# PROPOSED RESIDENTIAL DEVELOPMENT, LAND EAST OF 8 SPROATLEY ROAD, PRESTON, EAST YORKSHIRE HU12 8TT

# WRITTEN SCHEME OF INVESTIGATION PART 2: SPECIFICATION OF ARCHAEOLOGICAL WORKS (TRIAL TRENCHING)

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### 1 INTRODUCTION

- 1.1 A residential development, comprising 24 dwellings with associated infrastructure, is proposed on 0.774 hectares of land off the south side of Sproatley Road, Preston, East Yorkshire (NGR TA 1875 3085 centred) by Ward Homes Yorkshire Ltd (see figures 1 and 2). At the time of writing, outline planning permission for the development has been determined (application 19/00416/OUT), and detailed permission is currently being sought. It should be noted that the above application is for Phase 1 of the development, while two further fields to east and south-east, covering a total of 2.51 hectares, potentially form Phase 2 of the development.
- 1.2 Outline planning permission for the Phase 1 development of 24 dwellings was approved by East Riding of Yorkshire Council on 21st June 2019 (application 19/00416/OUT). A number of conditions were attached to the permission, one of which (no. 13) relates to archaeology, as follows:

No development shall take place on site until the applicant, or their agents or successors in title, has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted to and approved in writing by the Planning Authority.

The scheme shall include an assessment of significance and research questions, and:

1) the programme and methodology of site investigation and recording.

2) provision to be made for analysis of the site investigation and recording.

*3) the programme for post investigation assessment.* 

4) proposals for the preservation in situ, or for the investigation, recording and recovery of archaeological remains and the publishing of the findings, it being understood that there shall be a presumption in favour of their preservation in situ wherever feasible.

5) provision to be made for publication and dissemination of the analysis and records of the site investigation.

6) provision to be made for archive deposition of the analysis and records of the site investigation.

7) nomination of a competent person or persons/organisation to undertake the works set out within the Written Scheme of Investigation.

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

The development shall not be occupied until the site investigation and postinvestigation assessment has been completed in accordance with a programme set out in the approved written scheme of investigation and the provision made for analysis, publication and dissemination of results and archive deposition has been secured

This pre-commencement condition is imposed in accordance with policy ENV3 of the East Riding Local Plan in order to provide a reasonable opportunity to record the history of the site which site [sic] lies within an area of archaeological interest.

1.3 A geophysical survey of the proposed development site was undertaken by Archaeological Services WYAS in mid-November 2020 (Brunning 2020), and this has revealed a number of potential localised archaeological anomalies scattered throughout the development area (see figure 8). This programme of trial trenching is designed to confirm the results of the geophysical survey, and to evaluate the extent,

character and significance of any archaeological remains within the proposed development site. From this, an assessment of the impact of the development on any identified archaeological remains can be made.

- 1.4 If the evaluation work reveals significant archaeological remains which will be affected by the proposed development, mitigation measures would be explored to ensure their preservation. This preservation may take three forms: physical preservation (retaining the visual amenity and landscape contribution of the site, free from adverse development), in situ preservation (to preserve archaeological remains below development), or preservation by record where destruction is unavoidable (to include full and detailed archaeological excavation followed by post-excavation analysis and publication of results). Any future archaeological work on the site, either prior to and/or during development, would be subject to a separate specification.
- 1.5 This specification for trial trenching has been prepared by Ed Dennison of Ed Dennison Archaeological Services Ltd (EDAS), on behalf of the proposed developer, Ward Homes Yorkshire Ltd. Its content has been discussed and agreed with the Humber Archaeology Partnership, who act as archaeological advisors to East Riding of Yorkshire Council.

## 2 SITE LOCATION AND DESCRIPTION

- 2.1 The proposed development site is located on the south side of Sproatley Road in Preston, East Yorkshire (see figure 1). Sproatley Road is the B1240 road to the village of the same name, and it branches off to the north-east from the main B1239/B1240 Main Street/Wyton Road which runs north-south through Preston. The core of the present settlement lies to the south of this junction, with All Saint's Church on the east side of Main Street. The south end of Main Street, and the historic core, is defined by an east-west road (Staithes Road/School Road) which crosses it at right angles.
- 2.2 This historic core of the village is a Conservation Area, designated by Holderness Borough Council in 1991 and subject to a re-survey and Conservation Area Appraisal by East Riding of Yorkshire Council in 2006 (ERYC 2006). It contains only one Listed Building, the Grade 1 All Saint's Church which has 13th century origins, although there are also several considered to be 'buildings of interest'. The proposed development site lies outside the bounds of the Conservation Area.
- 2.3 The proposed development site comprises a single field, currently given over to pasture, which has recently been cut (see figure 2). The north side of the field is bordered by Sproatley Road, where there is a gated access. The remaining boundaries are hedged, supplemented by post and wire fencing, although not totally stockproof. The northern corner of the site contains a long single storey derelict stable building of largely timber construction. A housing development (Ness Close) lies to the south while to the west is a garden, part of no. 8 Sproatley Road. The field to the east is also pasture, with well-preserved ridge and furrow earthworks.
- 2.4 The site lies at 5m AOD in the north, falling to c.8m AOD in the south. The underlying bedrock geology is of the Flamborough Chalk formation, a sedimentary bedrock formed c.72 to 86 million years ago in the Cretaceous period (BGS 2020). The soils comprise a mixture of slowly permeable seasonally wet slightly, acidic but base-rich loamy and clayey soils (Soilscape 18), and Slightly acid loamy and clayey soils with impeded drainage (Soilscape 8) (CSAI 2020).

### 3 ARCHAEOLOGICAL INTEREST

#### Archaeological Background

3.1 No EDAS desk-top or heritage assessment report has been undertaken for this project, but one was previously done in 2018 by MAP Archaeological Practice, which primarily gathered information from the Humber Historic Environment Record (HHER), and Historic England's National Record of the Historic Environment (Pastscape) and the National Heritage List for England (NHLE) databases. Information for the following chapter has been taken from the MAP report (MAP 2018), augmented by some additional research by EDAS.

Prehistoric to Romano-British Periods (up to AD 410)

- 3.2 The proposed development site lies within the wider region of Holderness where details of the known archaeological resource largely come from air photographs, which reveal cropmarks indicative of a settled and agricultural landscape in the later prehistoric and Romano-British periods. For example, the MAP report notes that two possible barrows are listed on the Humber Historic Environment Record (HHER 18785) at Mill Hill, to the north-west of Preston. Several areas of presumed Romano-British field systems and enclosures have been identified on the low-lying land to the north of the village, including three almost square ditched enclosures on the east side of Sproatley Road (HHER 1574), several east-west aligned ditches and a double-ditched trackway with a fragmentary field/enclosure system further to the east (HHER 1575), and other linear ditches to the south of Lelley Road (HHER 1576). Additional aerial reconnaissance carried out in August 1996 identified several other new sites, for example ditched enclosures on the north and south sides of Lelley Road to the north of East End (Pastscape 1088310 and 1173176) and co-joined rectangular enclosures and linear field boundaries on the north side of Neat Marsh Road (Pastscape 1088321). In some cases, the enclosures can be seen to lie under the later medieval ridge and furrow, for example one complex to the east of Preston Field Farm (Pastscape 1430277). More definite cropmarks of rectangular enclosures, associated boundaries and a trackway, again suggesting Romano-British settlement or farmsteads, have been noted on slightly higher land on Swine Gate Hill, west of the B1239 road (Pastscape 1088313). Taken together, these cropmark sites suggest that the area to the north of the present village was a well-settled and farmed landscape during the Romano-British period.
- 3.3 More recently, archaeological fieldwork has been able to expand on the aerial photographic evidence, showing that the area was far more intensively settled and farmed than previously thought. A good example of this recent work is that undertaken on linear infrastructure schemes, such as the cable corridors for the Westermost Rough Windfarm (Williams 2016) and the Humber Gateway Offshore Windfarm (Burgess 2014), and also along the route of the Easington to Paull pipeline (Oxford Archaeology North 2012) and the Easington to Ganstead pipeline (Glover *et al* 2016). One significant archaeological site, located just between Preston and Hedon at Birkholme, represented a short-lived enclosure, dating from the 2nd century AD where just over 3,500 sherds of pottery were recovered (Williams 2016, 26-31).
- 3.4 MAP identified a total of five archaeological sites of prehistoric and Romano-British date within a study area defined as being 500m in all directions from the proposed development site, although none were within or immediately adjacent to it (MAP 2018, 17).

#### Anglo-Saxon and Early Medieval Periods (c.AD 410-1066)

- 3.5 The pattern of place-name elements has often been used to provide clues to the distribution of settlement and ethnic groups between the 4th and 9th centuries. The extent of Anglian colonisation can be seen through villages with suffixes such as *-ham* (meaning a village, homestead or manor), *-ton* (farmstead), and *-wic* (a village or dairy farm), while elements such as *-by* (a farmstead), *-thwaite* (a clearing), *-saeter* and *-booth* provide examples of Scandinavian settlement, many pre-fixed with personal names. The part played by the Danes in the colonisation of the marshy land is also emphasised by the frequency of minor names incorporating *-holm* (island) and *-carr* (boggy ground), while *-gate* (road or street) is common in this part of Yorkshire (Gelling 1984, 50-52 & 73).
- 3.6 The village of Preston has a pre-Conquest foundation, with the Anglian placename deriving from the Old English 'preost tun' meaning 'priest's farm'. Other nearby settlements also have Anglian place-names, such as Lelley and Dyke, the former perhaps alluding to a site cleared from woodland. Dyke, almost certainly located in the very north-east corner of the township, was mentioned in 1086 but is now deserted with no remains surviving; it was probably located in the area of the present Lelley Dyke Farm (Kent 1984, 186). Many of the villages in the area are named in the 11th century Domesday Book, indicating that they originated in the pre-Medieval period.
- 3.7 The MAP report identified no specific sites dating to these periods within or immediately adjacent to their study area (MAP 2018, 17), although an archaeological evaluation at Manor Farm in the centre of the village did uncover some Anglo-Saxon remains (HHER EHU2657).

#### Medieval and Early Post-medieval Periods (AD 1066-1700)

- 3.8 Preston was already a settlement at the time of the 11th century Domesday Book, and the township and parish covered an extensive area. Preston had a recorded population of some 71 households in 1086, placing it in the largest 20% of East Yorkshire settlements recorded at this time. By 1377 the village contained 371 poll-tax payers, in 1438 there were 81 houses, and 90 households are listed in the hearth-tax return of 1673 (Kent 1984, 190). A church was documented at Preston in 1086, which was gifted to Aumale Abbey by King Stephen in the early 12th century; the present church of All Saints contains 13th and 14th century fabric in its north arcade, while the north aisle, north chapel and tower are 15th century (NHLE 1083438).
- 3.9 In 1066, there were eight individually-owned manorial units in Preston, totalling some 1,500 acres or 600ha. After the Conquest, they all belonged to Drogo (or Drew) de Bevrere and they formed part of his extensive Holderness estates which amounted to over 5,000 acres (c.2,000ha); he sub-tenanted the Preston holdings to three knights and a man called Baldwin. De Bevrere's successor, Odo, Count of Aumale, also established the medieval town and port of Hedon in the southern part of the township in around c.1140, based on the stream now known as Hedon Haven which gave access to the Humber; the streets were laid out in an irregular grid pattern and artificial havens or docks were dug to enclose the town in several phases, and a hospital and regular fairs were established (Hayfield & Slater 1984, 3-11; Allison 1984, 169-170).
- 3.10 Important research into the morphological and tenurial structure of Preston and its township was undertaken by Harvey some 40 years ago (Harvey 1978; 1980;

1981: 1982). She established that the medieval settlement pattern was linear. spread out as a line of enclosures extending east-west for some two miles across almost the whole of the central part of the township (see figure 3). At each extremity were small settlements or 'ends', with the main part of the village inbetween, in the centre. West End is recorded from 1494, and a partially infilled moated site to the west of Blundell's Farm (HHER 1567) probably represents the location of West Hall (Kent 1984, 194). There are also settlement earthworks around Preston East End, suggesting that this medieval village has since contracted in size (HHER 9661), although some elements still survive as East End Farm and East End Road. A meandering east-west street and back lane, with connecting lanes between them, bounded the enclosures along this linear strip of settlement, and most of the houses stood on one side of the street. Shrunken village earthworks can also be seen on the edge of the present village, on the north side of Manor Road, c.180m to the south-east of the proposed development area; house platforms and their respective enclosures, a hollow way, ponds, and ridge and furrow field systems are all visible (HHER 9661) (see figure 4). Some 64% of settlements in Holderness, which are large enough to have a recognisable plan, have this same kind of long linear arrangement (Harvey 1982); local examples include Elstronwick, West Newton, Owstwick and Roos.

- 3.11 The village's medieval open arable fields covered large areas to the north and south of the east-west line of settlement, with areas of common pasture and meadows on the lower ground along the western edge and to the south, along the Hedon haven, river Humber and Old Fleet waterways (see figure 3). The South Field was mentioned in the late 13th century, and it contained 1,088 acres in the 1570s. Some land in the South Field had been enclosed by 1460, and a "New Intack" (i.e. newly enclosed land) was mentioned from 1610. In addition, two other areas known as 'Pollard' (near the present Salt End) and 'Twyer' (on the northern edge of Hedon) had been discrete landholdings since the medieval period (Kent 1984, 195-196). Extensive areas of ridge and furrow, indicative of medieval ploughing, are visible as earthworks or cropmarks throughout the parish (Pastscape 146770), and some well preserved earthworks lie in the field to the immediate east of the proposed development site, as well as further to the east, south and west (see figure 4).
- 3.12 Drainage and flooding on the lower-lying land on the west side of the township was always a problem in the medieval period. The Old Fleet drainage ditch, forming the western boundary of the township, was dug to alleviate this, but it was said to have been inadequate in the 14th century; a sluice allowing the ditch to drain into the Humber is also mentioned at this time. Other floodbanks were constructed and jetties protected the river banks some are mentioned from the 1660s (Kent 1984, 187-188).
- 3.13 Harvey's research into the field system shows that individual holdings were almost all aligned approximately north-south and were very long, often more than a mile, extending across the entire width of the field. Each field was divided into subdivisions called 'bidles' or 'bydales', but individuals held very fragmented holdings, with parcels of arable, meadow and pasture scattered throughout the township. The system by which the bydales were divided was present by at least the mid 13th century, and the arrangement closely resembles the principle of 'solskifte', a term used when village and plot widths were laid out in proportion according to the size of the individual holdings - the arable plots or strips were placed opposite each other in the north and south fields, and were allocated in a clockwise direction based on the passage of the sun, so that individual plots always lay in the same position and alignment, with the same neighbours on either side.

3.14 It appears that Preston's open field system was re-organised and planned in the late 11th or early 12th centuries, and that it was also accompanied by the re-organisation of the village into the linear settlement noted above, from the previously small independent hamlets implied by the numerous landholdings recorded in the Domesday Book. This wholesale re-organization could only have been done by a major landowner, probably Drogo (or Drew) de Bevrere, 1st Lord of Holderness, or subsequently the earls of Albermarle. As part of this re-organisation, neighbouring settlements were grouped together into fewer but larger economic units, and the formerly separate field systems were amalgamated and reorganised; any settlements which could not be conveniently absorbed into this new arrangement were probably destroyed or left as independent units. The new settlement nuclei were then joined together as new farmsteads were added, and the fields were re-divided following population increase (Harvey 1980 & 1982).

Later Post-medieval Period (AD 1700-1945)

- 3.15 Preston's open arable fields were enclosed under an award of 1777 following an act of 1773, and more a regular system of allotments was divided out. The major landowners got the largest shares, but there were also 28 allotments of between ten and 49 acres, and 41 of under ten acres (Kent 1984, 196). The enclosure process was accompanied by new embanking and drainage operations which led to the improvement of the salt marshes for grazing, and subsequent arable use; one of these new drains was the New Fleet which ran along Staithes Road and entered Hedon Haven through a sluice called Pollard Clough (Kent 1984, 187; Sheppard 1966, 3-10).
- 3.16 The main north-south street through the central part of the village was turnpiked in 1745 and this, combined with the enclosure process, regularised the road network and significantly altered the pattern of medieval settlement in the rest of the township. As previously noted, the old main street had lain east-west with a corresponding parallel back lane, as shown on Jefferys' 1771 map (see figure 5), but it was a north-south connecting lane called Kirkeholme Street (later Main Street) which became the new focus of the village. The layout of the roads into and out of the village centre was also much changed after 1777. Many existing routes were straightened, for example the roads to Burstwick, Sproatley and Lelley, and the old main street and back lane were largely replaced by the new Staithes Road, Neatmarsh or North Road, and Townside (now East End) Road, while some of the connecting lanes were stopped up and others extended to join the new roads (Kent 1984, 189). Later 18th and 19th century expansion of the village took place along Main Street and in a lane to the east; most of the older houses date to this period (such as Abbey Farmhouse, a Grade II Listed Building, 1820-40), although there are earlier outliers, such as Twyers and Pollard previously mentioned on the southern edge of the township which are referenced from the 14th and 17th centuries. Manor Farm on Manor Road in the centre of the village is also considered to be early 18th century in date (HHER EHU 2657).
- 3.17 Although Hedon grew to be a significant port and town in the 18th and 19th centuries (Allison 1984), there was little non-agricultural employment in Preston before the 20th century. Nevertheless, because of its size, Preston tended to have more tradesmen, craftsmen and professions than most other villages in the area; a few weavers are recorded from the 16th to the 19th century. A number of nurseries and market gardens were established in the 19th century, some of which continue in business. The agricultural regime remained mostly arable, but there was an increase in dairy farming, to take account of the rising demand from Hull. The proximity of the rivers was also important, with corn being shipped to and from

the mouth of Old Fleet in the 14th and 15th centuries, and coal being delivered to Preston staithe or stakes near the mouth of the Hedon haven in the 17th century (Kent 1984, 197).

3.18 During the Second World War, Hull was one of the three most bombed-damaged areas in the country, with some 82 air raids between 20th June 1940 and 18th March 1945. Some 5,300 houses, as well as numerous churches, public buildings, factories and shops, were destroyed and over 152,000 people were made homeless (Graystone 1991; Geraghty 2002). In order to counter the enemy action, a series of air defences were placed around the town, especially to the east and north-east. Some of these lay in Preston parish. Examples include a "Starfish" bombing decoy on Neat Marsh (HHER 18432), built to deflect enemy bombing away from Royal Navy installations on the Humber estuary as well as Hull itself, a barrage balloon site north of the Hull Road (HHER 19131), searchlight emplacements at West End and East End (Pastscape 911919 & 911988), a High Frequency Direction Finding (HFDF) radio station (NMR TA13SE27) at East End (Pastscape 911982) and heavy anti-aircraft batteries on Neat Marsh and on Magdalene Hill (HHER 12999 & 18840). Unfortunately, many of these sites have now been destroyed or significantly damaged.

## The Development Site

## Landscape Development

- 3.19 As noted in Chapter 2 above, the proposed development site is currently a pasture field with few obvious earthworks. However, the field immediately to the east contains well preserved north-south aligned ridge and furrow, evidence of former arable cultivation, with the ridges being c.5m wide and c.1m high (see figure 4). This strongly suggests that this field, as well as the proposed development site, lay within the southern end of the former large medieval North Field. The southern end of the ridge and furrow field also contains a marked change in ground level, with the field to the south being c.3m higher than the ridge and furrow field; this acute change of height almost certainly represents the division between the open field system to the north and the medieval settlement enclosures to the south. The higher field to the south does contain some earthworks, a possible pond and other platforms, and the known area of shrunken medieval village earthworks (HHER 9661) lies just to the south-east (see also figure 4).
- 3.20 The 1848 tithe map for Preston shows that the eastern boundary of the proposed development site was already in place, and it is likely to have been created as part of the 1777 enclosure process. However, a significant difference is that the southern end was truncated, so that it maintained the alignment of the slightly curvilinear division separating the former medieval open field to the north and the settlement enclosures to the east. The field itself also continued further to the west, into the angle of the Sproatley Road junction (see figure 6A). The larger field is numbered as 147, and the present site also encompasses the eastern part of the field to the south which is numbered as 204; both were owned by Joseph Hewland and were occupied by Robert Sudderby, both fields were called 'Garth' and the land use was 'Swarth', the local name for meadow. Hewland had a small three acre holding, tenanted to three people including Sudderby, and Sudderby lived in a house on the east side of Main Street.
- 3.21 The Ordnance Survey 1855 map shows a similar picture, although the westward continuation of the division between the open field and the settlement enclosures has now gone, meaning that the field had expanded to the south (see figure 6B).

This was still the situation by the time of the more detailed Ordnance Survey 1893 map (see figure 7A). There is little subsequent change until the 1927 edition, which shows that the existing western boundary of the development site had been created, and there were further north-south divisions within the field, effectively dividing it into three narrow strips (see figure 7B). The site was named as a 'Nursery', and it may well have been part of the same nursery which appears on the other side of the Sproatley Road - this may have been forerunner or predecessor of the present Sheppard Nurseries. These dividing boundaries were still present in 1952 but had been removed by 1968.

- 3.22 The previous archaeology and heritage desk-based assessment concluded that there were no known nationally important archaeological remains located within the proposed development site, and that there would be no impact on the setting and significance of the heritage assets in the vicinity as none are within view of the site. The potential for archaeological deposits within the site was assessed as being low to moderate, and of local to regional significance. However, given the presence of cropmarks in the area, believed to represent Iron Age or Romano-British field systems and enclosures, it was thought possible that the site may lie within a wider agricultural landscape, although if archaeological remains are present, they may have been compromised by more recent agricultural practices. It was also considered that evidence relating to medieval farming regimes may be present on the site (MAP 2018, 18-19).
- 3.23 The MAP report also recommended that a geophysical survey be carried out, to allow the presence and nature of any archaeological deposits on the site to be established, and that any archaeological deposits could be recorded using appropriate archaeological mitigation. It was considered highly unlikely that any archaeological deposits would prevent development of the site (MAP 2018, 20).

#### Geophysical Survey

- 3.24 A geophysical survey of the proposed development site was therefore undertaken by Archaeological Services WYAS in mid-November 2020 (Brunning 2020) (see figure 8). An unedited copy of the report appears as Appendix 1.
- 3.25 The survey revealed a number of anomalies, as individual 'spikes', or as large discrete areas, typically caused by ferrous (magnetic) material, either on the ground surface or in the ploughsoil. Little importance is normally given to such anomalies, unless there is any supporting evidence for an archaeological interpretation, as modern ferrous debris or material is common on rural sites, often being present as a consequence of manuring or tipping/infilling. There was no obvious pattern or clustering to their distribution to suggest anything other than a random background scatter of ferrous debris in the ploughsoil. Some magnetic disturbance was also noted along the limits of the survey area, due to metal fencing within the field boundaries and interference from the adjacent roads.
- 3.26 A number of agricultural anomalies were also recorded as linear trends. These are likely to represent former field boundaries and other divisions (shown in brown on figure 8), which are depicted on the Ordnance Survey mapping, and possibly relate to the use of the site as a nursery. A handful of other linear trends oriented almost north-south respect the existing field boundaries (shown in green); these are likely to be the remains of ridge and furrow cultivation, and it is significant that they do not extend into the very southernmost part of the field, which was not part of the former open medieval field system.

3.27 However, some anomalies of possible archaeological origin were identified (shown in yellow on figure 8). These are clear against the background magnetism but they form no distinct pattern. It is possible that they represent parts of plough-damaged medieval structures and land divisions, especially given the presence of the shrunken medieval village earthworks to the south-east; the southernmost responses align with some of these earthworks. Evidence for medieval occupation might be expected in the southernmost part of the site, which lay within the former medieval settlement enclosures, but this would not explain their presence in the majority of the field; another geological or agricultural interpretation may therefore be possible.

## 4 GENERAL ARCHAEOLOGICAL STRATEGY

- 4.1 All archaeological investigations should be carried out in accordance with current and relevant best practice, standards and guidelines, such as those produced by the Chartered Institute for Archaeologists and Historic England (e.g. ClfA 2014a, 2014b, 2019, 2020a & 2020b; English Heritage 1991 & 2006a).
- 4.2 The proposed development site will be subject to archaeological trial trenching. A total of seven trial trenches will be excavated, equating to a total of 320sqm (see figure 9). All trenches will be excavated in a single phase of fieldwork.
- 4.3 The archaeological investigations will be undertaken by an appropriate regionally based archaeological contractor, appointed by the Employer and client (Ward Homes Yorkshire Ltd). The Archaeological Contractor will be monitored by Ed Dennison of EDAS on behalf of the client, and he will take the role of the Supervising Officer. He will ensure that the requirements of this Specification of Works are being followed and that the highest professional standards are being maintained. All liaison with the commissioning client and the local archaeological curators (Humber Archaeology Partnership) will also be undertaken by the Supervising Officer.
- 4.4 The Archaeological Contractor will be required to demonstrate that all staff and sub-contractors appointed to direct, supervise, and work on this project possess the necessary levels of professional experience and technical expertise, particularly in relation to the type of site likely to be encountered on this project, namely rural prehistoric, Iron Age/Romano-British, and medieval occupation.
- 4.5 If the Archaeological Contractor does not have the expertise and facilities to undertake all of the work to the required standards, consideration will be given to sub-contracting various elements of the works to other groups or individuals. Where work is to be sub-contracted, the Archaeological Contractor will need to indicate who is being sub-contracted and the nature of their expertise and facilities. All costs associated with the use of sub-contractors will be borne by the Archaeological Contractor.
- 4.6 All archaeological work will be undertaken using standard archaeological recording procedures and numbering systems. Details of the Archaeological Contractor's context and finds recording manuals, as well as sample *pro forma* recording sheets, will need to be submitted to the Supervising Officer, if not previously supplied.
- 4.7 The Archaeological Contractor will need to be aware of any specific requirements likely to be made by the receiving museum (East Riding of Yorkshire Museum Service ERYMS), as part of the archiving and deposition process. The Archaeological Contractor will be required to hold detailed discussions with the

ERYMS over finds recovery, conservation and sampling strategies, as well as archive deposition procedures. Evidence of this liaison will be produced to the Supervising Officer before the commencement of any site works.

- 4.8 All artefacts recovered during this project will be treated as the property of the landowner (Ward Homes Yorkshire) at the time of the trenching. Subject to their agreement, and after discussion with specialists and ERYMS staff regarding finds retention and sampling, all suitable finds will be packaged and delivered with the site archive to ERYMS. The timing of the deposition of the site archive will be determined by the need for any further excavations in advance of development.
- 4.9 The responsibility for setting out the areas of excavation within the development site will be the responsibility of the Archaeological Contractor, in consultation with the Supervising Officer. Details of the trial trenches are set out below but if the Contractor feels that the aims and objectives of this phase of work could be better achieved by an alternative trenching strategy, they should present it as part of their tender return. The requirements for any additional trenching will be discussed and agreed with the Supervising Officer in advance of this work being carried out. The final positions of the archaeological trenches will be surveyed and tied into the Ordnance Survey national grid and other survey stations by the Archaeological Contractor, using appropriate electronic distance measuring equipment (EDM total station or similar).
- 4.10 Health and safety issues will take priority over archaeological matters. All archaeologists undertaking fieldwork will comply with all Health and Safety Legislation, this includes the preparation of a Risk Assessment and other appropriate RAMS documentation, to include appropriate provision for Covid-19 restrictions. Necessary precautions should be taken regarding any underground services; there are no overhead lines. Existing knowledge of the site means that the use of shoring for deep excavations, pumps and artificial lighting is unlikely to be required. The Archaeological Contractor will also need to be appropriately insured to carry out the work.
- 4.11 The Archaeological Contractor will be responsible for setting out any required site compound, and for the necessary provision of all site huts and other facilities required for the duration of the works. The position of any site compound will need to be discussed and agreed with the Supervising Officer prior to the start of works.

## 5 ON SITE EXCAVATION PROGRAMME

## **Overall Strategy**

- 5.1 A total of seven evaluation trenches (Trenches A to G), totalling 320sqm will be excavated across the proposed development site (see figure 9). The dimensions of the trenches vary between 40m and 20m long, and all must be 2m wide; they are designed to intersect with the identified geophysical anomalies and to test areas of 'blank' ground.
- 5.2 The detailed timescale for the trenching work has not yet been determined, although it is likely to be required in January 2021.

## **Aims and Objectives**

5.3 The aims and objectives of the trial trenching can be defined as follows:

- to gather sufficient information to establish the presence/absence, nature, date, quality of survival and importance of any archaeological deposits within the proposed development site;
- to confirm the results of the previous geophysical survey:
- to gather sufficient information so that an assessment of the potential and significance of any archaeological deposits that might be present within the proposed development site can be made.
- 5.4 The results of the trial trenching will allow an informed decision to be made regarding the future treatment of any identified remains, including further archaeological investigation as necessary, and any other mitigation measures that might be required, to achieve the preservation of significant archaeological remains. The possibilities of reconciling the needs of archaeological preservation with those of the proposed development will be fully explored, but where *in situ* preservation proves impracticable, the option of rescue excavation and recording will be undertaken ("preservation by record"). Any further archaeological investigations that might be required, either prior to and/or during development of the site, would be subject to a separate specification.

#### **On-site Methodology and Recording**

- 5.5 All trenches will be opened, and the topsoil and any recent overburden removed, using an appropriate mechanical excavator(s) with an appropriately-sized toothless ditching blade or bucket, down to the first significant archaeological horizon or natural subsoil, whichever occurs first. The mechanical excavator(s) will be under direct archaeological supervision at all times the number of monitoring archaeologists will be proportionate to the number of mechanical excavators being used, to allow for continued monitoring of all excavators operating at any one time; at least one monitoring archaeologist to each mechanical excavator should be used.
- 5.6 Spoil will be positioned to one side of each trench so as to minimise land-take. Topsoil and subsoil should be separated for subsequent re-instatement. The evaluation trenches and spoil heaps should be fenced with orange plastic mesh. The site as a whole will not need to be fenced.
- 5.7 After topsoil stripping, all excavation will be by hand, and this will be limited to the cleaning of the machined surface to expose any archaeological features in plan, and the excavation of sections across features. In some cases it may be appropriate to use a mechanical excavator to remove deep intrusions (e.g. modern brick or other debris), or for putting sections through major features after partial excavation (e.g. large ditches). Limited sondages should also be mechanically excavated through a part of the base of each trench where necessary to ensure that the identification of natural deposits is confirmed. It is possible that localised areas of some of the trenches will need to be excavated to a greater depth, to a maximum of 1.20m.
- 5.8 A sufficient sample of all archaeological features and deposits revealed should be excavated in an archaeologically controlled and stratigraphic manner, in order to achieve the aims of the evaluation. The complete excavation of features is not regarded as necessary but a sufficient sample will be investigated to understand the full stratigraphic sequence in each trench, down to naturally occurring deposits. The following sampling policy will be adopted: a 100% sample of all stake holes, a 50% sample of all post holes, pits and other discrete features less than 1.5m in diameter, a minimum 25% sample of all pits greater than 1.5m diameter (but to

include a complete cross section across the pit to recover its full profile), a minimum 20% sample of all linear features up to 5m in length, and a 10% sample of linear features greater than 5m in length. Sections through linear features must be at least 1m wide. Consultation with the Supervising Officer on the selection of features and deposits for hand excavation is to be encouraged.

- 5.9 A full written, drawn and photographic record will be made of all material and features revealed during the course of the excavations. These records should be indexed, ordered, quantified, and checked for consistency. The position of each trench relative to the Ordnance Survey national grid, local features, and existing survey stations, will be recorded at a scale of 1:500 or 1:250 using appropriate electronic distance measuring (EDM) equipment or similar. Individual trench plans will be completed at a scale of 1:50 or 1:20 (as appropriate), whilst sections of linear and discrete features will be drawn at 1:20 or 1:10 scale. All sections, plans and elevations will include spot-heights related to Ordnance Datum in metres correct to two decimal places. Survey tie-in information will be undertaken during the course of the excavation and will be fixed in relation to nearby permanent structures and roads and to the Ordnance Survey National Grid. It has been determined that digital photography need only be used for recording purposes (minimum 12 megapixel resolution). Additional site photographs must be taken as appropriate to place the excavated features within their wider context, and general photographs of the site must also be taken before, during and after excavation.
- 5.10 All trenches should be backfilled and reinstated immediately after excavation and recording has been completed, to avoid unauthorised public access. Subsoil should be backfilled before topsoil. The site will be left in a tidy and clean state on completion of the fieldwork programme.

## **Finds Recovery**

- 5.11 The Archaeological Contractor must be able to demonstrate that they and/or their sub-contractors are familiar with the prehistoric, Romano-British, medieval and post-medieval artefacts of the region. During the last 30 years or so, a considerable amount of excavation has taken place within East Yorkshire, and a comprehensive pottery fabric series has been established and is held at the Humber Archaeology Partnership (HAP). Similarly, a comprehensive typology for ceramic building materials made in the region has been drawn up, and examples are held by the HAP. The Archaeological Contractor will therefore ensure that their pottery reports use the fabric classifications which have been used in other reports from recently published Roman, medieval and post-medieval sites in the area for the sake of consistency. Similarly, the reports on ceramic building materials should use the classifications which have been developed for the region.
- 5.12 All finds (artefacts and ecofacts) recovered during the archaeological excavations will be collected. A finds recovery and conservation strategy will be agreed and submitted to the Supervising Officer before the start of any site works; this strategy will follow regional and national guidelines (e.g. Society of Museum Archaeologists 1993; UKIC 2001). All artefacts will be washed (unless their condition makes this inappropriate) and marked in a manner agreed with the recipient museum, any recording, marking and storage materials will be of archival quality, and recording systems will be compatible with the recipient museum's requirements.
- 5.13 The following categories of artefacts may be predicted: pottery and tile, animal bone and shell, ferrous and non-ferrous metalwork, glass, ceramic building

material, daub, industrial/metal waste, clay pipes and worked stone. The likelihood of deeper potentially waterlogged deposits is currently unknown.

- 5.14 Once collected, all artefacts will be conserved as necessary (see below), stored and processed in accordance with standard methodologies and national guidelines on the appropriate materials and in conditions to ensure that minimal deterioration takes place (Watkinson & Neal 1998; ClfA 2014b). If necessary, a conservator will visit the site to undertake "first aid" conservation treatment, to ensure that objects do not deteriorate once removed from the ground. The Archaeological Contractor will also ensure that all records associated with the artefacts are complete.
- 5.15 All bulk finds, defined as brick and tile, appropriate Roman, medieval and postmedieval pottery, building materials, and animal bone and shell, will be washed and marked in a manner required by the receiving museum. The bulk finds will be appropriately bagged and boxed, and statistically recorded in accordance with standard methodologies and national guidelines. Where possible, ceramic building materials will be recorded on site, with only the diagnostic examples or a representative sample being taken off site for further examination. Animal bones will be hand collected from all excavated features, and will be bagged and labelled according to their excavated context; there will be no collection of material from unstratified contexts. Where deposits contain dense concentrations of bone or other artefact categories, judicial use of 100 litre coarse-sieved samples will be considered to maximise recovery and information potential (English Heritage 2011a, 11-12). Articulated animal bones (complete and partial skeletons, and articulating vertebrae, limb elements etc) will be treated in a similar fashion to human burials (English Heritage 2014); i.e. will be recorded on an "animal bone group" recording form (or similar) and bagged separately. All other finds from stratified or unstratified contexts, including burials, will be treated as small finds. unless otherwise agreed with the Supervising Officer, and their locations will be plotted in three dimensions. The requirement to collect bulk finds from unstratified contexts will be determined in consultation with the Supervising Officer.
- 5.16 The discovery of human remains on the site is considered to be highly unlikely. However, any decisions relating to human burials that might be uncovered by the trial trenching works will be made in conjunction with the Supervising Officer. It is likely that full excavation of the human remains will take place during a later phase of work. Any human remains that are discovered should be recorded and handled according to current standards (e.g. Brinkley & McKinley 2004; English Heritage 2002, 2005 & 2013).
- 5.17 Any finds of gold and silver will be duly reported to the Coroner by the Archaeological Contractor, in accordance with the 1996 Treasure Act, after discussions with the Supervising Officer. Any finds must be removed to a safe place and reported to the local coroner as required by the procedures laid down in the Treasure Act Code of Practice 2002. Where removal cannot be effected on the same working day as the discovery, suitable security measures must be taken to protect the find(s) from theft. Objects defined as treasure under the Act, must be reported to the local coroner.
- 5.18 Finds which are unstratified or from the topsoil or modern overburden will generally not be retained for assessment (subject to the agreement of the relevant specialists), unless they are of particular significance.

#### **Sampling Strategies**

- 5.19 As part of the site investigations, and in accordance with current guidance (e.g. English Heritage 2011a; Historic England 2017), deposits will need to be sampled for the retrieval and analysis of all categories of artefact and ecofact (organic remains and proxy environmental indicators), and to assess their information potential and their likely contribution to the project's specific aims and objectives, and wider research frameworks. To this end, samples will be taken from excavated features. It is not intended to instigate an extensive blanket sampling policy involving the routine sampling of all features, but those specific contexts which appear to have high potential will be targeted. It should also be remembered that, to achieve "preservation by record" within the strip, map and record areas, the range (types), quantities and distribution of material present should be determined. Feature types and deposits likely to contain all categories of artefact and ecofact will be sampled; ecofacts may include burnt deposits and those with visible preserved organic material, but not all ecofacts are visible to the naked eye. Deposit types that will be sampled will include pit fills, ditch fills and occupation deposits/floor silts, but samples will also be taken from features with no obvious potential. Contaminated deposits, i.e. those containing high-guantities of intrusive or residual material, will not be sampled. The "standard" bulk sample utilised on-site will be the 40 to 60 litre flotation sample (English Heritage 2011a, 12), and other types of sample will be taken as required.
- 5.20 A strategy for the recovery and sampling of environmental remains, which will address the study of faunal, plant and invertebrate remains, will need to be formulated and submitted by the appointed Archaeological Contractor to the Supervising Officer, prior to the start of site work. The strategy should be designed by an appropriately qualified and experienced environmental archaeologist (in conjunction with other relevant "finds" specialists), and will make reference to the project's specific aims and objectives, wider research frameworks, and best practice guidance (e.g. Association for Environmental Archaeology 1995; English Heritage 2011a). The Historic England Science Advisor for Yorkshire may also be contacted for advice and information.
- 5.21 Where there is evidence for industrial activity, such as metalworking or glassworking, macroscopic technological residues (or a sample of them) will be collected by hand; separate samples will be collected for micro-slags (hammer-scale and spherical droplets). Reference will be made to established guidance (e.g. English Heritage 2001 & 2011b). In specific circumstances, it may also be necessary to take soil samples for micromorphological or geochemical analysis to elucidate deposit formation or industrial processes, and reference will be made to best practice guidance (English Heritage 2007).
- 5.22 Some of the excavated materials may also be suitable for radiocarbon, archaeomagnetic dating, luminescence dating and/or dendrochronological determinations, as appropriate; where *in situ* timbers are found to survive in good condition, samples will be taken for dendrochronological assay. Once again, best practice guidance will be followed (e.g. English Heritage 2004, 2006b & 2008; Historic England 2015). The post-excavation assessment and updated project design (see below) will also include recommendations for a programme of dating techniques, if appropriate.

### 6 **POST-EXCAVATION STRATEGY**

#### Preamble

- 6.1 Following the completion of the fieldwork, the initial post-excavation work will involve the preparation of an interim report; depending on the results of the trenching, a post-excavation assessment and final report will also be required. Some initial post-excavation assessment analysis will be required, to fulfil the reporting requirements and to ensure that recovered artefacts and palaeo-environmental samples remain stable.
- 6.2 The Archaeological Contractors will therefore allow for:
  - the indexing, ordering, quantification and checking for consistency of all original context records, object records, bulk finds records, sample records, photographs and photographic records, drawings and drawing records, level books, site notebooks, spot dating records, radiocarbon assay sample sheets, and conservation records;
  - (b) the production of inked copies of original site drawings (if drawings are digitised, computer-generated copies will be acceptable), a matrix or matrices for the stratigraphic sequences, phase plans, and a narrative account of the stratigraphic and structural history of the site;
  - (c) the initial processing of all environmental and other samples;
  - (d) the initial processing, conservation and storage of special finds and bulk finds;
  - (e) ensuring that all artefacts and ecofacts recovered from the site are cleaned (as appropriate), packed and stored in the appropriate materials and conditions to ensure that no deterioration takes place, and that all their associated records are complete;
  - (f) an assessment of the site archive which should consider the value of the results of fieldwork and examine the potential for any further analytical work on the data contained within the archive. The latter process must be undertaken in consultation with established specialists. If further work is recommended, a research design for this should be prepared.

#### Finds Processing, Conservation and Storage

- 6.3 All finds processing, conservation works and storage of finds from the site will be carried out by appropriately qualified staff and in accordance with standards agreed with the recipient museum. The implementation of these standards will ensure compatibility with other sites in the museum's collecting area.
- 6.4 The Archaeological Contractor will be responsible for all aspects of the curation and security of all finds up to the point at which they are handed over to the East Riding of Yorkshire Museum Service as part of the process of archive deposition, which will occur at the end of the whole project (i.e. after completion of the further open-area excavations and reporting work). The Archaeological Contractor will be able to demonstrate to the satisfaction of the Supervising Officer that they will be kept in secure accommodation with the appropriate environmental conditions necessary for each category of find.

- 6.5 The site may well produce some organic and/or metallic objects and materials. These may require immediate "first aid" treatment to ensure they do not deteriorate once removed from the ground. All organic and inorganic materials will therefore be appropriately treated, following Historic England guidance (e.g. Historic England 2017), including prior specialist recording for materials where there is a possibility of information loss during the process of conservation.
- 6.6 Following Historic England guidance, all iron objects, a selection of non-ferrous artefacts (including all coins), and a sample of any industrial debris relating to metallurgy will be X-radiographed before assessment, and the process of selection for conservation will involve the appropriate specialists (English Heritage 2006c; Historic England 2015). Other, more general, Historic England advice should also be followed in relation to overall conservation work (English Heritage 2008).
- 6.7 All objects will be stored in the appropriate materials and storage conditions. Vulnerable objects will be specially packaged, and textiles, painted glass and coins stored in appropriate specialist systems.
- 6.8 All storage must have the appropriate security provision. Small finds must be kept in accommodation which has been approved by the Supervising Officer. The finds archive must be kept in this secure accommodation until it is handed over at the end of the project. All digital archives must also be securely stored and backed-up on a regular basis during the course of the project.

## 7 THE PRODUCTS

## **Interim Report**

- 7.1 The first product arising from the trenching will be an illustrated interim report. This should be submitted within four weeks (or earlier if possible) of the completion of the on-site work (unless otherwise agreed with the Supervising Officer). The interim report should include the following:
  - (a) a summary narrative description of the investigations, trench by trench, with reference to context numbers (to include dimensions of trenches and depths of topsoil and subsoil);
  - (b) a complete context list for each trench, with brief description;
  - (c) measured plans of those trenches which contain archaeological features, at an appropriate standard scale, with any necessary detailed plans of features and sections at larger scales;
  - (d) appropriate site photographs, showing individual trenches and features within them, as well as photographs of 'negative' trenches;
  - (e) concordance of contexts yielding artefacts or environmental remains.
- 7.2 The interim report will be used by the Supervising Officer, in consultation with others, to determine the extent of any further archaeological excavation that may be required within the development site. Any such work will be subject to a separate specification and contract.
- 7.3 One hard copy and one electronic (pdf format) copy of the interim report will be produced. A draft copy should be submitted to the Supervising Officer, to enable

suggestions and/or comments to be made. A period of one week after the return of this draft by the Supervising Officer will be allowed for the incorporation of any such comments and the production of the finalised interim report.

7.4 The Supervising Officer will be responsible for the distribution of the approved interim reports to interested parties, such as the Client, the Humber Archaeology Partnership and the Local Planning Authority.

#### Final Report and Post-excavation Assessment

- 7.5 Once the interim report has been approved, and it has been confirmed that no further excavation is required on site, an illustrated final report will be produced. This will incorporate the post-excavation assessment and will be submitted within 24 weeks of the completion of all on-site work (see Contract Conditions), unless otherwise agreed with the Supervising Officer. This report will include as a minimum:
  - (a) a non-technical summary of the entire report;
  - (b) an introduction outlining the circumstances of the project (including references to planning application numbers, site codes and Humber SMR casework numbers), the archaeological background, a detailed site description (including NGRs), and the dates when fieldwork took place;
  - (c) appropriate acknowledgements;
  - (d) a description of the methodology and techniques used and the objectives of the investigations;
  - (e) a detailed narrative description of the investigations, area by area and trench by trench, with reference to context numbers;
  - (f) an interpretation of the overall structural and stratigraphic sequence established by the excavations, including phasing of the site sequence and spot-dating of the ceramics, with reference to the local and regional archaeological context;
  - (g) catalogues and summary records, accounts and descriptions of each artefactual and ecofactual assemblage recovered from the investigations, supported by illustration and specialist reports where appropriate. Any individual specialist reports should contain non-technical summaries and tabulation of data in relation to the site phasing contexts, and should be presented as unedited appendices to the main report;
  - (h) inked plans showing an overall site plan, the location of the excavation areas and trenches within the site at 1:500 or 1:250 scale, individual plans of each area/trench (irrespective of results), and an appropriate number of sections (irrespective of results), all at appropriate scales, and any other plans and sections as may be required to illustrate the report, including any necessary plans or sections of individual features;
  - (i) appropriate photographs to illustrate the report and/or the findings;
  - (j) an interpretation of the archaeological and research potential of the site, including a deposit model indicating the likely nature and state of

preservation of any archaeological strata, within the areas of trial excavations;

- (k) a summary of the material held in the site archive and details of archive location and destination;
- (I) a post-excavation assessment of each category of data or material held in the site archive. Assessment of artefacts will include inspection of Xradiographs of all iron objects, a selection of non-ferrous artefacts (including coins), and a sample of any industrial debris relating to metallurgy. A rapid scan of all excavated material will be undertaken in collaboration with conservators and finds researchers. Material considered vulnerable will be selected for stabilisation after specialist recording. The post-excavation assessment will examine the potential for any further analytical work and make recommendations for a selection of material to be deposited for long-term storage with the site archive; these recommendations will be clearly separated from results and interpretation. If further post-excavation work is recommended, an outline research design will be prepared; the implementation of any such work will depend on whether further site work is required;
- (m) a copy of this specification and/or the approved project design, presented as an appendix to the main report;
- (n) references and bibliography of all sources used.
- 7.6 Two hard copies of the final and post excavation assessment report will be produced, one of which will be an unbound copy. One draft copy will be submitted to the Supervising Officer, to enable suggestions and/or comments to be made. A period of two weeks after the return of this draft report by the Supervising Officer will be allowed for the incorporation of any such comments and the production of the finalised reports.
- 7.7 An electronic copy of the approved final report and post-excavation report as a pdf file, including the figures and illustrations, will also be produced.
- 7.8 The Supervising Officer will be responsible for the distribution of the approved final reports to interested parties, such as the Client, the Humber Archaeology Partnership and the Local Planning Authority.

#### Post-excavation Research Design

- 7.9 The post-excavation research design mentioned above will need to include an assessment by the relevant specialists of the timescales and costs involved in any subsequent post-excavation works. This research design will also cover items such as the long-term storage requirements for both the physical and digital archives, and also all aspects of the dissemination and publication of the results (e.g. OASIS records, round-ups in national period journals etc).
- 7.10 The implementation of any research design recommended in the post-excavation assessment report will be incorporated into a later phase of work, which will be the subject of a separate specification and contract.

#### **Archive Preparation and Deposition**

- 7.11 A physical site archive will be prepared in accordance with accepted national and regional guidelines (e.g. Walker 1990; English Heritage 1991 & 2006a; Society of Museum Archaeologists 1993 & 1995; UKIC 1983 & 1984; Brown 2007; ClfA 2020b); this will include labelling, conservation and storage matters. The Archaeological Contractor will liaise with the East Riding of Yorkshire Museum Service concerning their detailed requirements in advance of the start of fieldwork. A provisional allowance for a minimum of five boxes (@ £70 per box) will be made when calculating estimates for the museum's long term storage costs.
- 7.12 Consideration also needs to be made for the deposition of the digital archive, if separated from the physical archive, e.g. deposition with ADS etc. National guidance should be followed (e.g. Richards & Robinson 2000). Again, the Archaeological Contractor should liaise with the East Riding of Yorkshire Museum Service concerning any detailed requirements regarding a digital archive in advance of the start of fieldwork.
- 7.13 It is expected that the final archive will include the following:
  - (a) a project summary;
  - (b) the specification and approved project design;
  - (c) an archive guide (an introduction to the archive stating its principles and layout);
  - (d) an index to the contents of the archive;
  - (e) the complete site archive (both physical and digital) including all records, data, reports, photographs, correspondence etc. produced during excavation, post-excavation, finds processing, conservation, and analysis, the complete material archive, and the interim and post-excavation assessment report.
- 7.14 The Archaeological Contractor will be responsible for the deposition of the site archive, although the Supervising Officer will deal with the landowner in respect of the legal ownership of any finds, and their transference to the museum. Archives will not be deposited until these transference of title matters have been resolved.

## Publication

7.15 The information contained within the assessment report will enable decisions to be taken regarding the future treatment of the archaeology of the site and any material recovered during the investigations. On the assumption that further work will be proposed, the publication of the results of this phase of investigations will be covered by and included in the further work.

## 8 MONITORING

8.1 The Archaeological Contractor will be subject to regular monitoring and supervision by the Supervising Officer, as well as the local archaeological curators (HAP), particularly during the site works. This will ensure that this Specification is being followed and that high professional standards are being maintained.

- 8.2 The Archaeological Contractor will provide regular verbal progress reports to the Supervising Officer during the excavations, as well as written progress reports at two week intervals. In addition to providing an update of any finds or discoveries on site, this liaison will ensure that the Supervising Officer can keep the client and other interested parties appraised of progress.
- 8.3 During the on-site work, the Supervising Officer will be given full access to all site records and other information, and will discuss the project on receipt of regular verbal progress reports. Access must be provided by the Archaeological Contractor at all reasonable times to the Client and his representatives, or any archaeological organisation or body otherwise authorised by the Client or Supervising Officer to view the excavations, the finds and associated records. The latter group is likely to include the local archaeological curators. Any visitors to the site will be required to observe the appropriate Health and Safety regulations imposed by the Archaeological Contractor.

## 9 OTHER CONSIDERATIONS

#### **Unauthorised Access**

9.1 Although situated on private land, members of the general public may try to visit the site from time to time. The Archaeological Contractor will therefore ensure that the plastic mesh fences around the open trenches and spoil heaps are maintained and secure. Site huts and other facilities will also be made secure when not in use.

#### Media Interest

9.2 The project may attract local and media interest. This is not to be encouraged and the Archaeological Contractor will refer any interested parties to the Supervising Officer before making any statements or comments.

## 10 SUBMISSION OF TENDER

- 10.1 Archaeological Contractors should ensure that they have read the Part 1 Contract Conditions relating to this project. As part of their tender return, the Archaeological Contractor should submit the following documentation:
  - (a) details of site facilities (number of cabins, toilet blocks etc) required, locations to be agreed prior to the start of site works;
  - (b) a simplified methodology for the works, using the information contained in this specification; this should include names and qualifications of managerial and project/field staff, and specialists (where currently known);
  - (c) an idealised work programme;
  - (d) evidence of appropriate insurances (see contract conditions);
  - (e) a copy of their Health and Safety Policy;
  - (f) a set of completed and fully costed Bills of Quantities, as well as the schedule of daywork rates and form of tender.

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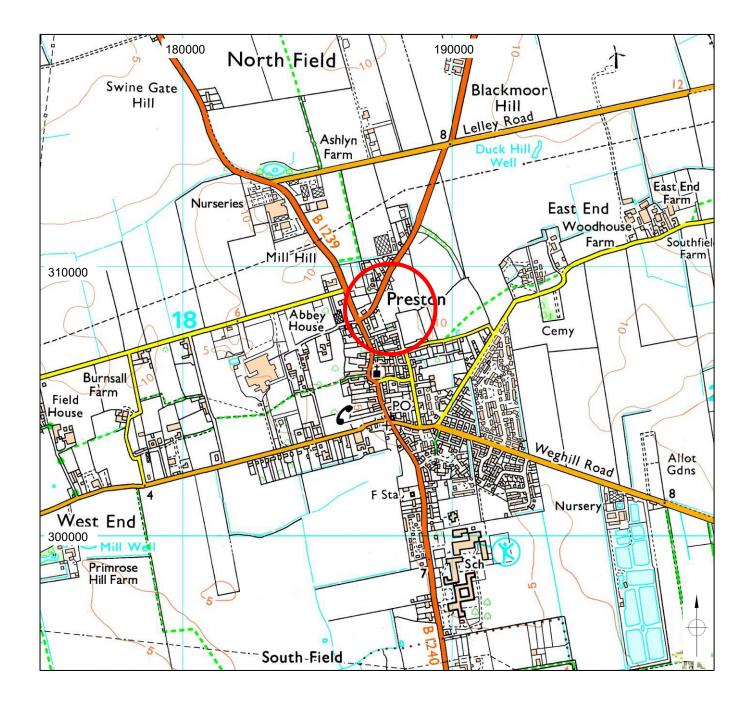
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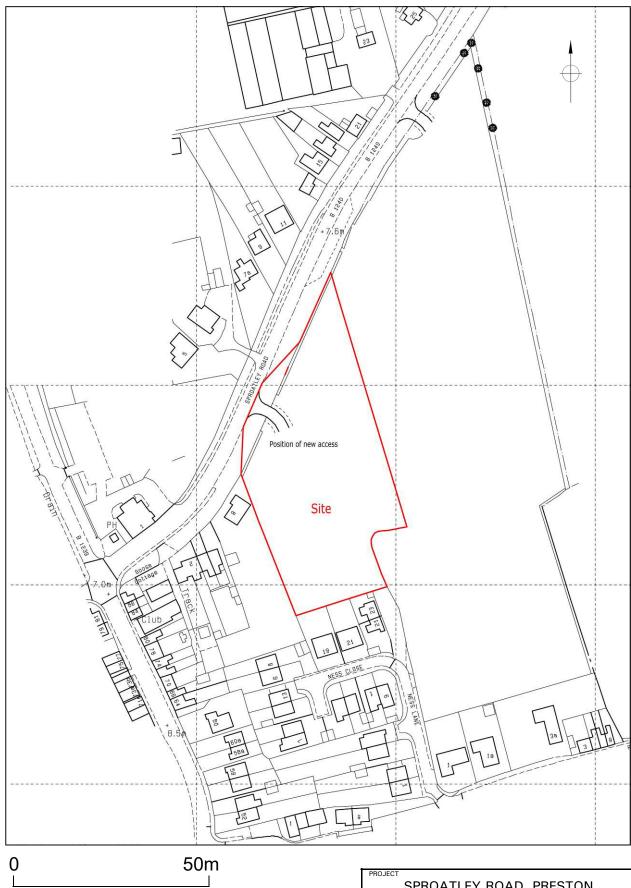
Williams, D 2016 'Excavations of the Onshore Cable Route for the Westermost Rough Offshore Wind-Farm'. *East Riding Archaeologist* vol 15





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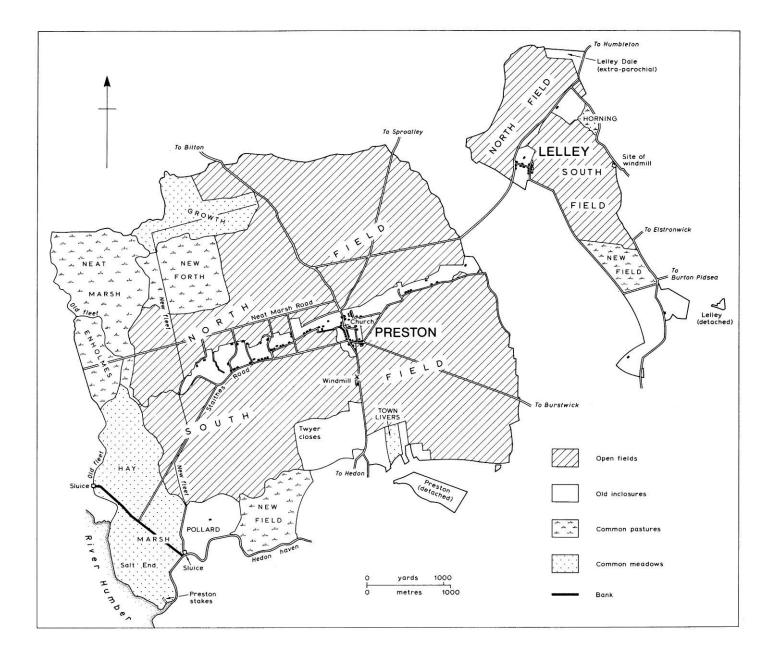
PROJECT SPROATLEY ROAD, PRESTON		
AS SHOWN	DEC 2020	
EDAS	FIGURE	



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Plan provided by Richard Dixon Associates, reproduced with permission.

SPROATLEY ROAD, PRESTON		
AS SHOWN	DEC 2020	
EDAS	FIGURE 2	



Source: Kent, G H R 1984 'Preston'. In Allison, K J (ed) A History of the County of York East Riding volume 5 Holderness: Southern part, p.188.

SPROATLEY ROAD, PRESTON		
PRE-ENCLOSURE LANDSCAPE		
AS SHOWN	DEC 2020	
EDAS	FIGURE	



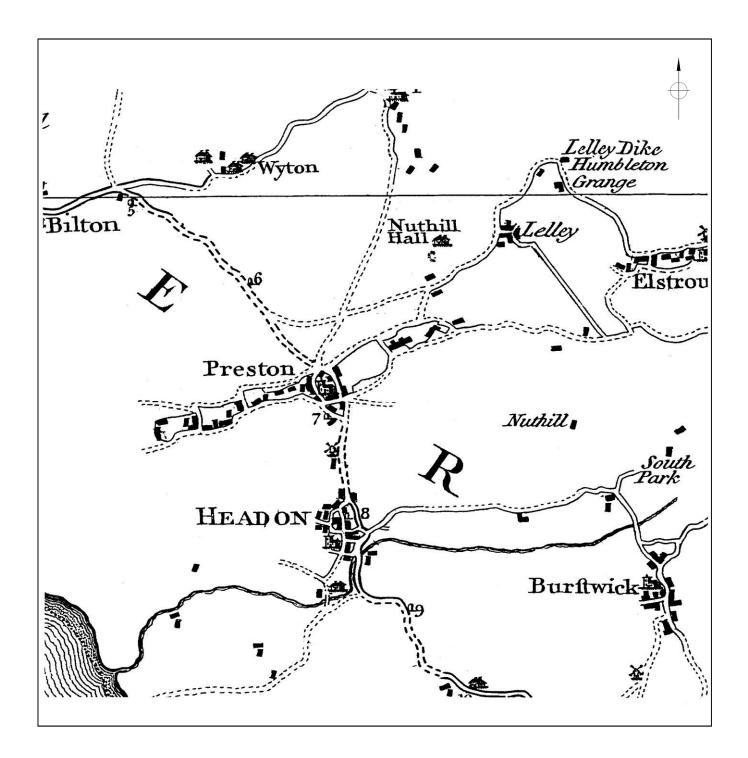
Development site outlined in red.



Left: Lidar survey (https:// enfarchsoc.org/ opendata/).

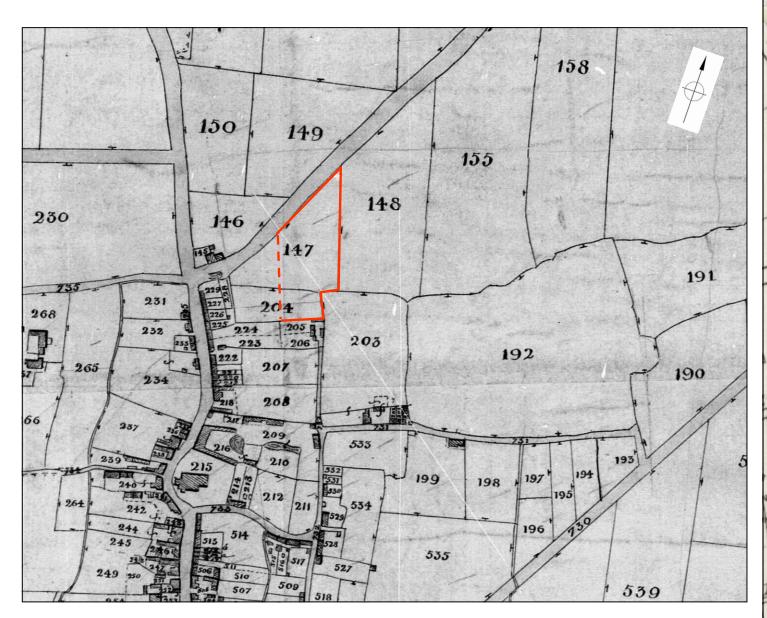
Right Google Earth image (September 2019).

PROJECT SPROATLEY ROAD, PRESTON		
SCALE NTS	DEC 2020	
EDAS	FIGURE 4	

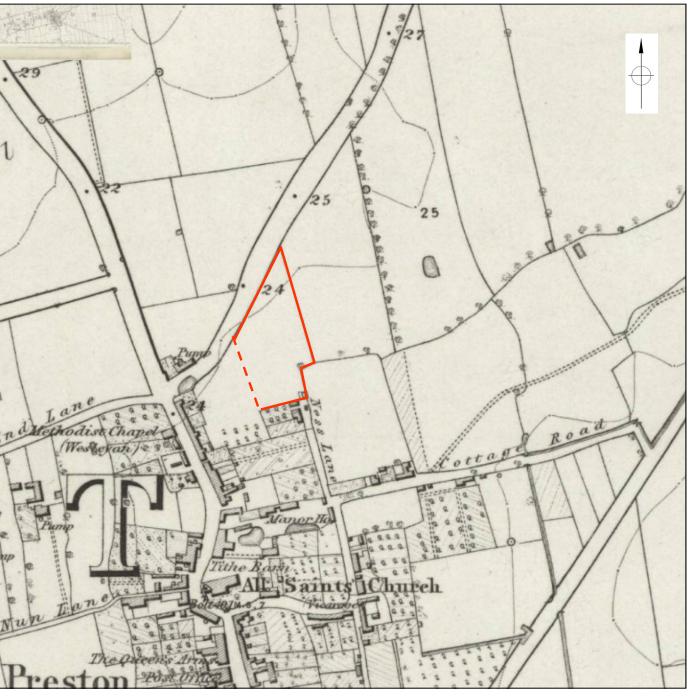


Source: Jefferys' 1771 map of Yorkshire, plate 15.

PROJECT SPROATLEY ROAD, PRESTON		
PRE-ENCLOSURE LANDSCAPE		
AS SHOWN	DEC 2020	
EDAS	FIGURE 5	

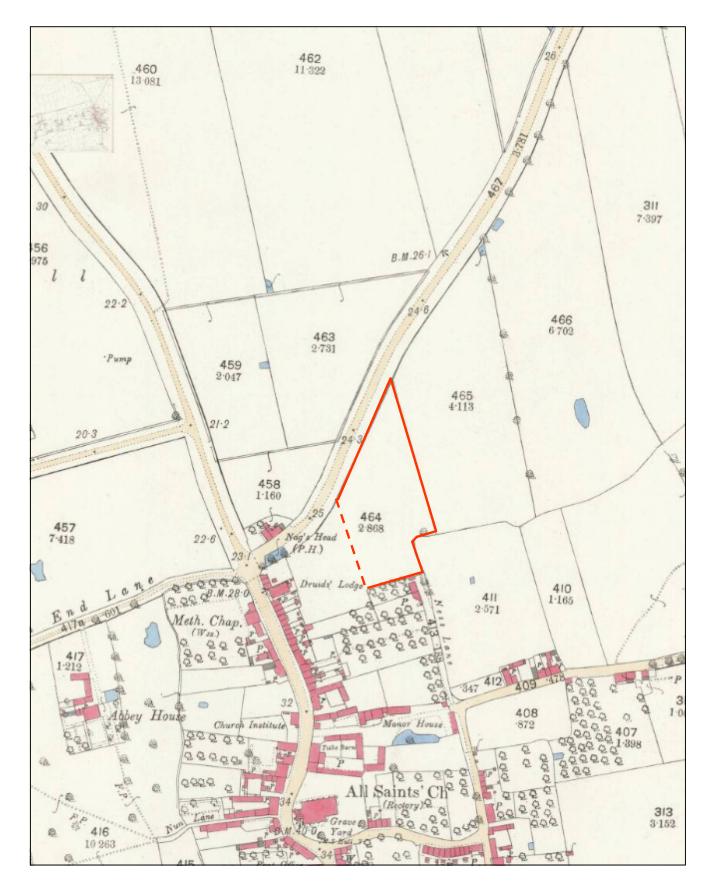


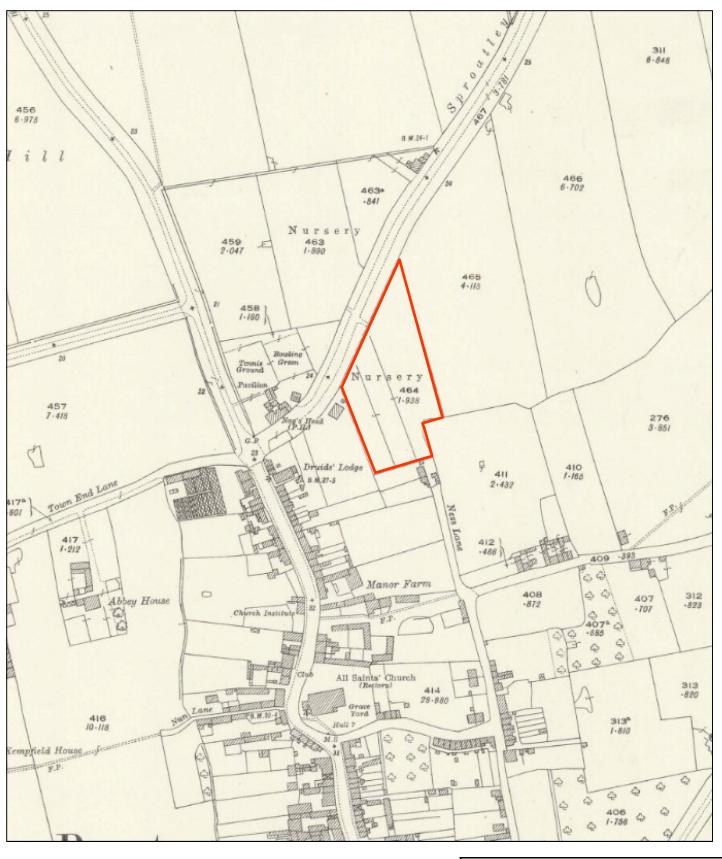
A) 1848 tithe map.



B) 1855 Ordnance Survey 6" to 1 mile map Yorkshire sheet 227 (surveyed 1852).

PROJECT SPROATLEY ROAD, PRESTON		
HISTORIC MAPS		
NTS	DEC 2020	
EDAS	FIGURE 6	

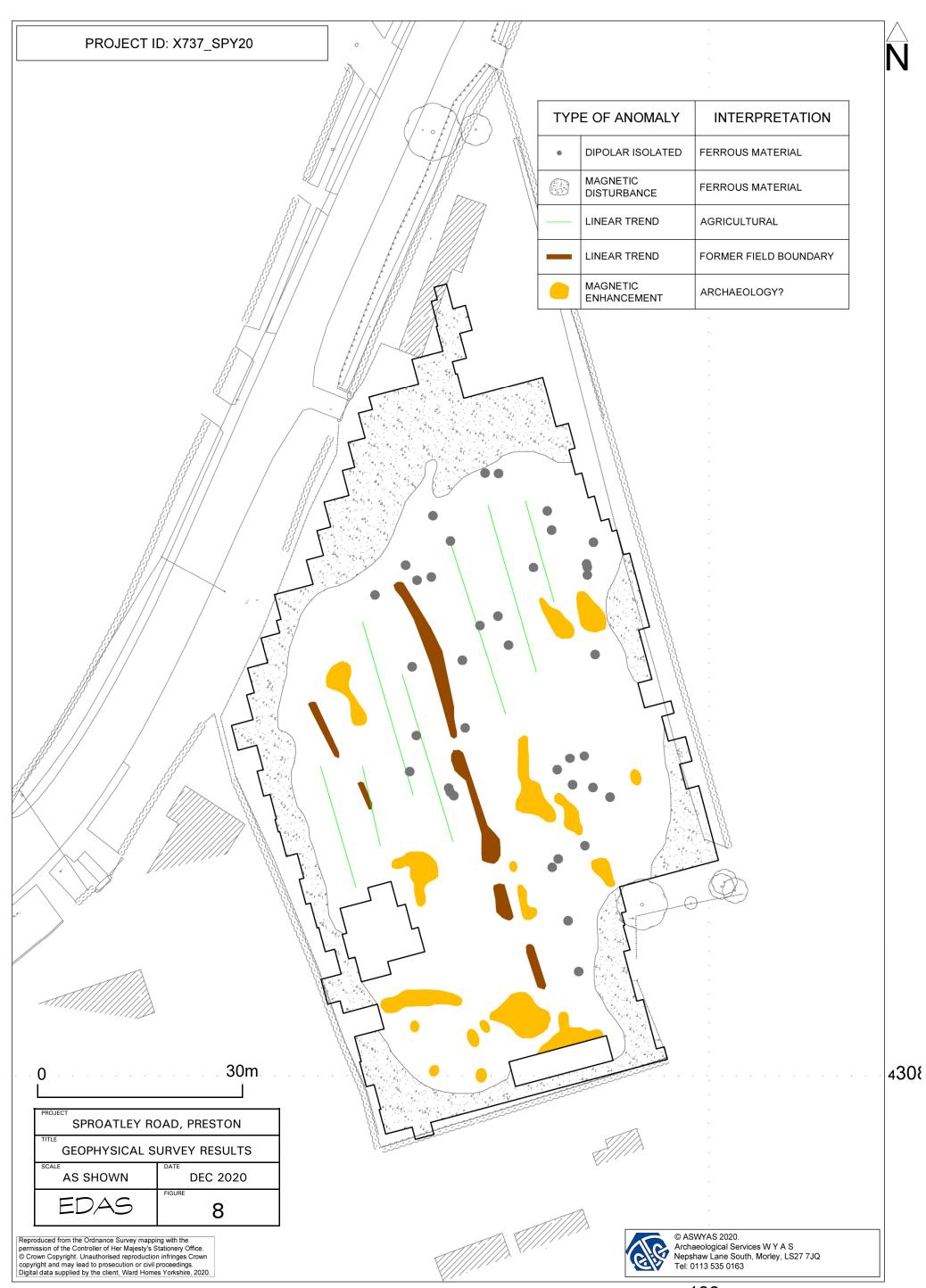




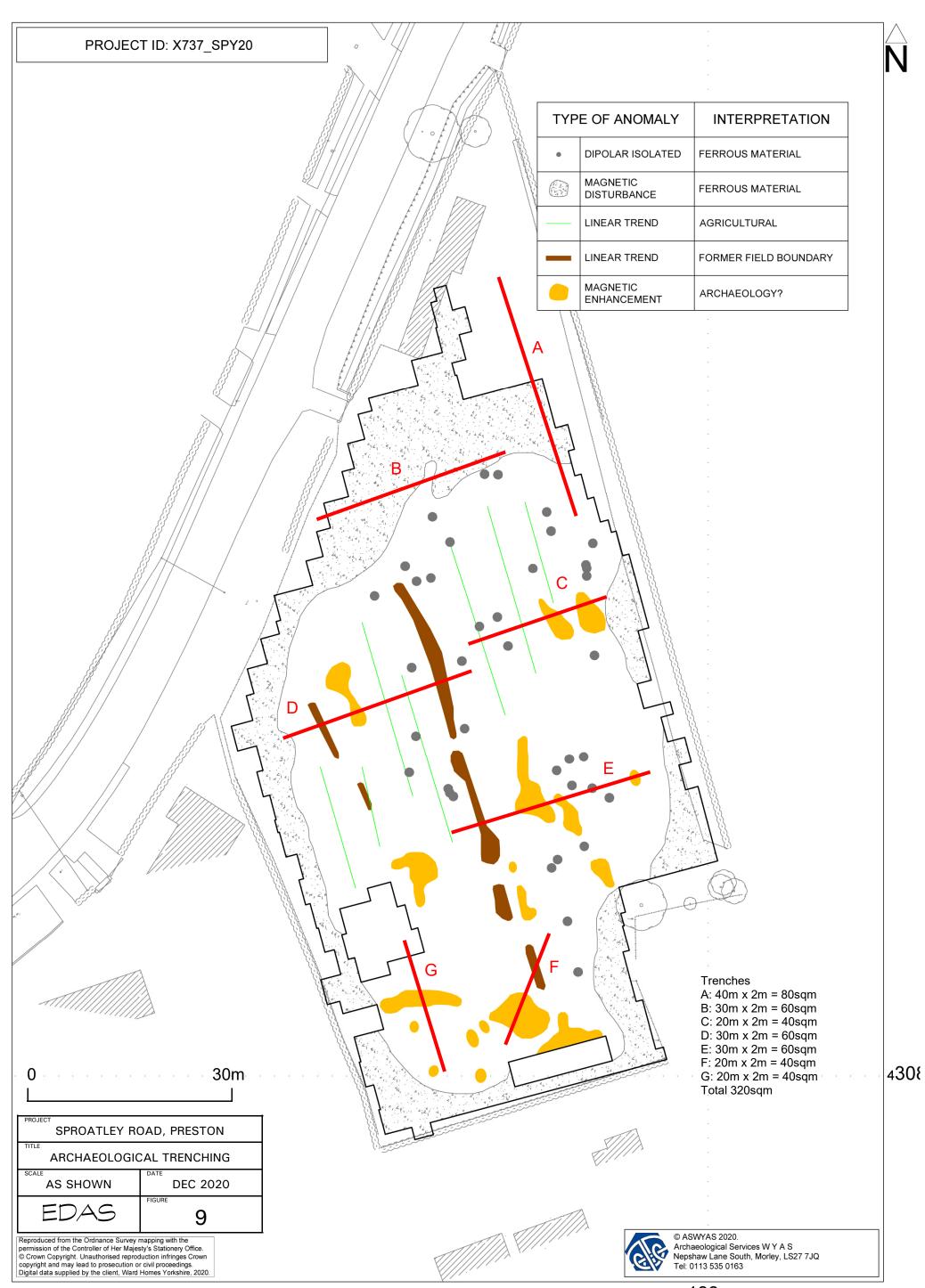
A) 1891 Ordnance Survey 25" to 1 mile map Yorkshire sheet 227/14 (surveyed 1889).

B) 1927 Ordnance Survey 25" to 1 mile map Yorkshire sheet 227/14 (revised 1926).

SPROATLEY ROAD, PRESTON	
HISTORIC MAPS	
SCALE	DEC 2020
EDAS	FIGURE <b>7</b>









## APPENDIX 1 ARCHAEOLOGICAL SERVICES WYAS GEOPHYSICAL SURVEY



# **Sproatley Road**

Preston

**East Riding of Yorkshire** 

**Geophysical Survey** 

Report no. 3501 December 2020

Client: Ward Homes Yorkshire





# Sproatley Road, Preston, East Riding of Yorkshire

**Geophysical Survey** 

#### Summary

A geophysical (magnetometer) survey was undertaken on approximately 0.77 hectares of land located to the south of Sproatley Road, Preston, East Yorkshire. Anomalies of a possible archaeological origin have been detected which may be associated with a nearby shrunken medieval village, although they could also reflect underlying geological conditions. Former field boundaries have been recorded which correspond to historic mapping. Magnetic disturbance around the periphery of the survey area is from metal fencing within the field boundaries. Based on the geophysical survey and location to the nearby shrunken medieval village, the archaeological potential of the site is considered to be moderate.



# **Report Information**

Client:	Ward Homes Yorkshire
Address:	Village Farm, Main Street, Seaton, East Yorkshire, HU11 5RA
Report Type:	Geophysical Survey
Location:	Preston
County:	East Yorkshire
Grid Reference:	TA 1875 3085
Period(s) of activity:	?Medieval
Report Number:	3501
Project Number:	X737
Site Code:	SPY20
OASIS ID:	archaeol11-409628
Date of fieldwork:	November 2020
Date of report:	December 2020
Project Management:	Emma Brunning BSc MCIfA
Fieldwork:	Alastair Trace BSc MSc
Illustrations:	Emma Brunning
Photography:	Alastair Trace
Research:	Michael Offley BSc
Report:	Emma Brunning

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Authorisation for distribution:



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# VerAuthor(s)ReviewerApproverDate1.0EBDWEDDec 2020

# **Document Issue Record**

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- 2 General view of site, looking north

# **1** Introduction

Archaeological Services ASWYAS has been commissioned by Ed Dennison Archaeological Services (EDAS) on behalf of Ward Homes Yorkshire to undertake a geophysical survey at land at Sproatley Road, Preston, East Yorkshire. This was undertaken in line with current best practice (CIfA 2014; Schmidt *et al.* 2015). The survey was carried out on the 19th November 2020 to provide additional information on the archaeological resource of the site.

#### Site location, topography and land-use

The site is located at TA 1875 3085 (approximate centre), comprising c. 0.77a in a single field situated to the north of Preston (see Fig. 1). The north eastern corner of the field was unavailable for survey due to the location stables and overgrown areas. The site is situated to the southeast of Sproatley Road with land consisting of pasture. It is bounded to the east and southeast by further pasture land and to the west and south by a housing estate. The site lies at 5m (above Ordnance Datum) aOD in the north, falling to approximately 8m aOD in the south.

#### Soils and geology

The underlying bedrock geology of the site comprises Flamborough Chalk Formation. Sedimentary Bedrock formed approximately 72 to 86 million years ago in the Cretaceous Period. Local environment previously dominated by warm chalk seas (BGS 2020). The soils of the area comprise of a mixture between slowly permeable seasonally wet slightly, acidic but base-rich loamy and clayey soils (Soilscape 18), and Slightly acid loamy and clayey soils with impeded drainage (Soilscape 8) (CSAI 2020).

# 2 Archaeological Background

The archaeological background below is summarised from available online sources. The proposed development site has also been the subject of an Archaeology and Heritage Desk Based Assessment (MAP 2018).

The site lies within the wider landscape of the Holderness area where the primary source of the known archaeological resource comes from air photographs with cropmarks indicative of archaeological activity identified around the villages of Preston and Hedon. Recent archaeological work, on linear schemes, such as along the cable corridor for the Westermost Rough windfarm (Williams 2016), has revealed that the incidence of archaeological activity across Holderness is much greater than indicated solely by the cropmark data with both Iron Age and Roman sites identified. One site, located just between Preston and Hedon at Birkholme, represented a short-lived enclosure, dating from the 2nd century AD where just over 3500 sherds of pottery were recovered (Williams 2016, 26-31).

Preston was a settlement in Domesday, in the hundred of Holderness. It had a recorded population of 71.4 households in 1086, putting it in the largest 20% of settlements recorded in Domesday (opendomesday 2020).

Approximately 180m to the southeast of the survey area, on the north side of Manor Road, lies an area of shrunken medieval village earthworks. The earthworks represent crofts, tofts, a hollow way, ponds and elements of ridge and furrow field systems. The village took the form of a linear settlement pattern along an east-west orientated road, separating a north and a south field (Pastscape 1523940). Features of the settlement can be clearly seen in LiDAR data (NLS 2020). Also in the LiDAR, the field to the immediate east of site shows clear ridge and furrow cultivation.

The Church of All Saints lies 240m to the southwest of site, Grade I listed (1083438) and has 13th century origins in its north arcade. It has a 14th century north arcade with a 15th century north aisle, north chapel and tower (HE 2020).

The previous archaeology and heritage desk-based assessment concluded that there were no known nationally important archaeological remains located on the site, and that there would be no impact on the setting and significance of the heritage assets in the vicinity as none are within view of the site. The potential for archaeological deposits within the site was assessed as being low to moderate, and of local to regional significance. Given the presence of cropmarks in the area, believed to represent Iron Age or Romano-British field systems and enclosure, it is possible that the site may lie within a wider agricultural landscape, although it is possible that if archaeological remains are present, they may have been compromised by more recent agricultural practices. It is also possible that evidence relating to medieval farming regimes may be present on the site. The report also noted that a geophysical survey would allow the presence and nature of any archaeological deposits on the site to be established, and that any archaeological deposits could be recorded using appropriate archaeological mitigation. It is highly unlikely that any archaeological deposits would prevent development of the site (MAP 2018, 18-20).

# 3 Aims, Methodology and Presentation

The aims and objectives of the programme of geophysical survey were to gather sufficient information to establish the presence/absence, character and extent, of any archaeological remains within the specific area and to inform an assessment of the archaeological potential of the site. To achieve this aim, a magnetometer survey covering all amenable parts of the Site was undertaken (see Fig. 2).

The general objectives of the geophysical survey were:

- to provide information about the nature and possible interpretation of any magnetic anomalies identified;
- to therefore determine the presence/absence and extent of any buried archaeological features; and
- to prepare a report summarising the results of the survey.

### Magnetometer survey

The site grid was laid out using a Trimble VRS differential Global Positioning System (Trimble R6 model). The survey was undertaken using Bartington Grad601 magnetic gradiometers. These were employed taking readings at 0.25m intervals on zig-zag traverses 1.0m apart within 30m by 30m grids, so that 3600 readings were recorded in each grid. These readings were stored in the memory of the instrument and later downloaded to computer for processing and interpretation. Bespoke in-house software was used to process and present the data. Further details are given in Appendix 1.

# Reporting

A general site location plan, incorporating the 1:50000 Ordnance Survey (OS) mapping, is shown in Figure 1. Figure 2 displays processed magnetometer data at a scale of 1:1000. Processed and minimally processed data, together with interpretation of the survey results are presented in Figures 3 to 5 inclusive at a scale of 1:750.

Technical information on the equipment used, data processing and survey methodologies are given in Appendix 1. Technical information on locating the survey area is provided in Appendix 2. Appendix 3 describes the composition and location of the archive. A copy of the completed OASIS form is included in Appendix 4.

The survey methodology, report and any recommendations comply with guidelines outlined by the European Archaeological Council (Schmidt *et al.* 2015) and by the Chartered Institute for Archaeologists (CIfA 2014). All figures reproduced from Ordnance Survey mapping are with the permission of the controller of Her Majesty's Stationery Office (© Crown copyright).

The figures in this report have been produced following analysis of the data in processed formats and over a range of different display levels. All figures are presented to most suitably display and interpret the data from this site based on the experience and knowledge of Archaeological Services staff.

# 4 Results and Discussion (see Figures 3 to 5)

#### Ferrous anomalies and magnetic disturbance

Ferrous anomalies, as individual 'spikes', or as large discrete areas are typically caused by ferrous (magnetic) material, either on the ground surface or in the plough-soil. Little importance is normally given to such anomalies, unless there is any supporting evidence for an archaeological interpretation, as modern ferrous debris or material is common on rural sites, often being present as a consequence of manuring or tipping/infilling. There is no obvious pattern or clustering to their distribution in this survey to suggest anything other than a random background scatter of ferrous debris in the plough-soil.

Magnetic disturbance along the limits of the survey area is due to metal fencing within the field boundaries and interference from the adjacent roads.

#### **Agricultural anomalies**

Former field boundaries have been detected which are recorded on Ordnance Survey mapping dating from 1927 (OS 2020), but by the 1968 map the boundaries have been removed. The 1950s maps also record the field as used as a nursery and it is likely that the narrow field layout is associated with this.

A handful of linear trends oriented on a north-west to south-east direction that respect the current field boundaries are associated with plough furrows. It is possible that they are remnants of ridge and furrow cultivation.

#### Possible archaeological anomalies

Anomalies of a possible archaeological origin have been recorded within the dataset. These are clear against the background magnetism but they form no distinct pattern. When interpreting these anomalies the proximity of the shrunken medieval village to the southeast increases the possibility of them representing archaeological remains. This could mean that they are part of medieval structures and land divisions, especially if the earthworks from the medieval village are extrapolated to the west. The southernmost responses in the dataset align with some of these earthworks. The unclear nature of the anomalies may also suggest that they have been plough damaged. However, the village remains do lie at some distance from the site, and it must also be noted that another interpretation is also likely such as a geological or agricultural origin.

# **5** Conclusions

The geophysical survey has identified anomalies of possible or potential archaeological origins, although they form no clear features and so may be associated with plough damaged medieval remains. Alternatively, the anomalies could have a geological origin.

Former field boundaries have been recorded which correspond to historic mapping, a handful of ploughing trends have also been detected. Magnetic disturbance around the periphery of the survey area is from metal fencing within the field boundaries. Based on the geophysical survey and location to the nearby shrunken medieval village, the archaeological potential of the site is considered to be moderate.

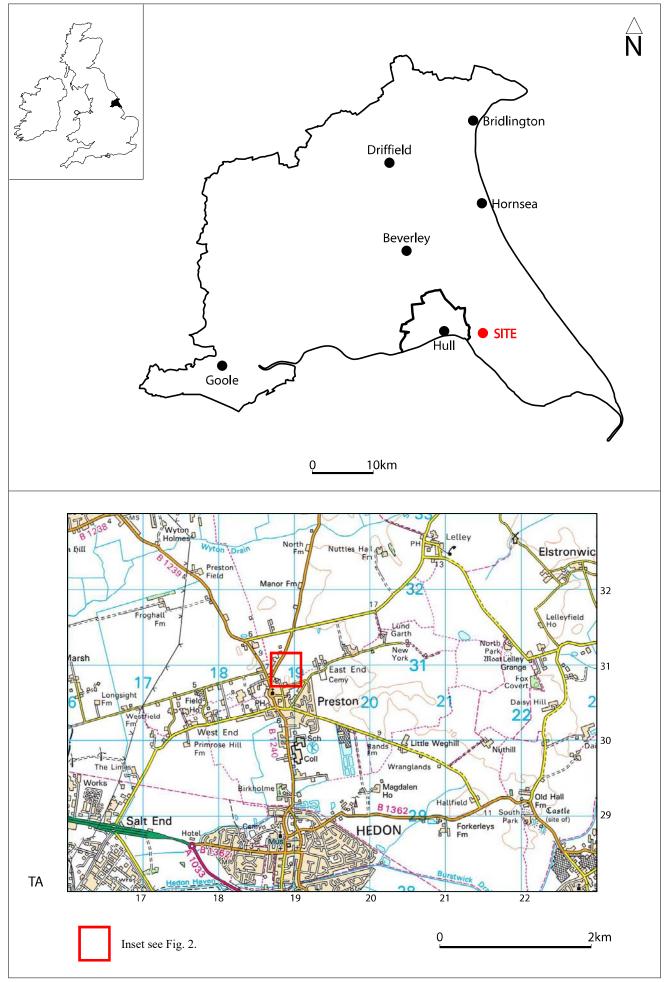


Fig. 1. Site location

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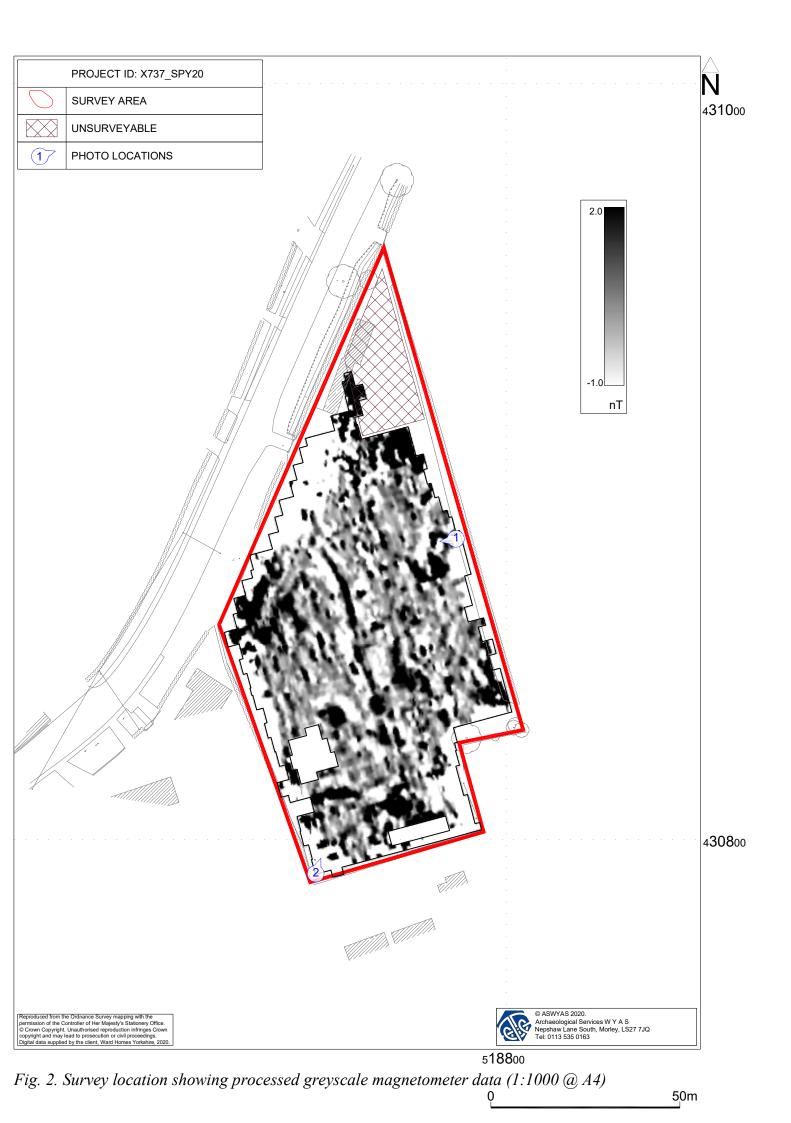




Fig. 3. Processed greyscale magnetometer data (1:750 @ A4)

0

30m



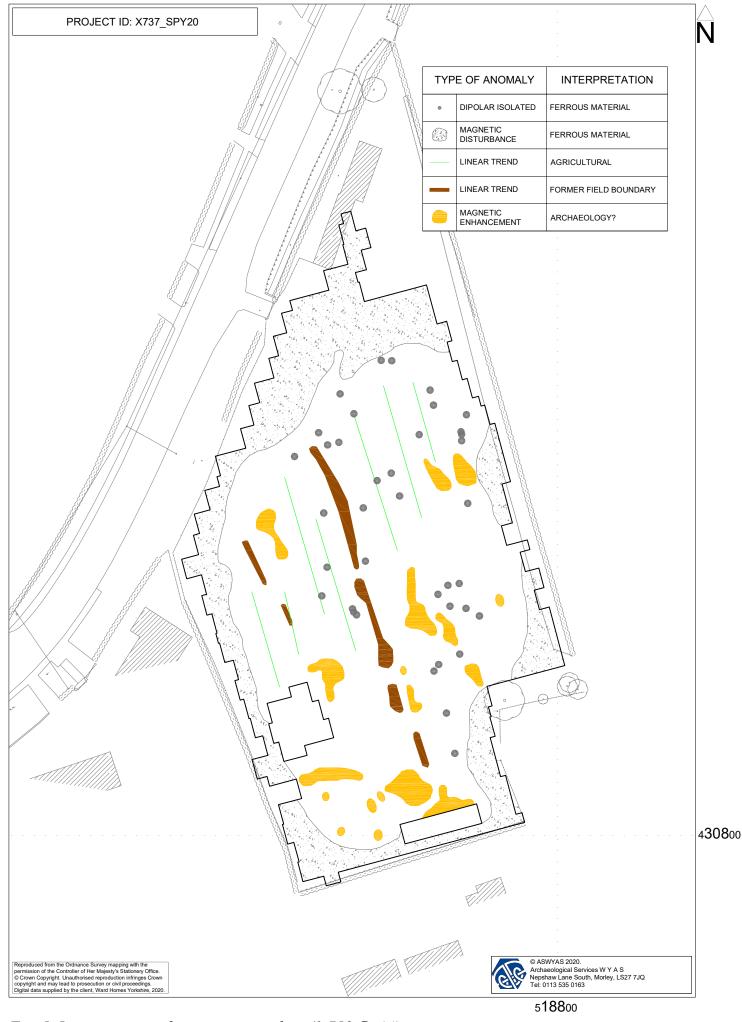


Fig. 5. Interpretation of magnetometer data (1:750 @ A4)





Plate 1. General view of site, looking west



Plate 2. General view of site, looking north

# **Appendix 1: Magnetic survey - technical information**

#### Magnetic Susceptibility and Soil Magnetism

Iron makes up about 6% of the Earth's crust and is mostly present in soils and rocks as minerals such as maghaemite and haemetite. These minerals have a weak, measurable magnetic property termed magnetic susceptibility. Human activities can redistribute these minerals and change (enhance) others into more magnetic forms. Areas of human occupation or settlement can then be identified by measuring the magnetic susceptibility. If the topsoil because of the attendant increase (enhancement) in magnetic susceptibility. If the enhanced material subsequently comes to fill features, such as ditches or pits, localised isolated and linear magnetic anomalies can result whose presence can be detected by a magnetometer (fluxgate gradiometer).

In general, it is the contrast between the magnetic susceptibility of deposits filling cut features, such as ditches or pits, and the magnetic susceptibility of topsoils, subsoils and rocks into which these features have been cut, which causes the most recognisable responses. This is primarily because there is a tendency for magnetic ferrous compounds to become concentrated in the topsoil, thereby making it more magnetic than the subsoil or the bedrock. Linear features cut into the subsoil or geology, such as ditches, that have been silted up or have been backfilled with topsoil will therefore usually produce a positive magnetic response relative to the background soil levels. Discrete feature, such as pits, can also be detected. The magnetic susceptibility of a soil can also be enhanced by the application of heat and the fermentation and bacterial effects associated with rubbish decomposition. The area of enhancement is usually quite large, mainly due to the tendency of discard areas to extend beyond the limit of the occupation site itself, and spreading by the plough.

#### **Types of Magnetic Anomaly**

In the majority of instances anomalies are termed 'positive'. This means that they have a positive magnetic value relative to the magnetic background on any given site. However some features can manifest themselves as 'negative' anomalies that, conversely, means that the response is negative relative to the mean magnetic background.

Where it is not possible to give a probable cause of an observed anomaly a '?' is appended.

It should be noted that anomalies interpreted as modern in origin might be caused by features that are present in the topsoil or upper layers of the subsoil. Removal of soil to an archaeological or natural layer can therefore remove the feature causing the anomaly.

The types of response mentioned above can be divided into five main categories that are used in the graphical interpretation of the magnetic data:

#### Isolated dipolar anomalies (iron spikes)

These responses are typically caused by ferrous material either on the surface or in the topsoil. They cause a rapid variation in the magnetic response giving a characteristic 'spiky' trace. Although ferrous archaeological artefacts could produce this type of response, unless there is supporting evidence for an archaeological interpretation, little emphasis is normally given to such anomalies, as modern ferrous objects are common on rural sites, often being present as a consequence of manuring.

#### Areas of magnetic disturbance

These responses can have several causes often being associated with burnt material, such as slag waste or brick rubble or other strongly magnetised/fired material. Ferrous structures such as pylons, mesh or barbed wire fencing and buried pipes can also cause the same disturbed response. A modern origin is usually assumed unless there is other supporting information.

#### Linear trend

This is usually a weak or broad linear anomaly of unknown cause or date. These anomalies are often caused by agricultural activity, either ploughing or land drains being a common cause.

#### Areas of magnetic enhancement/positive isolated anomalies

Areas of enhanced response are characterised by a general increase in the magnetic background over a localised area whilst discrete anomalies are manifest by an increased response on two or three successive traverses. In neither instance is there the intense dipolar response characteristic exhibited by an area of magnetic disturbance or of an 'iron spike' anomaly (see above). These anomalies can be caused by infilled discrete archaeological features such as pits or post-holes or by kilns. They can also be caused by pedological variations or by natural infilled features on certain geologies. Ferrous material in the subsoil can also give a similar response. It can often therefore be very difficult to establish an anthropogenic origin without intrusive investigation or other supporting information.

#### Linear and curvilinear anomalies

Such anomalies have a variety of origins. They may be caused by agricultural practice (recent ploughing trends, earlier ridge and furrow regimes or land drains), natural geomorphological features such as palaeochannels or by infilled archaeological ditches.

#### Methodology: Gradiometer Survey

The main method of using the fluxgate gradiometer for commercial evaluations is referred to as *detailed survey* and requires the surveyor to walk at an even pace carrying the instrument within a grid system. A sample trigger automatically takes readings at predetermined points, typically at 0.25m intervals, on traverses 1m apart. These readings are stored in the memory of the instrument and are later dumped to computer for processing and interpretation.

During this survey a Bartington Grad601 magnetic gradiometer was used taking readings on the 0.1nT range, at 0.25m intervals on zig-zag traverses 0.5m apart within 30m by 30m square grids. The instrument was checked for electronic and mechanical drift at a common point and calibrated as necessary. The drift from zero was not logged.

The gradiometer data have been presented in this report in processed greyscale format. The data in the greyscale images have been interpolated and selectively filtered to remove the effects of drift in instrument calibration and other artificial data constructs and to maximise the clarity and interpretability of the archaeological anomalies.

## **Appendix 2: Survey location information**

An initial survey station was established using a Trimble VRS differential Global Positioning System (Trimble R6 model). The data was geo-referenced using the geo-referenced survey station with a Trimble RTK differential Global Positioning System (Trimble R6 model). The accuracy of this equipment is better than 0.01m. The survey grids were then super-imposed onto a base map provided by the client to produce the displayed block locations. However, it should be noted that Ordnance Survey positional accuracy for digital map data has an error of 0.5m for urban and floodplain areas, 1.0m for rural areas and 2.5m for mountain and moorland areas. This potential error must be considered if co-ordinates are measured off hard copies of the mapping rather than using the digital co-ordinates.

Archaeological Services WYAS cannot accept responsibility for errors of fact or opinion resulting from data supplied by a third party.

# **Appendix 3: Geophysical archive**

The geophysical archive comprises:-

- an archive disk containing compressed (WinZip 8) files of the raw data, report text (Microsoft Word 2000), and graphics files (Adobe Illustrator CS2 and AutoCAD 2008) files; and
- a full copy of the report.

At present the archive is held by Archaeological Services WYAS although it is anticipated that it may eventually be lodged with the Archaeology Data Service (ADS). Brief details may also be forwarded for inclusion on the English Heritage Geophysical Survey Database after the contents of the report are deemed to be in the public domain (i.e. available for consultation in the Humber Historic Environment Record).

# Appendix 4: Oasis form

# OASIS DATA COLLECTION FORM: England

List of Projects | Manage Projects | Search Projects | New project | Change your details | HER coverage | Change country | Log out

#### **Printable version**

#### OASIS ID: archaeol11-409628

#### Project details

r roject details	
Project name	Sproatley Road, Preston
Short description of the project	A geophysical (magnetometer) survey was undertaken on approximately 0.77 hectares of land located to the south of Sproatley Road, Preston, East Yorkshire. Anomalies of a possible archaeological origin have been detected which may be associated with a nearby medieval village. Former field boundaries have been recorded which correspond to historic mapping. Magnetic disturbance around the periphery of the survey area is from metal fencing within the field boundaries. Based on the geophysical survey and location to the medieval village, the archaeological potential of the site is moderate.
Project dates	Start: 19-11-2020 End: 19-11-2020
Previous/future work	No / Not known
Any associated project reference codes	SPY20 - Sitecode
Type of project	Field evaluation
Monument type	NONE None
Significant Finds	NONE None
Methods & techniques	"Geophysical Survey"
Development type	Housing estate
Prompt	National Planning Policy Framework - NPPF
Position in the planning process	Not known / Not recorded
Solid geology	CHALK (INCLUDING RED CHALK)
Drift geology (other)	loam and clay
Techniques	Magnetometry

#### **Project location**

Country	England
Site location	EAST RIDING OF YORKSHIRE EAST RIDING OF YORKSHIRE PRESTON Sproatley Road, Preston
Study area	0.77 Hectares
Site coordinates	TA 1875 3085 53.760220291255 -0.198464653408 53 45 36 N 000 11 54 W Point
Height OD / Depth	Min: 5m Max: 8m

### **Project creators**

Name of Organisation	Archaeological Services WYAS
Project brief originator	Ed Dennison Archaeological Services Ltd
Project design originator	Ed Dennison Archaelogical Services Ltd
Project director/manager	E. Brunning
Project supervisor	A. Trace

#### **Project archives**

Physical Archive Exists?	No
Digital Archive recipient	Ed Dennison Archaeological Services Ltd.
Digital Contents	"Survey"
Digital Media available	"Geophysics","Images raster / digital photography","Text"
Paper Archive Exists?	No

#### Project bibliography 1

	Grey literature (unpublished document/manuscript)
Publication type	
Title	Sproatley Road, Preston, East Riding of Yorkshire
Author(s)/Editor(s)	Brunning, E
Other bibliographic details	3501
Date	2020
Issuer or publisher	ASWYAS
Place of issue or publication	Leeds
Description	A4 report with A4 figures
Entered by	Emma Brunning (emma.brunning@aswyas.com)

Entered on 2 December 2020



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