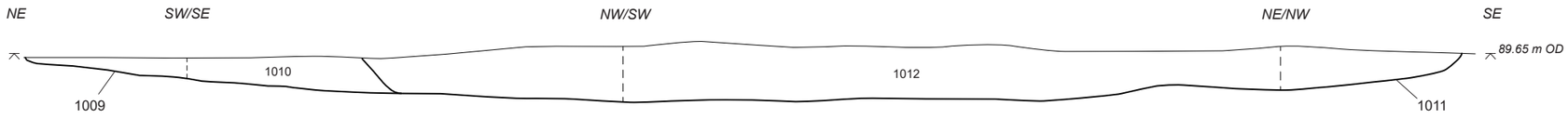
Sections

Figure 22

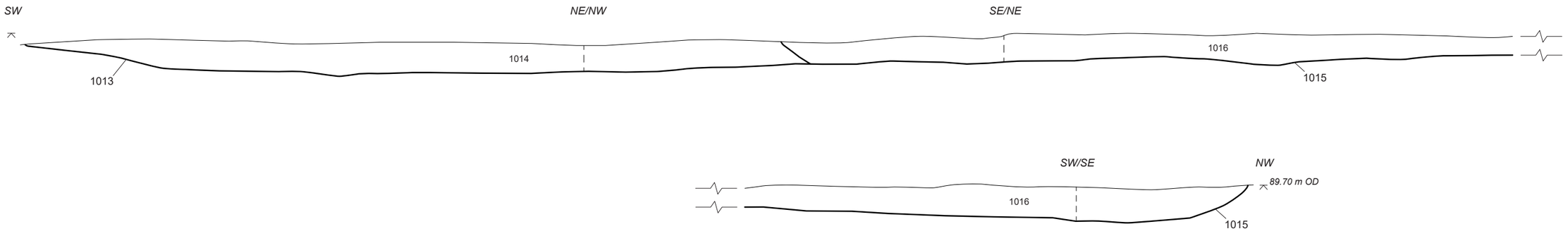
Section 21: North-east facing section of ditches 3219 and 3225 (groups 3244 and 3245)



Section 22: Wraparound section of ditches 1009 (group 1041) and 1011 (group 1031)



Section 23: Wraparound section of ditches 1013 (group 1051) and 1015 (group 1031)



Stone

0 1 m

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Scale:	1:20 at A3	Illustrator:	JD
Path:	S:\PROJECTS\224028\Graphics_Office\Rep figs\PXA\2022_07_22		

Plate 1: Intersection of ditches 306, 208 and 310 viewed from the south-west (Area 14) – scale 1 m

Plate 2: South facing section of gully 1339 (Area 23) – scale 1 m

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Plate 3: South facing section of ditch terminus 1331 (ditch group 1375) (Area 23) – scale 1 m

Plate 4: North facing section of ditch 402 (ditch group 461) and pits 410 and 412 (Area 14) – scale 1 m

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Plate 5: North-west facing section of ditch 5133 (ditch group 5809) (Area 8) – scale 0.5 m

Plate 6: West facing section of ditch 5443 (ditch group 5815) (Area 8) – scale 1 m

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Plate 7: North facing shot of surface 5507 (Area 8) – scale 2 x 1 m

Plate 8: East facing section of pit 3535 (Area 19) – scale 1 m

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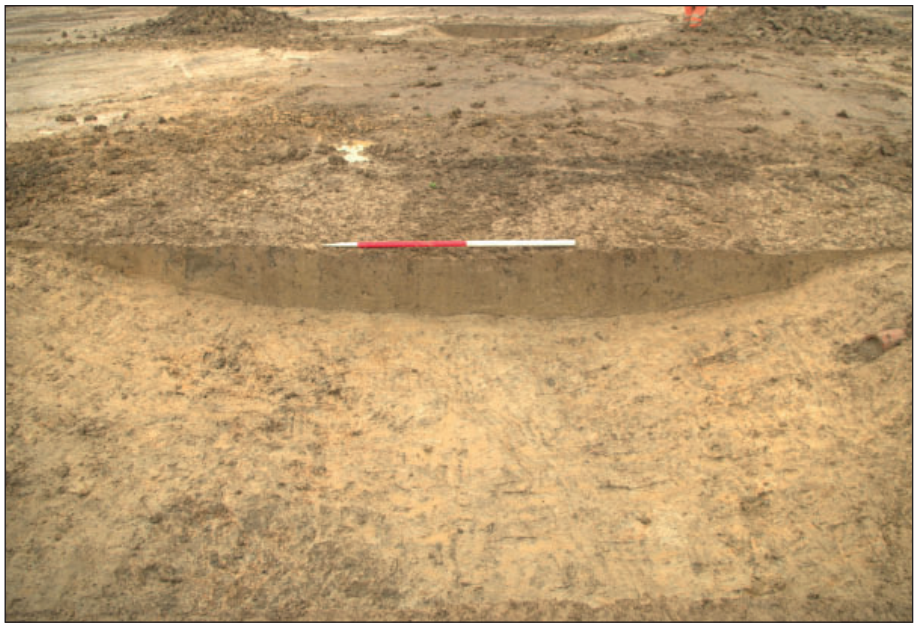

Plate 9: South-west facing section of ditch 1194 (ditch group 1081) (Area 23) – scale 1 m

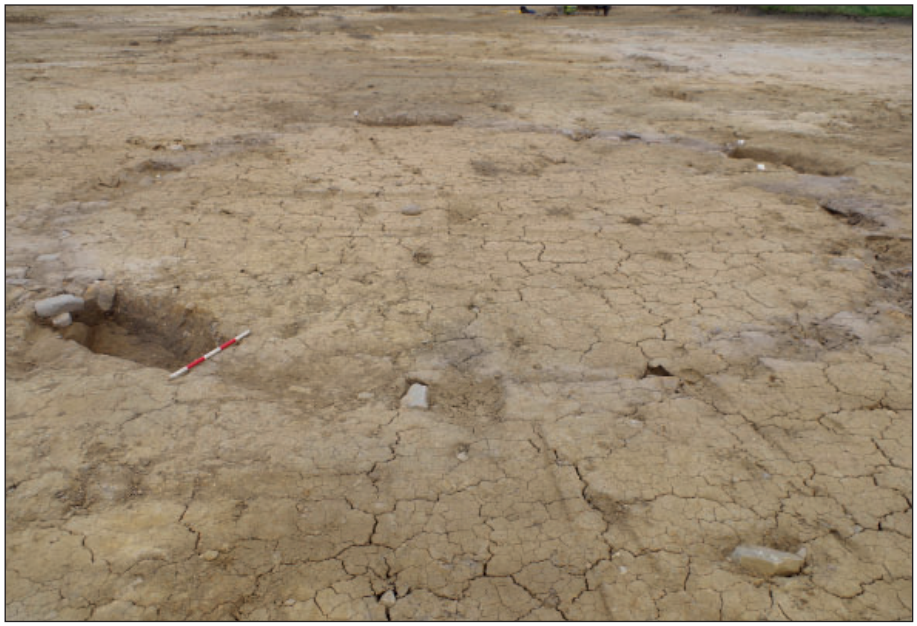

Plate 10: South facing photo of ditch group 5803 (Area 8) – scale 0.5 m

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Scale:	Not to scale	Illustrator:	JD
Path:	S:\PROJECTS\224028\Graphics_Office\Rep figs\PXA\2022_07_22		

Plate 11: Wall 5294, viewed from the east

Plate 12: East facing section through pit 314 (Area 14) – scale 1 m

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Scale:	Not to scale	Illustrator:	JD
Path:	S:\PROJECTS\224028\Graphics_Office\Rep figs\PXA\2022_07_22		

Plate 13: East facing section of planting feature 7527 (feature group 7520) showing evidence for the remains of wooden post (Area 15) – scale 0.2 m

Plate 14: Circular planting feature 6333 from the south-east (Area 15) – scale 1 m

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Path:	S:\PROJECTS\224028\Graphics_Office\Rep figs\PXA\2022_07_22		

Plate 15: Backfill deposits in Area 13 viewed from the west

Plate 16: Ditch 991 viewed from the south-east (Area 25)

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Plate 17: North facing section of pit 6604 (Area 2) – scale 1 m

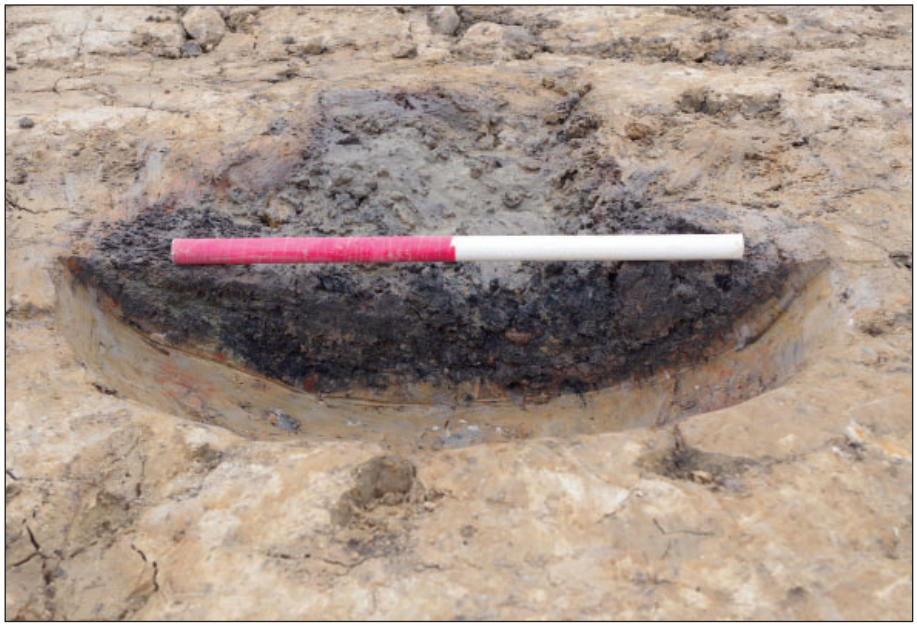

Plate 18: North facing section of pit 6221 (Area 5) – scale 0.5 m

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Scale:	Not to scale	Illustrator:	JD
Path:	S:\PROJECTS\224028\Graphics_Office\Rep figs\PXA\2022_07_22		

Plate 19: South-east facing section across pits 3507 and 3509 (Area 19) – scale 1 m

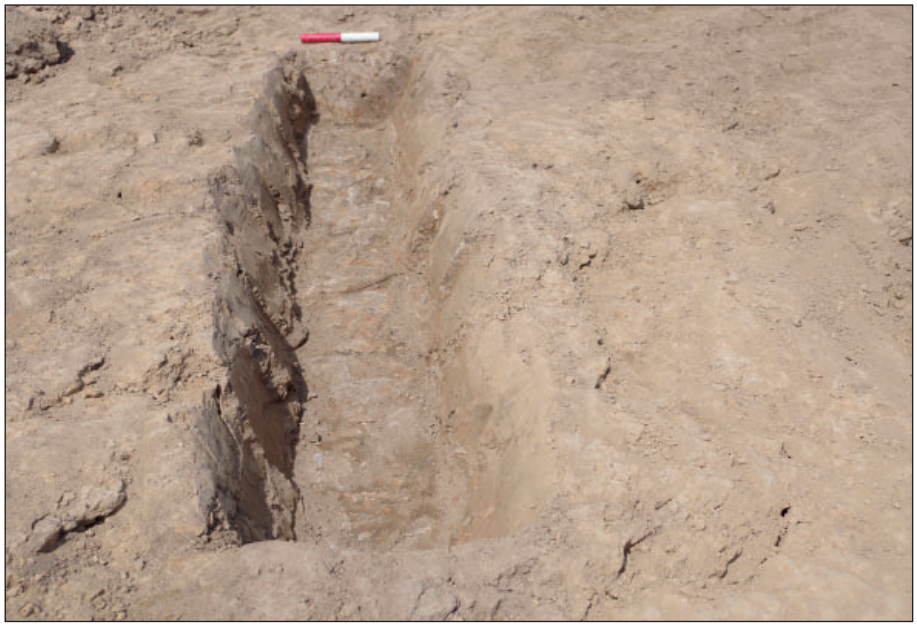

Plate 20: South facing section gully 3166 (group 3235) (Area 9) – scale 0.2 m

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Path:	S:\PROJECTS\224028\Graphics_Office\Rep figs\PXA\2022_07_22		

Plate 21: Feature group 3077 viewed from the south (Area 9) – scale 1 m

Plate 22: Ditch 2186 (ditch group 2180) and pit 2190 facing south-east (Area 20) – scale 1 m

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Plate 23: North-west facing section of pit 1673 (Area 21) – scale 1 m

Plate 24: Ditch 1518 from the east (Area 11) – scale 1 m

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Plate 25: West facing section of pit 1520 (Area11) – scale 1m

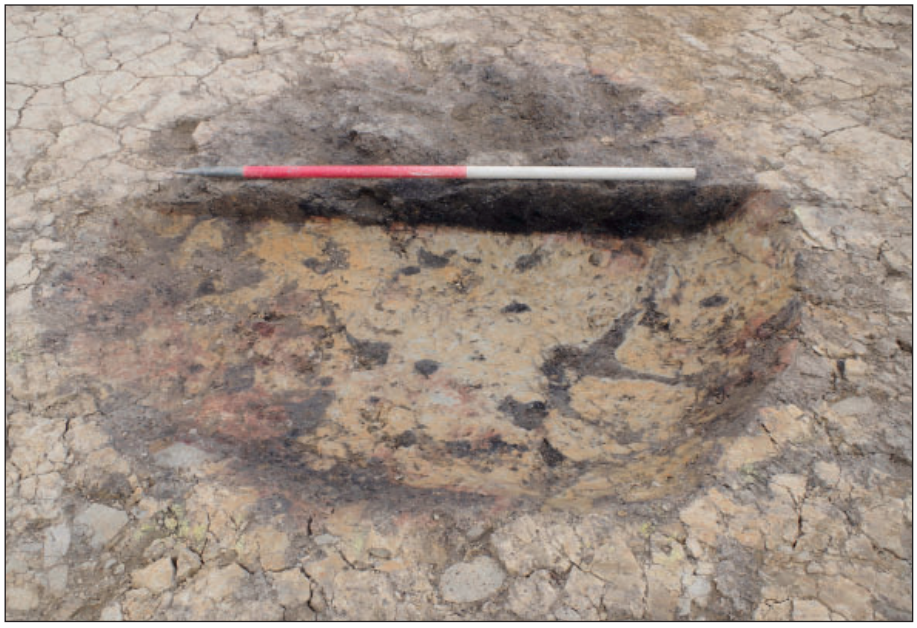

Plate 26: South facing section of pit 32 (Area 24) – scale 1 m

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Path:	S:\PROJECTS\224028\Graphics_Office\Rep figs\PXA\2022_07_22		

Plate 27: Pit 49 viewed from the south-west (Area 24) – scale 1 m

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