



## Appendix 8.1

### ARCHAEOLOGICAL DESK-BASED ASSESSMENT

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# APPENDIX 8.1





# Begbroke Science Park, Begbroke, Oxfordshire

## Archaeological Desk-Based Assessment

January 2023

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# Begbroke Science Park, Begbroke, Oxfordshire

## *Archaeological Desk-Based Assessment*

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## Summary

*Oxford Archaeology was commissioned by Oxford University Development to prepare an archaeological desk-based assessment for land around Begbroke Science Park, Begbroke, Oxfordshire, henceforth known as 'the site'. The proposed scheme is for the enlargement of the existing Begbroke Science Park and the creation of residential dwellings, education facilities, associated roadways and amenities. The development will also include allotments and open green areas.*

*The site is situated within a wider landscape which contains prehistoric and Romano-British activity. Geophysical survey and historic aerial photographs indicate the widespread presence of features of this date across the site and within the developable area. Two distinct areas of Iron Age and Romano-British settlement, field systems and trackways are present in towards the east and in the south/central parts of site. In addition, the site has previously yielded numerous residual finds dating to the prehistoric (Neolithic, Bronze Age and Iron Age), Roman, medieval and post-medieval periods.*

*Cartographic evidence from the 17th century onwards shows that the site was in agricultural use from this period and LiDAR data and cartographic sources suggest that medieval, post-medieval and later agricultural features may survive across the site.*

*The proposed development scheme would truncate or remove any surviving archaeological remains present within the site. There is no indication, on current knowledge, that the site contains deposits of sufficient significance to prevent development, but it is possible that development could be constrained to some degree by the presence of these deposits. This study has suggested that the site has potential to contain regionally significant archaeological features or deposits, which have not been previously disturbed.*

*Further archaeological investigations, in the form of geophysical survey and consequent targeted archaeological trial trench evaluation as requested by the County Archaeological Services, are currently being undertaken to clarify the presence and significance of any archaeological deposits that might be impacted by the proposed scheme. The results of this evaluation will be used to inform a suitable mitigation strategy intended to remove or reduce any archaeological impacts identified. The requirement and scope of all archaeological work will need to be agreed with the Oxfordshire County Archaeologist.*



## 1 INTRODUCTION

- 1.1.1 Oxford Archaeology (OA) was commissioned by Oxford University Development to prepare an archaeological desk-based assessment for Begbroke Science Park, Begbroke, Oxfordshire, henceforth known as 'the site'. The site is centred on NGR 448147, 212886, and its location is shown on Figure 1.
- 1.1.2 This report has been prepared in accordance with the Chartered Institute for Archaeologists (CifA) Standards and Guidance for Historic Environment Desk-based Assessments (2020) and Planning Practice Guidance (2021) — Historic Environment, published by the Ministry of Housing, Communities and Local Government.

## 2 PROPOSED DEVELOPMENT

- 2.1.1 Finalised plans of the development (Figure 25) indicate that it will include the enlargement of the existing Begbroke Science Park and the creation of residential dwellings, education facilities, associated roadways, and amenities. The development will also include allotments to the north and south, a green buffer between development and the railway line that crosses the site, and some areas of open green space.

## 3 LOCATION, TOPOGRAPHY AND GEOLOGY

- 3.1.1 The site is situated four miles north-west of Oxford and lies within the civil parishes of Begbroke and Yarnton, Oxfordshire. It comprises approximately 170 hectares of agricultural land, woodland and a science park and includes roadways and farmsteads. The boundaries of the irregularly shaped site are defined by Rowel Brook, fields, and residential development of Begbroke to the north; a railway line and the Oxford Canal to the east; fields and a solar farm to the south; and fields, the A44, and the northernmost residential development of Yarnton to the west.
- 3.1.2 The site is situated on low lying land which slopes gently from 67.0m above Ordnance Datum (aOD) in the north of site to 62.0m aOD in the south. It slopes slightly east to west, from about 66.0m to 65.0m aOD.
- 3.1.3 The following geological ground conditions had been based upon the ground conditions report prepared by Hydrock (2023). The site lies partly on the Summertown-Radley gravel terrace and partly on the floodplains of the Rowell Brook, a natural stream that pre-dates the Oxford Canal. The Thames' floodplains converge within the site. Around some areas of the site (the Parkers Farm's buildings (OA 380), the tracks, and the area of the landfill) the topsoil is averagely thick 0.24m and covers some landfill made ground. In the rest of the site, the topsoil is agriculturally disturbed, and averagely thick 0.31m. Alluvium is present underlying the agriculturally disturbed topsoil in the vicinity of the stream in the north of the site, the southern boundary of the Site, and in the east of the Site, to depths between 0.45m and 3.15 below ground level (bgl). Hand and River Terrace deposits were encountered underlying the agriculturally disturbed topsoil in the other areas. A lens of Glacial Washout Till was encountered to the east of the railway. The bedrock geology of the

Site is mainly Oxford Clay Formation and West Walton Formation mudstone, with Kellaways Clay Member, Kellaways Sand Member, and Cornbrash Limestone formation in the northern part of the Site. The Forest Marble Formation (mudstone and limestone) was encountered underlying the Cornbrash Limestone Formation across the Site and underlying superficial deposits in the far northeast of the Site.

## 4 AIMS AND OBJECTIVES

4.1.1 The purpose of this desk-based assessment is to determine as far as reasonably possible, from existing records and observations, an understanding of the historic environment within the site and surrounding study area in order to:

- provide an assessment of the potential for archaeological remains to survive within the site;
- assess the significance of known and predicted archaeological remains;
- assess the likely impacts of previous development upon the survival of any archaeological remains;
- assess the potential for impacts from the proposed development upon the surviving archaeological resource; and
- provide proposals for further evaluation, whether or not intrusive, where the nature, extent or significance of the archaeological resource is not sufficiently well defined.

## 5 PLANNING BACKGROUND

### 5.1 National Planning Policy

5.1.1 Section 16 of National Planning Policy Framework (NPPF) as issued in July 2021 sets out the Government's planning policies in relation to the conservation and enhancement of the historic environment.

5.1.2 Paragraphs 194 and 195 state:

*194. In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.*

*195. Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this into account when considering the*

*impact of a proposal on a heritage asset, to avoid or minimise any conflict between the heritage asset's conservation and any aspect of the proposal.*

#### 5.1.3 Paragraphs 199 and 200 state:

*199. When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance.*

*200. Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification. Substantial harm to or loss of:*

*a) grade II listed buildings, or grade II registered parks or gardens, should be exceptional;*

*b) assets of the highest significance, notably scheduled monuments, protected wreck sites, registered battlefields, grade I and II\* listed buildings, grade I and II\* registered parks and gardens, and World Heritage Sites, should be wholly exceptional (non-designated heritage assets of archaeological interest, which are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets).*

#### 5.1.4 Paragraphs 201 and 202 state:

*201. Where a proposed development will lead to substantial harm to (or total loss of significance of) a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or total loss is necessary to achieve substantial public benefits that outweigh that harm or loss, or all of the following apply:*

*a) the nature of the heritage asset prevents all reasonable uses of the site; and*

*b) no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and*

*c) conservation by grant-funding or some form of not for profit, charitable or public ownership is demonstrably not possible; and*

*d) the harm or loss is outweighed by the benefit of bringing the site back into use.*

*202. Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use.*

#### 5.1.5 Paragraph 203 states:

*The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset*

#### 5.1.6 Paragraph 205 states:

*Local planning authorities should require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible. However, the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted.*

#### **The Hedgerows Regulations 1997 (amended 2003)**

5.1.7 The Hedgerows Regulations (1997), specify various criteria used to identify important hedgerows for wildlife, landscape or historical reasons. Important hedgerows are subject to statutory protection.

5.1.8 Under the terms of the regulations a hedgerow is considered important if it has existed for more than 30 years and meets one of the following criteria:

- It marks a boundary between parishes existing before 1850;
- It marks an archaeological feature that is a scheduled monument or noted on the Historic Environment Record;
- It marks the boundary of a pre-1600 estate or manor, or a field system predating the Enclosure Acts.

## **5.2 Local Planning Policy**

5.2.1 Cherwell District Council has adopted the Cherwell Local Plan 2011 – 2031 (Part 1) and is in the process of drafting Part 2. Whilst Part 2 is in preparation Part 1 and the ‘Saved Policies’ from the Cherwell Local Plan 1996 set out the Councils current planning policy including the management of the historic environment. Policies considered most relevant to this assessment are outlined below:

#### **‘Saved Policies’ from the Cherwell Local Plan (1996)**

##### Policy C25: Development affecting the site or setting of a scheduled ancient monument

*In considering proposals for development which would affect the site or setting of a scheduled ancient monument, other nationally important archaeological sites and monuments of special local importance, the council will have regard to the desirability of maintaining its overall historic character, including its protection, enhancement and preservation where appropriate.*

#### **Cherwell Local Plan 2011-2031**

##### Ensuring Sustainable Development (ESD) 15: The Character of the Built and Historic Environment

*Successful design is founded upon an understanding and respect for an area’s unique built, natural and cultural context. New development will be expected to complement and enhance the character of its context through sensitive siting, layout and high quality design. All new development will be required to meet high design standards. Where development is in the vicinity of any of the District’s distinctive natural or*

*historic assets, delivering high quality design that complements the asset will be essential.*

*New development proposals should:*

- Contribute positively to an area's character and identity by creating or reinforcing local distinctiveness and respecting local topography and landscape features, including skylines, valley floors, significant trees, historic boundaries, landmarks, features or views, in particular within designated landscapes, within the Cherwell Valley and within conservation areas and their setting*
- Conserve, sustain and enhance designated and non-designated 'heritage assets' (as defined in the NPPF) including buildings, features, archaeology, conservation areas and their settings, and ensure new development is sensitively sited and integrated in accordance with advice in the NPPF and NPPG. Proposals for development that affect non-designated heritage assets will be considered taking account of the scale of any harm or loss and the significance of the heritage asset as set out in the NPPF and NPPG. Regeneration proposals that make sensitive use of heritage assets, particularly where these bring redundant or under used buildings or areas, especially any on English Heritage's At Risk Register, into appropriate use will be encouraged*
- Include information on heritage assets sufficient to assess the potential impact of the proposal on their significance. Where archaeological potential is identified this should include an appropriate desk-based assessment and, where necessary, a field evaluation'*

### **Cherwell Local Plan 2011-2031 (Part 1) Partial Review**

5.2.2 The Cherwell Local Plan 2011-2031 (Part 1) Partial Review - Oxford's Unmet Housing Need was formally adopted as part of the statutory Development Plan by the Council on 7 September 2020. The Plan provides the strategic planning framework and sets out strategic site allocations to provide Cherwell District's share of the unmet housing needs of Oxford to 2031. The policy relevant for this assessment is Policy PR8 - Land East of the A44, setting the requirements for the new urban neighbourhood that will be developed within the site. The site had been chosen because of its strategic position, 'a unique opportunity for place shaping, to help meet Oxford's unmet housing needs and to do this in close association with the expansion of one of the University of Oxford's key economic assets. The following are the requirements pertaining to the planning application that relate to cultural heritage resources:

18. The Development Brief that among the others need to include: j. *Measures for the protection and enhancement of the Oxford Canal corridor and towpath including the creation and restoration of water vole habitat in the Lower Cherwell Conservation Target Area and the maintenance of a dark Canal corridor through the minimisation of light pollution.* (Included because Oxford Canal is a Conservation Area).

25. *The application shall be supported by a Heritage Impact Assessment which will identify measures to avoid or minimise conflict with the identified heritage assets within the site, particularly the Oxford Canal Conservation Area and the listed structures along its length. These measures shall be incorporated or reflected, as appropriate, in any proposed development scheme.*

26. *The application(s) shall be supported by a desk-based archaeological investigation which may then require predetermination evaluations and appropriate mitigation measures. The outcomes of the investigation and mitigation measures shall be incorporated or reflected, as appropriate, in any proposed development scheme.*

37. *The Local Nature Reserve, nature conservation area, public open green space/informal canal-side parkland shall be designed to reflect and enhance local landscape character and wildlife including that of the Oxford Canal and Rowel Brook. These areas and the agricultural land shall be kept free of buildings to avoid harm to the remaining Green Belt.*

38. *The contrast between the dense urban development and canal-side parkland setting should be used as a positive and integral design feature.*

40. *Development must not prevent the continued use of Begbroke Science Park or its potential expansion into the reserved area shown. It must not cause harm to the Grade II Listed Begbroke Farmhouse.*

## 6 METHODOLOGY

### 6.1 Scope and Sources Consulted

6.1.1 A 2km search area (hereafter the 2km study area) has been used to identify designated heritage assets within the environs of the site and a 1km study area (hereafter the study area) has been used to identify non-designated heritage assets which could be affected by the proposed development. The assessment was informed through both a desk-based review and a site visit.

6.1.2 The following sources were consulted to inform this assessment:

- The National Heritage List for England (NHLE) for designated heritage assets;
- Oxfordshire Historic Environment Record (OHER) for non-designated heritage assets and archaeological events;
- The Oxfordshire History Centre for historic maps and manuscripts;
- Groundsure Mapping for Historic Ordnance Survey Maps;
- Aerial Photographs as held by the Historic England Archive in Swindon;
- LiDAR data as held by the Environment Agency;
- Geotechnical data as held by the client and the British Geological Survey; and
- Other relevant primary and secondary sources including published and unpublished works as held by OA and relevant libraries.

6.1.3 For ease of reference each heritage asset identified has been allocated a unique OA number. This is included in the heritage gazetteer provided in Appendix A, referred to in the text where relevant and marked on Figures 2 – 7. A full list of sources consulted can be found in Appendix B. Historic mapping for the site is depicted on Figures 10 – 15.



## 6.2 Assumptions and Limitations

- 6.2.1 Data used to compile this report consists of secondary information derived from a variety of sources. The assumption is made that this data is reasonably accurate.
- 6.2.2 The records held by the Oxfordshire HER are not a record of all surviving heritage assets, but a record of the discovery of a wide range of archaeological and historical components of the historic environment. The information held within it is not complete and does not preclude the subsequent discovery of further heritage assets that are, at present, unknown.

## 7 WALKOVER SURVEY

- 7.1.1 A walkover survey of the site was undertaken on 23rd November 2022 in sunny conditions. Most areas of the site were accessed, and where this was not possible, they were observed with clear views across to the site boundary. No new archaeological features were identified during the visit.
- 7.1.2 The site is about 170 hectares in size, and predominantly comprised several large fields around the Begbroke Science Park, but also included roadways, wooded and scrub areas, and buildings. The site was bounded by Rowel Brook, fields, and residential development to the north; a railway line and the Oxford Canal to the east; fields and a solar farm to the south; and the A44, fields, and residential development to the west.
- 7.1.3 Grade II listed Begbroke Hill farmhouse is located centrally within the site, part of the Begbroke Science Park (Plate 1). This building is surrounded by other buildings in the science park, including some older style buildings which are likely to have been outbuildings associated with the historic farmstead. The front elevation of this building faces south, and the original approach to the building is still represented by the tarmacked roadway to the south (Plates 2–3) which leads to Sandy Lane. Begbroke Hill, a newer road built sometime after 2009, runs west from the science park towards the Woodstock Road.
- 7.1.4 East of the science park there were large open fields, north and south of a tarmacked roadway (Plates 4–5) leading to Parker's Farm, a small collection of agricultural buildings towards the eastern edge of the site which are surrounded in trees and patches of scrub. These fields had no visible earthworks and looked to be in arable use. Parker's Farm is noted on historic maps of the area from the early 19th century, but the buildings on this part of the site are more modern in date and comprised two large 20th century agricultural buildings (Plate 6) and a smaller shed or outbuilding behind them to the north, constructed largely of breeze blocks with a corrugated panel roof. This is also likely to be largely 20th century in date, although some wall sections were seemingly earlier in date, with some stone construction visible (Plate 7). Further sections of stone wall are present to the north-east which are also of stone construction and in a ruined state (Plate 8). It is likely that these sections, and some rebuilt as the shed/outbuilding are the remains of the original Parker's Farmstead which occupied the site since the 1840s.

- 7.1.5 The northern and eastern sections of site are similarly formed of large open fields currently in agricultural/arable use (Plate 9). The fields south (Plates 10–12) and north (Plate 19) of the Rowel Brook had no visible earthworks, although LiDAR images show east-west linear features across these fields.
- 7.1.6 Sandy Lane, a busy road connecting Yarnton to Kidlington, bisects the site east-west. Open agricultural fields form the bulk of land to the south of this road and appear to be in current use as both arable and pastoral land. A late 19th century house (dated 1883, Plate 13) occupies a plot of land adjacent to the former quarry and landfill site. This is an open, grassed area with an uneven surface. This field was not accessed but appreciated from Sandy Lane (Plate 14). No earthworks were noted in fields south of Sandy Lane or beyond this landfill field.
- 7.1.7 Where Sandy Lane intersects with the railway line there is a level crossing, east and adjacent to which, is a small dwelling, likely to be 19th century in date (Plate 15). It is present along with a signal box on an 1884 OS map and is likely to have been built around the same time as the railway line in the mid-19th century.
- 7.1.8 The south-eastern part of site lies below Kidlington Lane (also called Yarnton Lane on some maps, it is referred to by the former in this document), a track which runs towards Yarnton, connecting to Green Lane and Woodstock Road. Comprising four large fields, bordered to the east by the Oxford canal, this area is currently in arable use (Plates 16–17). No archaeological features were noted, although a patch of disturbed ground at the edge of one of the central fields is likely to be the remains of a barn which is present on historic maps from the early 19th century but demolished sometime in the 20th century. A triangular plot of land between Sandy Lane and Kidlington Lane, bordered on all sides by hedges is also an open, grassed area with no visible earthworks.
- 7.1.9 The eastern border of the site largely borders the Oxford Canal. The canal towpath was followed from Yarnton Road to Roundham Lock to assess the site from this conservation area. There were very limited views into the site from the towing path, with visibility limited by the hedging and trees that form the green barrier in this area (Plate 18).
- 7.1.10 The site is substantial in size and contains numerous hedgerows, which vary between sparse and well-established in nature. It is clear from historic mapping that fields were more numerous across the site prior to their amalgamation in the 19th century, although some field boundaries are likely to be continuations of the post-medieval landscape. It is possible that some of the hedgerows on site could be deemed historic hedgerows according to the Hedgerow Regulations (1997). These are discussed further in section 8.12.2.

## **8 HISTORIC AND ARCHAEOLOGICAL BASELINE**

### **8.1 Introduction**

- 8.1.1 The nature of the archaeological resource within the site and the surrounding study area is discussed by period below. The locations of designated sites are marked upon



Figures 2 and 3, the locations of previous archaeological events are shown on Figure 4 and non-designated heritage assets are shown on Figure 5–7. Further details of all sites are provided in Appendix A.

## 8.2 Designated Heritage Assets

- 8.2.1 There are 210 listed buildings within the 2km study area. The Grade II listed Begbroke Hill farmhouse (OA 1) is located within the site and comprises a c 1604 three storey limestone building that is now part of the Begbroke Science Park. There are four structures located directly adjacent to the site, all of which are Grade II listed. There are four canal bridges and locks (OA 87, OA 98, OA 116 and OA 123) adjacent to the Oxford Canal (OA 222) to the east of the site. These structures were all built in the 18th or 19th centuries. The Oxford Canal was completed in 1790. A pair of 17th century cottages on Woodstock Road known as Tudor Cottage (OA 60) are located c 90m to the west of the site.
- 8.2.2 There are two Grade I listed buildings within the 2km study area. These are the Church of St Bartholomew in Yarnton (OA 2) 920m south of site, and the Church of St Mary (OA 3) in Kidlington around 1.6km north-east of site. Both have 12th century origins. Other listed buildings in the study area are primarily located in groups to the north-east of the site in Kidlington, to the north of the site in the hamlet of Thrupp, to the south of the site at Yarnton and to the north-west of the site in the village of Begbroke. The locations and grades of these buildings is shown in Figure 3 and listed in Appendix A.
- 8.2.3 There are two scheduled monuments within the 2km study area. These are Bladon Camp (OA 212), a hillfort on Bladon Heath located 1.3km west of site, and Thrupp Cross (OA 213), a potentially medieval and relatively undisturbed standing cross located in the centre of the hamlet, 1.6 km north of site. Bladon Camp, also referred to as Round Castle, has two concentric oval ramparts with outer ditches and encloses an area about 200m by 180m. It is likely to be early Iron Age in date.
- 8.2.4 There is a single registered Park and Garden located within the 2km study area. This is Yarnton Manor (OA 218), a 10ha site which lies at the southern tip of the village of Yarnton about 900m south of site. The current Yarnton Manor has 17th century origins with associated formal gardens, but the site was a manor in ecclesiastical ownership prior to the Dissolution.
- 8.2.5 There are nine conservation areas (CA) in the 2km study area (OA 221–229). The closest of these are Oxford Canal Conservation Area (OA 222) which defines the eastern border of site and the CA at Begbroke village (OA 221), about 140m north of the site. This CA covers the historic core of the village, although the earlier medieval settlement of Begbroke was probably located further east towards the Rowel Brook (which forms part of the northern boundary of site). Other nearby CAs include the five covering parts of Kidlington village to the north-east of site (OA 223, OA 225–228). There are two further conservation areas north of site, which cover the historic settlements of Hampton Gay, Shipton-on-Cherwell and Thrupp and Hampton Poyle areas (OA 224, OA 229).

8.2.6 A small number of non-designated built heritage assets have been identified in proximity to the site which have the potential to receive affects to their setting from the proposed development. These are non-designated assets have been scoped and comprise:

- Ivy House (OA 382), a two-story stone-built house on the corner of Gravel Pits Lane and Woodstock Road, is located c 90m to the west of the site.
- A pair of semi-detached houses on the southern side of Sandy Lane (OA 381), dated to 1883 from a plaque on their northern elevation.
- Parker's Farm (OA 380), located just east of the Begbroke Science Park, is currently the site of modern agricultural buildings and some ruined sections of earlier buildings.
- Two buildings associated with the railway crossings close to site. These include 'Crossing Cottage' (OA 383), a small dwelling located at Yarnton Lane/Kidlington Lane railway crossing, which may be 19th century in date, and 'Yarnton Crossing Cottage' (OA 384), a similar dwelling located on Green Lane. This last one is located c 400m to the south of the site.

8.2.7 The impact of the proposed development on the designated and non-designated assets will be assessed in Appendix 8.2 of ES chapter 8. Cultural Heritage.

### 8.3 Previous Archaeological Investigations

8.3.1 The HER returned 30 records for previous archaeological investigations on or within 1km of site (OA 234–263). These comprised 22 physical interventions such as watching briefs, evaluations and excavations, five geophysical surveys (OA 235, OA 249, OA 254, OA 260 and OA 263), one DBA (OA 244), a Monuments Protection Programme assessment (OA 243) and a building survey (OA 252).

8.3.2 Three geophysical surveys were carried out on land adjacent to or close to the site. A survey of 55ha of land at Yarnton (OA 235), directly to the west of site, revealed features consistent with ridge and furrow and field boundaries, possibly related to nearby medieval settlement. Modern agricultural activity in the form of plough scarring, drains and 'green waste' was also observed, along with evidence of services. A palaeochannel or former meander was also detected. A geophysical survey of 12.3ha of land east of the A44 at Yarnton (OA 249), directly adjacent to site to the south, found a wide distribution of sinuous and discrete anomalies that may have been primarily a result of natural site formation. Across the Oxford Canal from the site, a geophysical survey (OA 260) at Stratfield farm found features consistent with medieval to post-medieval ridge and furrow.

8.3.3 Seven recorded archaeological interventions have been carried out within the site. These are summarised here and discussed, where relevant, by time period in the sections below.

8.3.4 An evaluation (OA 239) was conducted along the length of a proposed access road to Begbroke Science Park. Whilst the majority of the trenches were devoid of archaeological features, five undated linear features that corresponded to cropmarks of possible Bronze Age enclosures and a possible 17th to 18th-century field boundary

were recorded (Joyce 2011). A subsequent strip, map and sample excavation of this area concluded that these features were geological in origin (Tsamis 2011).

- 8.3.5 A series of major archaeological excavations were carried out by Oxford Archaeology during gravel extraction to the south of Yarnton, c 2km south of the site, between 1989 and 1998 (Hey 2004; Hey *et al.* 2011; Hey *et al.* 2016). Although these sites are not located within the study area these investigations recorded important settlement evidence dating from the Neolithic through to the medieval periods and provide a valuable understanding of historic character of Yarnton and the surrounding landscape.

## 8.4 Prehistoric Period (500,000 BP – AD 43)

- 8.4.1 There are no Palaeolithic remains recorded within the study area. However, scattered evidence for Mesolithic activity has been recorded from both the lower-lying floodplain areas and the higher gravel terraces, on which the site is situated. The landscape during this period appears that have been characterised by temporary occupation sites reflecting the seasonal exploitation of the floodplain resource (Hey *et al.* 2016). Linear features that were assigned a possible Mesolithic date, along with Neolithic worked flints were recovered during an evaluation south of Lock Crescent in Kidlington (OA 285), around 150m east of site.
- 8.4.2 At the beginning of the Neolithic period, as elsewhere within the Upper Thames Valley, Yarnton and Begbroke were probably covered by a dense mixed deciduous forest cover (Hey *et al.* 2016). Settlement and animal-based farming practices would have been focussed within small woodland clearings close to the Thames (*ibid*).
- 8.4.3 There are numerous Neolithic findspots across the site and in the wider study area. These include leaf-shaped and hollow-based arrowheads recovered as individual artefacts from findspots around the science park (OA 268, OA 273 and OA 274) and also a substantial lithic scatter (OA 275) towards the centre of site, in which 789 artefacts were recovered in the 1960s. This scatter was interpreted as evidence of late Neolithic domestic activity. A Neolithic pottery sherd was also found towards the site's north-eastern corner (OA 278).
- 8.4.4 Several concentrations of cropmarks have been identified within the site and study area and are thought to represent possible Bronze Age features. These include possible enclosures (OA 269), ring ditches (OA 270), and round barrows (OA 271, OA 272) located in the northern half of site. The geophysical survey confirmed a complex of multiple discontinuous linear, rectilinear, curvilinear and penannular anomalies which were consistent with archaeological features and a possible enclosure system across this area (Chmielowska and Carrozzo 2022). An evaluation of the proposed access road route by Cotswold Archaeology (2011a) confirmed the presence of some of these features (primarily OA 269), although did not recover any dating evidence. A subsequent strip, map and excavation of the area by Cotswold Archaeology concluded that the features in this area, including the ring ditch-like feature shown in aerial photographs were 'geological formations or naturally-formed features, caused by tree throw and root action' (Tsamis 2011). The only human-made features were deemed to be a ditch that may have been a previous hedgerow, and a short length of gully,

neither of which were dateable. Given the continuation of ring ditch features immediately and further north and north-east of the access road and their clarity in aerial photographs and geophysical surveys, it seems unlikely that the presence of Bronze Age features of this nature can be discounted.

- 8.4.5 The geophysical survey identified a great number of annular and penannular anomalies in south-eastern part of the site (towards the site boundary with Oxford Canal) the morphology and signal of which were consistent with a complex of round barrows, possibly date to the Bronze Age.
- 8.4.6 Further potential Bronze Age features, including a faint double concentric ring ditch have been identified 75m north of site (OA 276) as seen in vertical aerial photographs. A Bronze Age barbed-and-tanged flint arrowhead was found in a garden 350m east of site (OA 284) and a pit containing a sherd of late Bronze Age or early Iron Age pottery was recorded during an evaluation 300m south of site at Little Marsh playing fields (OA 282).
- 8.4.7 During the Iron Age the landscape and settlement pattern in the Yarnton area underwent significant change, with the first permanent nucleated settlements emerging (Hey *et al.* 2011). The location of settlement activity differs from the earlier periods, occurring higher on the Summertown-Radley gravel terrace, rather than on the floodplain as they appear to have been in the earlier periods (Hey *et al.* 2011).
- 8.4.8 An Iron Age roundhouse (OA 279) which was associated with a series of storage pits containing sherds of pottery and hearth debris, was exposed in the Sandy Lane gravel pit towards the centre of the site, in the 1920s. Iron Age to Romano-British pits and ditches containing pottery have also been recorded within the area (Anon 1936, 201), in addition to broadly dated prehistoric findspots and scatters in the north (OA 266 – OA 267) and to the west of site (OA 265).

## 8.5 Romano-British Period (AD 43 – 410)

- 8.5.1 Romano-British settlement in the Yarnton area continued to be focussed on the higher ground of the Summertown-Radley gravels. During this period cultivation moved increasingly away from the lower lying parts of the floodplain, which were prone to seasonal flooding, eventually resulting in their abandonment as arable land. These fields appear to have been replaced by ploughlands on clay soils, whilst the floodplain was utilised for the seasonal grazing of animals (Hey *et al.* 2011).
- 8.5.2 Towards the southern site boundary below Sandy Lane, geophysical survey identified a multitude of anomalies covering an area of approximately 6 ha representing multiple phases of activity, likely relating to settlement. Immediately to the west of this complex, a double-ditched track was identified (Chmielowska and Carrozzo 2022). It is likely that at least some phases of this settlement could be dated to the Roman Period.
- 8.5.3 The HER returned two records for Romano-British activity in the wider study area, and two within the site. These include remnants of Roman settlement, evidenced by ditches and pits and a bronze brooch found towards site centre below Sandy Lane (OA 280, in the same area as the Iron Age roundhouse mentioned above) and Roman pottery (OA 281) scatter north of Sandy Lane.

- 8.5.4 Around 50m south of the site there is an area of activity identified by geophysical survey and confirmed by archaeological evaluation which has been interpreted as (undated) field systems and possible Roman settlement in the form of enclosures, ring ditches, linear features, pits, and postholes (OA 283). Undated features, corresponding to a north-south orientated trackway and associated field system ditches were also identified and may date to the medieval or later periods.
- 8.5.5 The Oxford Ridgeway (OA 264), represented by the modern Oxford-Banbury Road, is a branch of the Cotswold Ridgeway to Oxford located 770m east of the site. Its early origin is suggested by its appearance in several Saxon charters, and it is likely that stretches of it were made in the Roman period.

## **8.6 The Medieval Period (AD 410 – 1550)**

### **Early-Medieval Period (AD 410 – 1065)**

- 8.6.1 The place name of Begbroke is from the Old English meaning ‘Becca’s brook’,<sup>1</sup> in reference to the brook that runs east-west across the parish (and forms much of the site’s northern border). As noted below, the later medieval hamlet is mentioned in the Domesday Book (1086), which is an indication that the settlement pre-dates the Norman Conquest. A geophysical survey carried out 400m west of the site identified anomalies consistent with possible early medieval field boundaries and ridge and furrow (OA 305). Aerial photographs of this area show well defined ridge and furrow earthworks, aligned roughly NNE–SSW. There are similar well-defined areas of ridge and furrow west and south of the site within the wider study area (see e.g. Figure 17 and Figure 23).

### **Later Medieval Period (1066 – 1550)**

- 8.6.2 At the time of the Domesday Survey in 1086, Begbroke is recorded as a settlement with nine households, putting it in the smallest 40% of settlements recorded in Domesday. It is listed as having ploughlands, meadow and pasture. The village of Yarnton which is south of the site, is recorded as a much larger settlement, with 26 households in the same period and correspondingly greater resources (OpenDomesday, nd). By the late 12th century, the manor of Begbroke had been divided into two estates (VCH 1990a). The medieval village, including both manors, appear to have been located within the area of the current village, which is located close to the north-west corner of site.
- 8.6.3 Begbroke appears to have remained a relatively small settlement through the later medieval and post-medieval periods, the population rarely exceeding 100 until the beginning of the 20th century (VCH 1990a) when people working in Oxford in the 1930s began to live on the outskirts of the village.
- 8.6.4 The medieval activity recorded by the HER within the site and 1km wider study area is limited. A range of medieval to post-medieval material including 16th to 17th century stoneware pottery, gun flints, coins and tokens was discovered just south of Begbroke

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<sup>1</sup> From Key to English Placenames, available here:

<http://kepn.nottingham.ac.uk/map/place/Oxfordshire/Begbroke> [accessed September 2022]

Hill Farmhouse in 1971 (OA 335, OA 339), and Begbroke Hill farmhouse itself has potentially 17th century or earlier origins (OA 332). Two medieval fishponds, bulldozed in the 1970s, were located just east of the site (OA 353). The fishponds were originally associated with a moated site (Moat Cottage) which is likely to have been built after the 13th century (OA 351).

- 8.6.5 The HER records a possible shrunken medieval village 875m south of site (OA 330), visible as earthworks and some exposed stone footings. Medieval pottery was also found in this area (OA 317) within a feature of unknown function. Another shrunken medieval village (OA 292) has been identified north of St Michael's Church in Begbroke, 350m north-west of site comprising indistinct earthworks which may include some crofts nearer the church.
- 8.6.6 St Michael's Church (OA 298) was constructed in the late 12th century and has an associated 14th – 15th century churchyard cross (OA 297) and medieval grave slab (OA 296). St Batholomews Church in Yarnton (OA 325) is about 1km south-west of site and also has 12th century origins and a medieval churchyard cross (OA 326). Other buildings in the wider study area include 17th century Park Farmhouse to the north (OA 348) which was built in the area of 16th century park, and a medieval chapel of ease on a bridge (OA 352) 650m south of site.
- 8.6.7 Further out from site, but within the wider study area the HER records ridge and furrow 500m east of the bottom corner of site, which is also associated with weaker anomalies that may represent ditches or earlier field boundaries (OA 367). Further ridge and furrow, and undated linear features have been identified 960m east of site near Bicester Road.

### **Post-Medieval Period (1550-1900)**

- 8.6.8 The Grade II listed Begbroke Hill Farmhouse (OA 1) in the centre of site was built as the manor house of the Fitzherbert's Begbroke estate in the early 17th century, completed sometime between 1600 and 1630, although there may be traces of an earlier structure beneath (Fearon 1984). The landscape around the farmhouse remained largely agricultural in the post-medieval period although transport infrastructure increased in this period with the construction of a turnpike road to the west of the site and the construction of the Oxford Canal and the Great Western Railway (Oxford & Birmingham Section) to the east.
- 8.6.9 The Stokenchurch, Wheatley, Begbroke and New Woodstock Turnpike Road was completed in 1719, largely following the line of the present-day Woodstock Road (A44) as it passes Begbroke and Yarnton, immediately adjacent to the site's western border. Turnpike roads were operated by trusts which were authorised by Acts of Parliament to build and maintain roads, which were economically vital prior to the advent of the railway. The original 'Begbroke Gate' toll house and weighing machine (OA 342) was located in a small cottage at the junction of Woodstock Road and Kidlington Lane, around 500m south of site. Another toll house is recorded 900m north of site along this road at Langford Lane (OA 291). There are two milestone markers on Woodstock Road within 100m of the site border (OA 306, OA 334).



- 8.6.10 The Oxford Canal (OA 222) was opened between 1774 and 1790 for the purpose of bringing coal from the Coventry coalfields to Oxford and the River Thames. Many of the post-medieval records in the HER within the wider study area relate to structures associated with the Canal and its operation. These include locks (e.g. OA 343, 363) bridges (OA 349, 357, 358, 362) and wharfs (OA 360).
- 8.6.11 The Birmingham and Oxford Junction line (OA 286) opened between Millstream Junction, in Oxford, and Banbury in 1850 as a broad-gauge line. It bisects the site, running north-south, and crossing Sandy Lane towards its eastern end.
- 8.6.12 The HER records for this period mainly reference buildings within the 1km wider study area, concentrated in the nearby residential areas of Begbroke (e.g. OA 288–290), Kidlington (e.g. OA 350, 345–347) and Yarnton (e.g. OA 309–313, OA 320,321). Many of these buildings are former farmhouses and associated farm buildings, such as outbuildings and barns. The closest building to the site is the Grade II listed Tudor Cottage on Woodstock Road (OA 60/OA 320). The cottage originated as a pair of mid-17th century cottage and is located adjacent to the site's western border. The remains of a 19th century agricultural building and associated agricultural features (OA 336) are present 100m south of site.
- 8.6.13 Davis' County map of Oxfordshire (1797, Figure 10) illustrates the site as largely undeveloped. Most of the land below Rowel Brook had been enclosed by this point, with large fields in presumably pastoral use. The land north of the brook, and in the north-west of site is shown as open fields, potentially arable in nature. 'Begbrook Hill' Farmhouse appears to have been situated in the same location as the present-day farmhouse and comprised three buildings focused around a central courtyard. Access to the buildings was from a roadway to the west which connected to Woodstock Road (the present A44), which may be part of what is now Sandy Lane. Rowel Brook is shown to connect to the canal, and both it and Kidlington Lane appear to have much the same trajectory as today. Sandy Lane – if indeed that is the roadway shown east-west across site – does not continue further east than the farmhouse.
- 8.6.14 All but the south-eastern part of the site is present on the 1811 Ordnance Surveyor's drawing (OSD 162) for Woodstock (Figure 11). The portion of land east of Kidlington Lane is depicted on the 1814 drawing (OSD 230) for Ot Moor (Figure 12). These drawings show the site as largely undeveloped, comprising fields of varying sizes. Some field boundaries illustrated on this map appear to have survived until the present day, however many of the field boundaries have been lost to create larger fields. The road across the site (Sandy Lane), Woodstock Road (the present A44) and Kidlington Lane follow the same trajectory as today, as does the Oxford Canal. Despite the suggestion of a roadway or narrow plot of land up to the location of Begbroke Hill farmhouse (OA 1) no farmhouse buildings are shown in this area. As Begbroke Hill farmhouse has 17th century or earlier origins and is shown on maps before and after the production of this one, its absence is likely to be a reflection of the draft nature of the Ordnance Surveyor's drawings rather than genuine absence. There is a small building noted east of Kidlington Lane, located on a field boundary, and small buildings are present either side of Sandy Lane, near the kink in the eastern half of the road.

- 8.6.15 On the OSD map, and the first Ordnance Survey map, the route of the Rowel Brook is shown to cross the northern part of site, from east to west, curving south-east some 300m before the Canal. It continues south past Sandy Lane, and then curves south-west towards Yarnton. In this area it is analogous to the watercourse that appears in this location in the present day. This route is slightly at odds with the Davis' map which shows the stream continuing to the canal, with no southern branch. It may be that a branch of the watercourse always went to the area of the canal and the southern branch is not shown on the earlier map. Alternatively, its disappearance on later maps (after the OSD and first OS map) may have been due to the culverting or rerouting of the watercourse.
- 8.6.16 Despite the large scale of the First Series Ordnance Survey map (1833, Figure 13) it is possible to locate the site fairly accurately. There are no great changes from the OSD, although the building to the east of Kidlington Lane is now labelled as a barn. The route of Sandy Lane, with access via a roadway to Begbroke Hill Farmhouse, is well defined and follows the same route as today.
- 8.6.17 The site appears on the 19th century tithe maps for Begbroke (1844, Figure 14) and Yarnton (1844, Figure 15) parishes. Tithe maps were created to ascertain which land was still subject to tithes (a tax on agricultural produce paid in kind), who owned it and to whom the tithes were payable. Begbroke Hill Farmhouse and the surrounding plots of land were listed as belonging to Thomas Robinson and occupied by Matthew Young. The land surrounding the farmhouse was a mix of pasture and arable land. Woodland was recorded along much of the length of the Rowel Brook (south side). A homestead was noted 400m east of Begbroke Hill Farmhouse and was later referred to as Parker's Farm. It, and the land around it were also recorded as a mix of arable and pasture which was owned by Thomas Robinson and occupied by Sampson Pratt.
- 8.6.18 The fields east of Kidlington Lane (and a plot north of Sandy Lane) have a number of landowners including Thomas Robinson, the Duke of Marlborough and Reverend Ellis but most of the land is also occupied by Matthew Young and is listed as pasture and meadow. The fields south of Sandy Lane are in Yarnton parish, and belong to a number of landowners including Thomas Robinson, Robert Southerby Esq., the Duke of Marlborough, the Rectors and Scholars of Exeter College and Merton College, Oxford. Again, the land is a mix of arable and pasture. Ivy House, which is located on the western boundary of the site, south of the present Gravel Pits Lane, was built in 1842 for Thomas Robinson (VCH 1990). An agricultural building with a small enclosure around it is shown 200m south of Sandy Lane, east of Ivy House.
- 8.6.19 By the time of the 1884 Ordnance Survey (OS) map (not reproduced here) the present-day field system within the site had been established and some of the buildings within Begbroke Hill farmstead had been extended. Parker's Farm, mentioned above, had at least two buildings and was approached via a trackway running from Sandy Lane. The railway line, not present on the previous tithe maps, had been constructed by this time and is shown running north-south through the site.



## 8.7 Modern

- 8.7.1 The 1900 OS map (not reproduced here) shows a few field boundary changes and the introduction of more footpaths across site (along field boundaries south of the brook, to and from the houses around the present day Gravel Pits Lane and between Begbroke Hill Farmhouse, Parker's Farm towards Kidlington). 'Gravel Pits' as a place name appears for the first time, indicating the use of the site for extraction, although the no extractive pits are marked on the 1900 OS map. A building is shown south of Sandy Lane, which looks to be a pair of dwellings. These buildings may be associated with extraction in that area. The barn to the east of Kidlington Lane has expanded since the 1880s and is much longer than its predecessor. There are no significant changes on the 1922 OS map (not reproduced here), although it notes 'gravel pits' towards the western part of the site.
- 8.7.2 By 1939 (OS map, not reproduced here) there was a large gravel pit, located within the square field below Sandy Lane directly south-east of Begbroke Hill Farmhouse (Sandy Lane East historic landfill site). The gravel pits identified on the 1922 OS map to the west of site (Sandy Lane West historic landfill site) are shown taking up the entirety of the field to the east of Gravel Pits Lane. There are some small buildings near the road that may have been associated with the gravel pit. These buildings have somewhat expanded by the time of the 1949 OS map (not reproduced here). The Sandy Lane East gravel pit had also expanded, but few other changes to the site had occurred between 1939 and 1944. The gravel pits continued to expand during the 1950s and aerial photographs from this period confirm the presence of large extraction sites (e.g. Figure 16).
- 8.7.3 There were no significant changes to the site between the 1962 or 1969 OS maps (not reproduced here). The Agricultural Research Council's Weed Research Organisation was established at Begbroke Hill in 1960 (VCH 1990a). Aerial photographs taken in the 1970s show the area to the south and south-east of the buildings at Begbroke Hill as a mosaic of planted areas and gardening related structures. This is particularly clear in images from the 1970s (Figure 19). This facility was closed in 1985.
- 8.7.4 The gravel extraction sites in and adjacent to site were subsequently used as landfills. Sandy Lane East is described as having 'received inert and industrial waste with unspecified timeframe', and Sandy Lane West as having 'received inert waste with unspecified timeframe' (Jubb Consulting Engineers 2018). Aerial photographs confirm the sites were backfilled in the late 20th century. Sandy Lane East is now grassed, whilst Sandy Lane West was developed.
- 8.7.5 An anti-aircraft gun site is known to have been located on the site during the Second World War (OA 375) located in Patridge Pit, off Sandy Lane. There was also a standard polygonal pillbox (OA 377) located 200m north-east of site beside the canal. Oxford Kidlington Airport (OA 379), a former military airfield opened in 1938, is located 1km north of site.

## 8.8 Undated

- 8.8.1 The HER returned seven undated records. Six of these refer to earthworks and cropmarks within the site, and one within the wider study area (Figure 7). These

include several features identified in the NMP (Figure 9). In the southern half of site, below Sandy Lane and directly south of the Sandy Lane East landfill site is a group of five to six rectilinear enclosures which partly overlap, a variety of linear marks that may include a central north-south roadway and some circular features which may be pits or round structures (OA 376). Although undated, this palimpsest of features may indicate the presence of an Iron Age settlement with later Roman use. The features are clearly shown on the geophysical survey (Figure 24).

- 8.8.2 North of Sandy Lane, 250m south of Begbroke Hill Farmhouse there is a single-ditched square enclosure (OA 374), with a possible entrance in the middle of its east side and no clear internal features. This feature is also clear on aerial photographs and geophysical survey.
- 8.8.3 East of the Begbroke Hill Farmhouse there is an undated droveway and field system (OA 378) which is described in the HER as two parallel lines defining a droveway aligned WNW–ESE and connecting ditches and a field system to the south. These marks cross the parish boundary. Recent geophysical survey (Figure 24) has shown that droveway is not confined to the area depicted in the NMP (Figure 9), but rather diverges with a branch continuing south-west towards the undated enclosure listed above (OA 374). The roadway continues to a field system and settlement which spreads out and to the east towards the railway line. The full extent of this has not been identified previously. This area is discussed further in the geophysical survey section below.
- 8.8.4 North of Begbroke Hill Farmhouse there are two areas of undated enclosures and pits (OA 371) and enclosures and linear marks (OA 373). These include a rectangular enclosure with an entrance gap to the north and three small satellite enclosures each containing a pit, as well as some irregular enclosures and other marks which could be periglacial in origin.
- 8.8.5 West of Begbroke Hill Farmhouse and south of the access road there are some faint ovoid enclosures, linear marks possibly part of a field system and small group of well-marked pits (OA 370). These appear to be largely under the retail development currently on this area of site.
- 8.8.6 Around 500m south of site, adjacent to Exeter Farm, there is a record for seven undated, shallow linear features (ditches and gullies) that were excavated in 2009 and interpreted as probable boundary or drainage features. Although no dating evidence was recovered from them, the site produced a small quantity of medieval and post-medieval pot.

## 8.9 Aerial Photographs

- 8.9.1 A review of aerial photographs (APs) held at Historic England Archive in Swindon was carried out as part of the baseline assessment. A total of 267 aerial photographs comprising vertical and oblique images covering the period 1942 – 2018 were reviewed. National Mapping Programme (NMP) data was available for this area, and it is reproduced in Figure 9.
- 8.9.2 The vertical APs of site and the surrounding area confirm the presence of several earthworks which have been previously noted in the baseline above and illustrated in

the NMP. Illustrative APs from 1946 (Figure 16), 1947 (Figure 17), 1952 (Figure 18), 1971 (Figure 19) and 1990 (Figure 20) have been included in this assessment.

- 8.9.3 Ridge and furrow earthworks (e.g. OA 305), a result of medieval and early post-medieval agricultural practises, were identified within the study area. These earthworks are largely identified in the western part of the study area (west of Woodstock Road) and in the area to the south. These remains predominantly appear in parts of the study area which overlie geologies of clay or alluvium. Earlier APs indicate that some fields within the site had ridge and furrow (north-east and north-west of Begbroke Hill, can be seen on Figure 16) but these are now minimal and do not appear on recent satellite images. The absence of ridge and furrow earthworks upon the gravels suggests that they may have been utilised for pasture whilst the clays and alluvium were favoured for cultivation. Much of the land use within site was pastoral in nature according to the mid-19th century tithe maps. Figure 17 (and Figure 23) show areas of ridge and furrow in relation to the wider study area.
- 8.9.4 Some vertical APs show a series of substantial linear features (see Figure 23 for locations) across the study area. Several of these linear features are consistent with former boundaries illustrated on 19th-century mapping. Those not illustrated on historic mapping may represent earlier post-medieval, or possibly medieval, field boundaries and/or divisions.
- 8.9.5 The site takes on an unusual appearance in the 1960s to 1980s when it was occupied by the Agricultural Research Council's Weed Research Organisation. The fields around the Begbroke Hill Farmhouse appear full of discrete areas of planting and temporary agricultural structures. This is best illustrated by Figure 19.

## 8.10 LiDAR

- 1.1.1 The LiDAR data utilized in this report was captured by the Environment Agency (EA) and made available via the EA online archive.<sup>2</sup> In this instance Digital Terrain Model (DTM) tiles for Ordnance Survey Sheet SU41se were downloaded. This data was surveyed at 1m intervals and was collected in 2020. The DTM data were processed using the Relief Visualisation Toolkit (RVT) and visualisations were created using Hill Shade, Sky View factor, open-positive, open-negative and simple local relief model (SLRM) visualisation techniques. Indicative multi-hillshade and SLRM visualisations of site and the surrounding area have been included as Figures 21 and 22 respectively, with an annotated version presented as Figure 23.
- 8.10.1 An area within the central part of the site is clearly shown as lower than the remainder of the site. This is the result of early 20th-century quarrying activity (gravel pits) which is recorded within this part of the site by historic mapping and later became a landfill.
- 8.10.2 A series of substantial linear features were identified across the study area (Figure 23). Several of these linear features are consistent with former boundaries illustrated on 19th-century mapping. Those not illustrated on historic mapping may represent earlier post-medieval, or possibly medieval, field boundaries and/or divisions. A series

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<sup>2</sup> Downloaded from <http://environment.data.gov.uk/ds/survey/#/survey/>

of linear features, which were visible as cropmarks, and shown on the geophysical survey were noted north of Rowell Brook. These are not consistent with any features shown on historic mapping of the site and their date and nature is unknown, although the geophysical report suggests these may be extraction features or evidence of an unidentified archaeological trenching in an area of Bronze Age activity which includes ring ditch features (Chmielowska and Carrozzo 2022).

- 8.10.3 Ridge and furrow earthworks are identifiable within the western and southern parts of the study area. The extent of surviving ridge and furrow is much decreased from that shown on historic aerial photographs which is likely a result of modern agriculture and development. The geophysical survey detected agricultural activity in the form of extensive ridge and furrow cultivation identified in the magnetic data, although visually there was little evidence of this on site or in aerial photographs which could be distinguished from the modern ploughing regime.

## 8.11 Geophysical survey

- 8.11.1 Geophysical survey results (Figure 24) have shown a large number of archaeological features present across the site. Largely, these results complement and confirm the features noted previously. For example, the presence of potentially Bronze Age ring features west of the science park (above the access road) and north-east of the science park towards the railway line. There are further similar features noted above Rowel Brook. The full geophysical survey report (Chmielowska and Carrozzo 2022) identified multiperiod settlement areas, funerary complexes, enclosure systems, and trackways along with other isolated anthropogenic anomalies. The report details each area of site and its archaeological significance and is included here in full as Appendix C and it consists of Appendix 8.3 of ES chapter 8. Cultural Heritage.
- 8.11.2 The droveway and associated enclosures (OA 378) which was identified by aerial photographs was also identified and expanded by the geophysical survey. The survey shows the droveway with NW–SE and NE–SW branches which come together and lead towards a multiphase settlement complex, which may be Iron Age to medieval in date. This covers an area of approximately 160m by 160m. The extent of activity in this area has not been previously identified.
- 8.11.3 A similar field system and area of settlement (OA 279, OA 280) was identified to the south of Sandy Lane by the NMP data and the geophysical survey. The northern continuation of these remains likely truncated by later quarrying in this area. The geophysical survey identified additional features to the east and south of the cropmarks shown on the NMP data, identifying the area as
- 8.11.4 The geophysical survey also shows some larger linear and curvilinear features, predominantly in the central and eastern parts of site. These seem likely to be natural geological features.

## 8.12 Historic Landscape Characterisation

- 8.12.1 The Oxfordshire HLC project records the site as predominantly ‘Reorganised Enclosures’ and ‘Prairie / Amalgamated Enclosure’. There are two areas of ‘Orchard and Hort – Allotment’ and ‘Orchard and Hort - Nursery/ Garden Centre’ to the west.

Begbroke Science Park is characterised as 'Commercial – Business Park'. Reorganised enclosure is the most common HLC type in Oxfordshire (Tompkins 2017) and shows the extent of change the agricultural landscape has experienced since originally being enclosed. Prairie/amalgamated enclosure is also a common landscape type in Oxfordshire, usually indicating the 20th century or post war aggregation of fields to aid industrialisation. The presence of allotments as a landscape type is usually a result of the first and second world wars and it is a declining landscape type. Horticultural nurseries are a rare but expanding landscape type. The ones on main roads, such as this, are twentieth century in date and are of little historic significance.

- 8.12.2 Some of the field boundaries within the site are present on early maps of the area, and a number may class as historic hedgerows according to the Hedgerow Regulations (1997). Of particular note are hedgerows which have been present for more than 30 years and mark parts of historic parish boundaries that existed before 1850. The site lies predominantly between the parishes of Begbroke and Yarnton and retains some of these parish boundaries. This includes stretches of the eastern most portion of site along the Oxford Canal, and a short section north of Sandy Lane which originally formed the boundary for a detached portion of Begbroke. The northern border of the site, along much of Rowel Brook is also part of the historic Begbroke boundary. As such, hedgerows in these areas may be of at least low historical significance and any alterations or removal of it could be subject to approval by the Local Planning Authority. Other hedgerows across the site may appear on early maps and are of some historical interest, but are unlikely to class as historic hedgerows according to these regulations.

## 9 PREVIOUS IMPACTS AND SURVIVAL

- 9.1.1 The site contains several buildings, which are concentrated within Begbroke Science Park and the area to the east (the former Parker's Farm) between Sandy Lane and the railway line. Historic mapping also indicates the presence of buildings no longer on site today, including a small building east of Kidlington Lane and structures relating to Parker's Farm. The exact depth and extent of groundworks during the construction of these buildings and any associated landscaping is unknown, although it is likely that any archaeological remains within the footprints of these buildings and former buildings will have been significantly truncated or wholly removed. Temporary structures, or groundworks for services and attenuation features may also have had an impact upon the archaeological resource.
- 9.1.2 Given the agricultural nature of the site for much of its history, and the presence of the Agricultural Research Council's Weed Research Organisation at Begbroke Hill Farmhouse for two decades, it is likely that smaller structures – such as sheds, greenhouses and so on – have also been present across the site. The groundworks associated with such structures would not have been substantial. It is anticipated that whilst shallow sub-surface deposits may have been damaged or removed within the footprint of these structures archaeological deposits are likely to remain undisturbed.
- 9.1.3 Cartographic sources indicate that 19th century quarrying took place within the site, south of Sandy Lane. Quarrying activity would have removed any archaeological

remains present in these areas. This area was filled in the 20th century with inert and industrial waste, and it now grassed. This area is not set to be developed. Given the presence of this quarrying site, and a further one to the west, it is possible that quarrying debris or associated structures would be present in this area, around Sandy Lane.

- 9.1.4 Archaeological deposits along the route of major transportation routes such as the Oxford Canal and the railway, are likely to have been wholly truncated historically. The creation of such infrastructure may also have impacted the adjacent archaeological resource with areas quarried away or disturbed during construction.
- 9.1.5 Beyond these areas, the majority of the site remains undeveloped. Other than the possible disturbance of shallow sub-surface deposits by minor landscaping works and agricultural activities, it is considered that the archaeological horizon is likely to remain intact across much of the area of the site that is currently and historically undeveloped. The clarity of archaeological features on geophysical survey, LiDAR and in aerial photography suggests that many of these features survive well.

## 10 ARCHAEOLOGICAL POTENTIAL AND SIGNIFICANCE

- 10.1.1 The site is situated upon the Summertown-Radley sand and gravel terrace and other deposits within the Upper Thames Valley. Within the surrounding landscape extensive evidence of prehistoric and Romano-British occupation has been found on this terrace. Numerous Neolithic and later prehistoric artefacts have been found within and near the site, indicating activity in the area during this period. A series of cropmark features, ranging in potential date from the Bronze Age to Romano-British period, have been identified across the site. Many of these features have been identified from historic aerial photographs, but recent geophysical survey has confirmed the presence of these and further features in the landscape. These remains are probably prehistoric in date, and many fall within the developable part of site. There is therefore a high potential for archaeological remains of this date on site. Whilst any residual artefacts such as flint or pottery sherds would be of low (local) significance, settlement remains would be of moderate (regional) significance.
- 10.1.2 Roman settlement activity as evidenced by ditches and pits and a bronze brooch, has been recorded within the site. This settlement is clear on APs and on previous surveys. Recent geophysical survey has identified another field system and settlement to the east of the site, which appears connected to a driveway or road identified from aerial photography within the centre of the site. This appears to be a substantial settlement and may include earlier Iron Age activity. There is therefore a high potential for archaeological remains of Romano-British date on site. Whilst any residual artefacts such as pottery sherds would be of low (local) significance, settlement remains would be of moderate (regional) significance.
- 10.1.3 The HER records only a single possible early medieval monument in the wider study area, which is a series of ridge and furrow earthworks 400m west of the site. Begbroke is mentioned in the Domesday Book (1086) which is often taken as an indication that the settlement pre-dates the Norman Conquest, but the settlement would have been small and there is no reason to expect it, or another settlement, necessarily extended



into the site. The site was clearly a desirable place for early settlement in earlier periods however, and it is not implausible that activity of this date could be present on site. As such, there is some potential for archaeological remains of this date, and their presence, if residual or agricultural, is likely to be of low (local) significance.

- 10.1.4 During the later medieval period the site is likely to have been largely part of an open field system of agriculture to the east of the medieval villages of Begbroke and Yarnton. It is also possible that an earlier phase of Begbroke Hill House was present, in the area of the current (post-medieval) house. Residual medieval artefacts including pottery and metal finds have also been found in the central parts of site. It is therefore likely that agricultural features such as field boundaries, possible furrows and drains, as indicated by surveys and LiDAR data, will be present. Similar finds or features would likely be of low (local) significance. Remains of an earlier medieval house predating Begbroke Hill farmhouse, if present, would be of potentially regional significance.
- 10.1.5 The site largely remained in agricultural use during the post-medieval period, with Begbroke Hill Farmhouse, a Grade II listed building of up to national importance, built between 1600 and 1630. Infrastructure improvements – a turnpike road along the west border of site, a canal and a railway to the east – were undertaken later in the post-medieval period. Expansion of the buildings at Begbroke Hill Farmhouse, and the construction of agricultural buildings and other farmsteads within the site was also undertaken in the post-medieval period. It is therefore likely that agricultural features such as field boundaries and farm buildings or their remains will be present across the site. Such remains are likely to be of low (local) significance.
- 10.1.6 There is potential for archaeological remains associated with the railway and the canal to be present within the site since the site is bisected by the former and bordered along its eastern length by the latter. Remains associated with these heritage assets would be of low (local) significance.
- 10.1.7 During the modern period the site was utilised as agricultural land, with some areas being quarried for gravel. In the mid-20th century, the site became associated with the agricultural and horticultural endeavours of the Agricultural Research Council's Weed Research Organisation. It is very likely that evidence of these activities survives in the top soils of the site. Such remains are likely to be of at most, low (local) historic significance.

## 11 POTENTIAL IMPACTS

- 11.1.1 Illustrative plans for the proposed scheme indicate that development include the enlargement of the existing Begbroke Science Park, creation of residential dwellings, education facilities and associated roadways and amenities. The development will include allotments to the north and south, a green buffer between development and the railway line that crosses the site, and some areas of open green space. The developable area is largely confined to west of the railway line and approximately 80m south of the Rowel Brook. The previous landfill will be developed as a park, and some patches of open space and green buffers are expected in locations across the site.

## 11.2 Archaeology

11.2.1 The proposed scheme will result in significant groundworks across the site which are likely to include the following:

- the demolition of existing buildings, structures and infrastructure;
- the excavation/piling for the foundations of the proposed buildings and roadways;
- the excavation of trenches for services, soakaways and other attenuation features; and
- other ground modification or landscaping works.

11.2.2 The most archaeological sterile area of the site – the previous quarry/landfill – is going to be developed as a park. The rest of the site has the potential to contain archaeological remains and, aside from a band of green space/allotment to the north and east of the site, would be substantially affected by the proposed development.

11.2.3 Beyond the footprint of existing and previous development, the archaeological horizon is likely to have survived. As such, it is likely this development will impact upon archaeological deposits in parts of the site.

## 11.3 Historic landscape Characterisation

11.3.1 The HLC of the site is recorded largely 'Reorganised Enclosures' and 'Prairie / Amalgamated Enclosure', along with two horticultural areas (Allotment and Nursery) to the west. Begbroke Science Park is characterised as 'Commercial – Business Park'. Under the proposed scheme the site will not retain the 'enclosure' HLC classifications and will be changed to modern residential/business park.

## 12 POTENTIAL FOR FURTHER WORK

12.1.1 The effect of the proposed scheme on potential archaeological remains and the historic environment will be a material consideration in the determination of a submitted planning application. This assessment has identified that undeveloped or lightly developed areas of the site are very likely to contain archaeological remains.

12.1.2 Although the full extent of the presence and survival of deposits within the site is unknown, it is clear that there is the potential for significant archaeological remains to be present if intrusive groundworks are undertaken. This is particularly likely to the east of the Begbroke Science Park and to the south of Sandy Lane. Both of these areas are likely to contain later prehistoric to Roman-British settlement activity. It is very likely that residual finds (prehistoric to post-medieval) will be present across the site, and that agricultural features in the landscape (medieval to post-medieval) will be present in areas of proposed development.

12.1.3 Further archaeological investigations of the site had been required by the County Archaeological Services, in the form of an archaeological trial trenching evaluation targeted over the results of a geophysical survey. This evaluation is currently being undertaken to clarify the presence and significance of any archaeological deposits that might be impacted by the proposed scheme. The results of the evaluation will be used



to inform a suitable mitigation strategy intended to remove or reduce any archaeological impacts identified.

- 12.1.4 The requirement and scope of all archaeological work will need to be agreed with the Oxfordshire County Archaeologist.

## 13 CONCLUSION

- 13.1.1 The site is situated within a wider landscape which contains prehistoric and Romano-British activity. Geophysical survey and historic aerial photographs indicate the widespread presences of features of this date across the site and within the developable area. Two distinct areas of Iron Age and Romano-British settlement, field systems and trackways remain intact to the east and south/central parts of site.
- 13.1.2 The site has yielded numerous residuals finds of prehistoric (Neolithic, Bronze age and Iron Age), Roman, medieval and post-medieval periods, and some archaeological activity has been confirmed by excavation in areas within and near site. Cartographic evidence from the 17th century onwards indicates a largely agricultural landscape in which the survival of earlier archaeological deposits is likely. LiDAR data and cartographic sources suggest that medieval, post-medieval and later agricultural features may survive across the site.
- 13.1.3 There is no indication, on current knowledge, that the site contains deposits of sufficient significance to prevent development, This study has suggested that the site has potential to contain regionally significant archaeological features or deposits, which have not been previously disturbed (or have minimal previous disturbance).
- 13.1.4 The proposed development scheme will have an adverse impact upon any surviving archaeological remains present within the site, in most areas outside of the footprint of previous or existing structures on site.
- 13.1.5 Further investigation of undisturbed areas of the site in the form of an archaeological trial trenching is being carried out as designed according to the County Archaeological Services in order to clarify the presence and significance of any archaeological deposits that might be impacted by the proposed scheme. The results of this evaluation will then inform a suitable mitigation strategy intended to remove or reduce any archaeological impacts identified. The requirement and scope of all archaeological work will need to be agreed with the Oxfordshire County Archaeologist.

## APPENDIX A GAZETTEER OF KNOWN HERITAGE ASSETS WITHIN THE STUDY AREA

### Abbreviations

LB	Listed Building	SM	Scheduled Monument
RPG	Registered Park and Garden	EVNT	Event
CA	Conservation Area	MON	Monument

OA no.	HER REF	ListEntry	Name	Grade	Mon type	Period	Easting	Northing
1	N/A	1291316	BEGBROKE HILL FARMHOUSE	II	LB	N/A	447933	213466
2	N/A	1290230	CHURCH OF ST BARTHOLOMEW	I	LB	N/A	447767	211677
3	N/A	1291046	CHURCH OF ST MARY	I	LB	N/A	449723	214810
35	N/A	1367912	RECTORY FARMHOUSE	II	LB	N/A	446263	211388
36	N/A	1210637	SPRING HILL	II	LB	N/A	446438	212875
37	N/A	1291301	BARN APPROXIMATELY 10 METRES NORTH NORTH WEST OF HALL FARMHOUSE	II	LB	N/A	446636	213782
38	N/A	1291300	HALL FARMHOUSE	II	LB	N/A	446644	213763
39	N/A	1219796	CARTSHED APPROXIMATELY 25 METRES SOUTH EAST OF HALL FARMHOUSE	II	LB	N/A	446680	213742
40	N/A	1219921	Headstone approximately 8 Metres South South West of South door of Church of St Michael	II	LB	N/A	446837	213929
41	N/A	1291246	GRAVE SLAB APPROXIMATELY 5 METRES SOUTH OF SOUTH DOOR OF CHURCH OF ST MICHAEL	II	LB	N/A	446840	213936
42	N/A	1219798	BASE AND SHAFT OF CHURCHYARD CROSS APPROXIMATELY 9 METRES SOUTH OF SOUTH DOOR OF CHURCH OF ST MICHAEL	II	LB	N/A	446841	213929
43	N/A	1211241	THE OLD RECTORY	II	LB	N/A	446855	213885
44	N/A	1211242	THE OLD RECTORY COACH HOUSE AND STABLE	II	LB	N/A	446856	213863
45	N/A	1291303	CHEST TOMB APPROXIMATELY 2 METRES EAST OF CHANCEL OF CHURCH OF ST MICHAEL	II	LB	N/A	446860	213944
46	N/A	1219797	CHEST TOMB APPROXIMATELY 8 METRES EAST OF CHANCEL OF CHURCH OF ST MICHAEL	II	LB	N/A	446866	213944
47	N/A	1291288	CHURCH OF ST PHILIP	II	LB	N/A	446909	213938
48	N/A	1219760	ST PHILIP'S PRIORY	II	LB	N/A	446924	213966
49	N/A	1210893	HILL FARMHOUSE	II	LB	N/A	447407	212022
50	N/A	1290363	WINDMILL FARMHOUSE AND ATTACHED OUTBUILDING	II	LB	N/A	447411	211977
51	N/A	1211165	BARN APPROXIMATELY 14 METRES WEST OF MERTON GARTH	II	LB	N/A	447456	212179

52	N/A	1210939	BYWAYS	II	LB	N/A	447471	211983
53	N/A	1290233	MERTON GARTH	II	LB	N/A	447479	212176
54	N/A	1290360	OUTBUILDING APPROXIMATELY 10 METRES NORTH WEST OF NUMBER 186 (SIX BELLS)	II	LB	N/A	447481	212044
55	N/A	1365732	SIX BELLS	II	LB	N/A	447500	212030
56	N/A	1290358	JACKSON'S FARMHOUSE	II	LB	N/A	447644	212042
57	N/A	1211115	TERRACE WALK AND ATTACHED GAZEBO, WALLS AND GATEWAYS TO WEST OF YARNTON MANOR	II	LB	N/A	447651	211601
58	N/A	1210647	PARISH CLERK'S HOUSE	II	LB	N/A	447690	212007
59	N/A	1210640	HOME CLOSE	II	LB	N/A	447698	212023
60	N/A	1210969	TUDOR COTTAGE	II	LB	N/A	447702	212808
61	N/A	1290283	PATERNOSTER FARMHOUSE	II	LB	N/A	447716	211976
62	N/A	1290362	BARN AND ATTACHED BAKEHOUSE APPROXIMATELY 5 METRES SOUTH OF PATERNOSTER FARMHOUSE	II	LB	N/A	447728	211964
63	N/A	1290232	OUTBUILDING APPROXIMATELY 30 METRES SOUTH EAST OF FRONT DOOR OF YARNTON MANOR	II	LB	N/A	447739	211614
64	N/A	1210957	THE OLD VICARAGE	II	LB	N/A	447756	211692
65	N/A	1210967	CHEST TOMB APPROXIMATELY 2 METRES SOUTH WEST OF SOUTH PORCH OF CHURCH OF ST BARTHOLOMEW	II	LB	N/A	447767	211664
66	N/A	1210965	GROUP OF THREE CHEST TOMBS APPROXIMATELY 5 METRES SOUTH EAST OF SOUTH PORCH OF CHURCH OF ST BARTHOLOMEW	II	LB	N/A	447775	211668
67	N/A	1290231	GROUP OF 3 HEADSTONES APPROXIMATELY 10 METRES SOUTH SOUTH EAST OF SOUTH PORCH OF CHURCH OF ST BARTHOLOMEW	II	LB	N/A	447778	211663
68	N/A	1210966	GROUP OF 2 HEADSTONES APPROXIMATELY 16 METRES SOUTH SOUTH EAST OF SOUTH PORCH OF CHURCH OF ST BARTHOLOMEW	II	LB	N/A	447783	211659
69	N/A	1290300	EXETER FARMHOUSE	II	LB	N/A	447868	211997
70	N/A	1210968	MEAD FARMHOUSE	II	LB	N/A	447892	211521
71	N/A	1210634	LOWER FARMHOUSE AND ATTACHED GRANARY OUTBUILDING	II	LB	N/A	447921	215706
76	N/A	1210436	SPARROWGAP BRIDGE, OXFORD CANAL	II	LB	N/A	448031	215419
77	N/A	1290394	THE BOAT PUBLIC HOUSE	II	LB	N/A	448069	215804
78	N/A	1210631	01-Sep	II	LB	N/A	448107	215804
79	N/A	1290338	MANOR FARMHOUSE	II	LB	N/A	448189	215933
80	N/A	1290392	BARN AND STABLE APPROXIMATELY 15 METRES NORTH EAST OF MANOR FARMHOUSE	II	LB	N/A	448205	215961
81	N/A	1210723	DOVECOTE AND GRANARY APPROXIMATELY 15 METRES EAST OF MANOR FARMHOUSE	II	LB	N/A	448220	215931
82	N/A	1290114	ROSE COTTAGE AND ATTACHED COTTAGE	II	LB	N/A	448247	212329
83	N/A	1290361	QUANTON'S COTTAGE	II	LB	N/A	448261	212129
84	N/A	1210970	THE GRAPES INN	II	LB	N/A	448334	212239

85	N/A	1220259	RAILWAY BRIDGE AT SP 4832 1529	II	LB	N/A	448342	215292
86	N/A	1290391	THRUPP YARD COTTAGES AND ATTCHED OUTBUILDING	II	LB	N/A	448351	215909
87	N/A	1210420	ROUNDHAM LOCK, OXFORD CANAL	II	LB	N/A	448362	214023
91	N/A	1421245	Milestone on Banbury Road, Kidlington	II	LB	N/A	448546	214638
92	N/A	1220267	BARN AND ATTACHED OUTBUILDING 60 METRES WEST OF NUMBER 89 (PARK FARMHOUSE)	II	LB	N/A	448560	214398
93	N/A	1220266	BARN AND ATTACHED OUTBUILDINGS APPROXIMATELY 30 METRES NORTH WEST OF NUMBER 89 (PARK FARMHOUSE)	II	LB	N/A	448582	214417
94	N/A	1220271	CARTSHED AND GRANARY APPROXIMATELY 15 METRES WEST OF NUMBER 89 (PARK FARMHOUSE)	II	LB	N/A	448598	214385
96	N/A	1220264	PARK FARMHOUSE	II	LB	N/A	448632	214392
98	N/A	1220542	BRIDGE 227, OXFORD CANAL	II	LB	N/A	448727	213505
100	N/A	1370051	OXFORD CANAL DUKE'S CUT LOCK	II	LB	N/A	448746	210611
104	N/A	1286500	OXFORD CANAL TOWPATH BRIDGE AT DUKE'S CUT LOCK	II	LB	N/A	448788	210638
105	N/A	1220333	LYNE FARM HOUSE	II	LB	N/A	448810	214049
109	N/A	1220332	"NUMBER 6 (GREYSTONES HOUSE), GREYSTONES COTTAGE AND ATTACHED WALLS AND OUTBUILDING	II	LB	N/A	448863	214067
113	N/A	1220273	SUFFOLK HOUSE	II	LB	N/A	448890	214145
114	N/A	1192665	OXFORD CANAL TILTING BRIDGE APPROXIMATELY 600 METRES NORTH OF DUKE'S CUT	II	LB	N/A	448893	211199
115	N/A	1291055	NORMANHURST	II	LB	N/A	448917	214164
116	N/A	1290142	BRIDGE 228, OXFORD CANAL	II	LB	N/A	448918	213331
117	N/A	1291056	BROOKWOOD HOUSE	II	LB	N/A	448926	214154
119	N/A	1291049	EXETER HOUSE	II	LB	N/A	448959	213858
120	N/A	1046560	OXFORD CANAL TILTING BRIDGE APPROX 300M SOUTH EAST OF DUKE'S CUT	II	LB	N/A	448974	210398
123	N/A	1290953	OXFORD CANAL KIDLINGTON GREEN LOCK	II	LB	N/A	449178	212813
124	N/A	1291051	85, HIGH STREET	II	LB	N/A	449292	214213
125	N/A	1220331	HILL FARM HOUSE	II	LB	N/A	449318	214222
126	N/A	1290491	THORNBURY HOUSE	II	LB	N/A	449327	214541
127	N/A	1291050	HILL HOUSE	II	LB	N/A	449358	214246
129	N/A	1210522	ROSE COTTAGE	II	LB	N/A	449368	214456
130	N/A	1220403	ATTACHED WALLS AND OUTBUILDINGS	II	LB	N/A	449395	214274
131	N/A	1290998	115, HIGH STREET	II	LB	N/A	449413	214354
132	N/A	1290490	4, SCHOOL ROAD	II	LB	N/A	449416	214234
133	N/A	1220329	TOWER HILL	II	LB	N/A	449418	214311
134	N/A	1210432	99, GREEN ROAD (See details for further address information)	II	LB	N/A	449419	214212
135	N/A	1210431	14, SCHOOL ROAD (See details for further address information)	II	LB	N/A	449441	214200
136	N/A	1210428	THE OLD DOG	II	LB	N/A	449481	214197
137	N/A	1045789	FRIEZE FARMHOUSE	II	LB	N/A	449498	211412

141	N/A	1220260	STRATFIELD FARMHOUSE	II	LB	N/A	449570	212426
142	N/A	1220328	17, CHURCH STREET	II	LB	N/A	449572	214516
143	N/A	1290997	GATEWAY 5 METRES SOUTH SOUTH EAST OF NUMBER 17	II	LB	N/A	449580	214505
144	N/A	1220324	1, FRANKLIN CLOSE	II	LB	N/A	449594	214454
145	N/A	1220538	HAZELWOOD	II	LB	N/A	449623	214166
146	N/A	1291048	49, CHURCH STREET	II	LB	N/A	449626	214696
148	N/A	1220327	GLENALNA	II	LB	N/A	449643	214714
150	N/A	1220323	ATTACHED OUTBUILDING	II	LB	N/A	449647	214605
151	N/A	1220322	ATTACHED WALLS AND OUTBUILDINGS	II	LB	N/A	449658	214612
154	N/A	1291047	OLD PRIEST'S HOUSE	II	LB	N/A	449679	214778
155	N/A	1291043	GROVE HOUSE AND ATTACHED WALL	II	LB	N/A	449679	214655
156	N/A	1291044	OUTBUILDING APPROXIMATELY 10 METRES SOUTH EAST OF NUMBER 60 (GROVE HOUSE)	II	LB	N/A	449680	214634
159	N/A	1220541	WARSBOROUGH HOUSE	II	LB	N/A	449683	214153
160	N/A	1220320	74 AND 76, CHURCH STREET	II	LB	N/A	449688	214739
161	N/A	1438973	Kidlington and Hamlets War Memorial	II	LB	N/A	449690	214773
162	N/A	1220276	78, CHURCH STREET	II	LB	N/A	449692	214749
163	N/A	1220535	DOVECOTE END AND THE OLD RECTORY AND ATTACHED WALLS AND OUTBUILDING	II	LB	N/A	449697	214433
164	N/A	1220326	CHEST TOMB APPROXIMATELY 1/2 METRE WEST OF CHURCH OF ST MARY	II	LB	N/A	449698	214804
165	N/A	1220517	47, MILL STREET	II	LB	N/A	449723	214295
166	N/A	1291042	82 AND 84, CHURCH STREET	II	LB	N/A	449731	214733
167	N/A	1220325	GROUP OF 3 CHEST TOMBS APPROXIMATELY 16 METRES SOUTH OF TRANSEPT OF CHURCH OF ST MARY	II	LB	N/A	449733	214780
168	N/A	1220275	86 AND 88, CHURCH STREET	II	LB	N/A	449746	214743
169	N/A	1290952	BELLHANGERS	II	LB	N/A	449752	214145
170	N/A	1220274	NOS 1-6 MORTON ALMSHOUSES	II	LB	N/A	449760	214764
172	N/A	1220461	63, MILL STREET	II	LB	N/A	449770	214232
174	N/A	1290992	69, MILL STREET	II	LB	N/A	449781	214244
175	N/A	1290935	GATEWAY ON THE BOUNDARY WALL OF NO.73	II	LB	N/A	449788	214231
176	N/A	1220460	GAZEBO APPROXIMATELY 7 METRES SOUTH OF HAMPDEN MANOR	II	LB	N/A	449820	214182
177	N/A	1290991	HAMPDEN MANOR	II	LB	N/A	449832	214197
179	N/A	1220539	108, MILL STREET	II	LB	N/A	449890	214104
180	N/A	1220458	BURNT OAK	II	LB	N/A	449951	214084
181	N/A	1245570	21, EVANS LANE	II	LB	N/A	449963	213928
182	N/A	1290990	BARN AND ATTACHED OUTBUILDINGS APPROXIMATELY 15 METRES WEST OF MILL HOUSE	II	LB	N/A	450072	214143
183	N/A	1290988	MILL HOUSE	II	LB	N/A	450102	214133
185	N/A	1220336	THE MILLER'S HOUSE	II	LB	N/A	450132	214116

186	N/A	1220335	THE MILL	II	LB	N/A	450151	214130
188	N/A	1045790	KINGS ARMS PUBLIC HOUSE AND ATTACHED MOUNTING BLOCK	II	LB	N/A	450253	213492
193	N/A	1370050	Wall approximately 10 metres to northeast of St. Frideswides Farmhouse	II	LB	N/A	450754	211298
202	N/A	1291232	CHURCH OF ST MICHAEL	II*	LB	N/A	446846	213942
203	N/A	1290170	YARNTON MANOR AND ATTACHED WALL AND GATEWAY	II*	LB	N/A	447693	211627
204	N/A	1290168	BASE AND SHAFT OF CHURCHYARD CROSS APPROXIMATELY 6 METRES SOUTH OF SOUTH PORCH OF CHURCH OF ST BARTHOLOMEW	II*	LB	N/A	447771	211662
205	N/A	1210769	VILLAGE CROSS	II*	LB	N/A	448047	215774
207	N/A	1290954	THE VICARAGE	II*	LB	N/A	449691	214341
208	N/A	1290949	DOVECOTE APPROXIMATELY 10 METRES NORTH NORTH EAST OF THE OLD RECTORY AND DOVECOTE END	II*	LB	N/A	449722	214455
210	N/A	1286525	ST FRIDESWIDES FARMHOUSE	II*	LB	N/A	450727	211266
212	N/A	1013234	Bladon camp: a hillfort on Bladon Heath		SM	N/A	445682	213809
213	N/A	1015172	Thrupp Cross		SM	N/A	448047	215772
218	N/A	1001248	YARNTON MANOR	II	RPG	N/A	447644	211625
221	N/A	8201	Begbroke	CA	CA	N/A	446912	213932
222	N/A	10079	Oxford Canal	CA	CA	N/A	447580	238663
223	N/A	9339	Kidlington Langford Lane Wharf	CA	CA	N/A	448217	214984
224	N/A	8215	Hampton Gay, Shipton-on-Cherwell and Thrupp	CA	CA	N/A	448331	216276
225	N/A	9340	Kidlington The Rookery	CA	CA	N/A	448786	213980
226	N/A	9337	Kidlington Crown Road	CA	CA	N/A	448945	213833
227	N/A	9338	Kidlington High Street	CA	CA	N/A	449433	214186
228	N/A	8224	Kidlington Church Street	CA	CA	N/A	449781	214547
229	N/A	8216	Hampton Poyle	CA	CA	N/A	450073	215575
234	EOX1378	N/A	The Coach House, 25 Spring Hill Road	EVNT	WB	N/A	446850	213815
235	EOX6937	N/A	Geophysical Survey at Land at Yarnton	EVNT	GS	N/A	447004	212957
236	EOX3387	N/A	Begbroke Science Park Access Road	EVNT	EX	N/A	447548	213472
237	EOX1109	N/A	Papaver, 13 Sandy Lane, Yarnton	EVNT	EV	N/A	447550	213140
238	EOX3541	N/A	Yarnton Nurseries	EVNT	EV	N/A	447580	213190
239	EOX3191	N/A	Begbroke Science Park Access Road	EVNT	EV	N/A	447639	213475
240	EOX6111	N/A	Evaluation on Land to the rear of 21-23 Park Close	EVNT	EV	N/A	447680	211890
241	EOX6934	N/A	Evaluation at the Ley Community	EVNT	EV	N/A	447685	213045
242	EOX16	N/A	Begbroke Rising Main	EVNT	WB	N/A	447687	214032
243	EOX2316	N/A	MPP Assessment of Churchyard Cross at St Bartholomew's, Yarnton	EVNT	MPP	N/A	447770	211664
244	EOX2492	N/A	Desk Based Assessment of Land North of Cassington Road	EVNT	DBA	N/A	447900	212050
245	EOX848	N/A	Begbroke Business and Science Park	EVNT	EV	N/A	447905	213555

246	EOX2468	N/A	Evaluation on Land adjacent to Exeter Farm and North of Cassington Road	EVNT	EV	N/A	447960	212030
247	EOX2302	N/A	Evaluation at Begbroke Science Park Access Road	EVNT	EV	N/A	447972	213187
248	EOX5505	N/A	Watching Brief on Land South of Bernard Close	EVNT	WB	N/A	448180	212110
249	EOX6933	N/A	Geophysical Survey at Land East of A44 at Yarnton	EVNT	GS	N/A	448229	212605
250	EOX1960	N/A	Archaeological Evaluation of Little Marsh Playing Fields, Yarnton Lane	EVNT	EV	N/A	448441	212341
251	EOX3491	N/A	Watching Brief at Little Marsh Playing Field	EVNT	WB	N/A	448450	212330
252	EOX100	N/A	Park Farm Barns	EVNT	BS	N/A	448605	214405
253	EOX2926	N/A	Evaluation at proposed site of Yarnton Marina	EVNT	EV	N/A	448848	212237
254	EOX2406	N/A	Geophysical Survey at Yarnton Marina	EVNT	GS	N/A	448850	212100
255	EOX3074	N/A	LINEAR Yarnton - Kidlington Cable Routes: Watching Brief	EVNT	WB	N/A	448856	212505
256	EOX5917	N/A	Watching Brief on Land Parcel 9827, The Flit	EVNT	WB	N/A	448940	212160
257	EOX2348	N/A	Evaluation on Land Adjacent to King's Bridge, Yarnton	EVNT	EV	N/A	448972	211741
258	EOX102	N/A	Evaluation on Land South of Lock Crescent	EVNT	EV	N/A	449350	212650
259	EOX1304	N/A	Excavation of Prehistoric-Early Roman Site near Lock Crescent, Kidlington	EVNT	EX	N/A	449455	212555
260	EOX6941	N/A	Geophysical Survey at Stratfield Farm	EVNT	GS	N/A	449488	212433
261	EOX2018	N/A	Bowood House Hotel, 238 Oxford Road	EVNT	WB	N/A	449620	212970
262	EOX2894	N/A	Land adjoining C43, Bicester Road	EVNT	EV	N/A	450117	212881
263	EOX6945	N/A	Geophysical Survey at Land East of Bicester Road	EVNT	GS	N/A	450152	212522
264	MOX809	N/A	Oxford Ridgeway	MON	RIDGEWAY	Roman to Medieval	442008	220037
265	MOX23072	N/A	Late Prehistoric to Medieval Scatter	MON	FINDSPOT	Early Neolithic to Medieval	447140	212420
266	MOX3917	N/A	Later Prehistoric Scrapers and Struck Flints	MON	LITHIC SCATTER; FINDSPOT	Prehistoric	447500	213600
267	MOX3913	N/A	Prehistoric Flint Tool	MON	FINDSPOT	Prehistoric	447507	213503
268	MOX3918	N/A	Neolithic Leaf-Shaped Arrowheads	MON	FINDSPOT	Neolithic	447700	213700
269	MOX3952	N/A	Bronze Age Enclosures (Wrenches, Begbroke Hill)	MON	CIRCULAR ENCLOSURE; OVAL ENCLOSURE	Bronze Age	447703	213524
270	MOX3912	N/A	Possible Bronze Age Ring Ditch (Sands, Begbroke Hill)	MON	RING DITCH	Bronze Age	447870	213764
271	MOX3992	N/A	Possible Bronze Age Round Barrow (N of Rowel Brook)	MON	ROUND BARROW?	Bronze Age	447904	213977
272	MOX3993	N/A	Smaller of pair of possible Bronze Age Round Barrows (N of Rowel Brook)	MON	ROUND BARROW?	Bronze Age	447936	213973
273	MOX3921	N/A	Neolithic Leaf-Shaped Arrowhead	MON	FINDSPOT	Neolithic	447950	213400
274	MOX3923	N/A	Neolithic Hollow-Based Flint Arrowhead	MON	FINDSPOT	Neolithic	448130	213507
275	MOX3922	N/A	Neolithic Surface Finds	MON	LITHIC SCATTER	Neolithic	448148	213265
276	MOX3912	N/A	Possible Bronze Age Ring Ditch (Sands, Begbroke Hill)	MON	RING DITCH	Bronze Age	448183	214069
277	MOX3924	N/A	Later Prehistoric Flint Implements	MON	FINDSPOT	Prehistoric	448200	213400



278	MOX3920	N/A	Neolithic Pottery	MON	FINDSPOT	Neolithic	448220	213710
279	MOX3908	N/A	Iron Age Hut, Ditches and Pits	MON	HUT; DITCH; PIT	Iron Age	448250	213170
280	MOX3909	N/A	Romano British Settlement	MON	SETTLEMENT; DITCH; PIT	Roman	448254	213128
281	MOX3925	N/A	Roman Pottery	MON	FINDSPOT	Roman	448400	213400
282	MOX23280	N/A	Late Bronze Age or Early Iron Age pit at Little Marsh Playing Fields	MON	PIT	Late Bronze Age to Early Iron Age	448441	212341
283	MOX3999	N/A	Undated Possible Field System and possible Roman ditches	MON	FIELD SYSTEM?; DITCH	Roman to Post Medieval	448854	212110
284	MOX3957	N/A	Bronze Age Flint Arrowhead	MON	FINDSPOT	Bronze Age	449000	213800
285	MOX4006	N/A	Mesolithic to Bronze Age Linear Features and Flints (S of Lock Crescent)	MON	LINEAR FEATURE; PIT; ENCLOSURE	Late Mesolithic to Roman	449300	212600
286	MOX28135	N/A	Birmingham and Oxford Junction Railway	MON	LIN	Post Medieval	445803	230547
287	MOX14222	N/A	Spring Hill	MON	BLD	Post Medieval to Late 20th Century	446438	212875
288	MOX13833	N/A	Barn approximately 10 metres north west of Hall Farmhouse, Spring Hill Road	MON	BLD	Post Medieval	446636	213782
289	MOX13832	N/A	No 50 (Hall Farmhouse, Spring Hill Road	MON	BLD	Post Medieval	446644	213763
290	MOX13502	N/A	Cartshed approximately 25 metres south east of Hall Farmhouse, Spring Hill Road	MON	BLD	Post Medieval	446680	213742
291	MOX3972	N/A	Site of Langford Land Toll House	MON	MON	Post Medieval	446791	214689
292	MOX3994	N/A	Shrunken Medieval Village	MON	MON	Medieval	446816	213999
293	MOX3995	N/A	Post Med Hollow Way (N side of Image Ground or Priory Field)	MON	MON	Post Medieval	446835	214075
294	MOX3995	N/A	Post Med Hollow Way (N side of Image Ground or Priory Field)	MON	MON	Post Medieval	446835	214075
295	MOX14696	N/A	Headstone approximately 8 metres south west of south door of Church of St Michael, St Michael's Lane	MON	BLD	Post Medieval	446837	213929
296	MOX13831	N/A	Grave Slab approximately 5 metres south of south door of Church of St Michael	MON	BLD	Medieval	446840	213936
297	MOX3950	N/A	Churchyard Cross, St Michaels Church, St Michael's Lane	MON	BLD	Medieval	446841	213929
298	MOX3931	N/A	St Michael's Church, St Michael's Lane	MON	BLD	Medieval to Post Medieval	446846	213942
299	MOX13557	N/A	The Old Rectory	MON	BLD	Post Medieval	446855	213885
300	MOX14708	N/A	The Old Rectory Coach House and Stable	MON	BLD	Post Medieval	446856	213863
301	MOX13834	N/A	Chest Tomb approximately 2 metres east of Chancel of Church of St Michael, St Michael's Lane	MON	BLD	Post Medieval	446860	213944
302	MOX14475	N/A	Chest Tomb approximately 8 metres east of Chancel of Church of St Michael, St Michael's Lane	MON	BLD	Post Medieval	446866	213944
303	MOX3932	N/A	Church of St Phillip, Spring Hill Road	MON	BLD	Post Medieval	446909	213938

304	MOX3942	N/A	St Philip's Priory, Spring Hill Road	MON	BLD	Post Medieval	446924	213966
305	MOX27926	N/A	Agricultural activity	MON	ELE	Early Medieval to Post Medieval	447000	212950
306	MOX3970	N/A	Milestone	MON	BLD	Post Medieval	447050	213770
307	MOX13549	N/A	Hill Farmhouse, Cassington Road	MON	BLD	Post Medieval to Late 20th Century	447407	212022
308	MOX13807	N/A	Windmill Farmhouse and attached Outbuilding, Cassington Road	MON	BLD	Post Medieval	447411	211977
309	MOX14707	N/A	Barn approximately 14 metres west of Merton Garth, Little Blenheim	MON	BLD	Post Medieval	447456	212179
310	MOX13550	N/A	No 131 (Byways), Cassington Road	MON	BLD	Edwardian	447478	211989
311	MOX13801	N/A	Merton Garth, Little Blenheim	MON	BLD	Post Medieval to Late 20th Century	447479	212176
312	MOX13804	N/A	Outbuilding approximately 10 metres north west of No 186 (Six Bells), Cassington Road	MON	BLD	Post Medieval to Late 20th Century	447480	212045
313	MOX14601	N/A	No 186 (Six Bells), Cassington Road	MON	BLD	Post Medieval to Late 20th Century	447494	212032
314	MOX28116	N/A	Yarnton Manor Gardens	MON	LND	Post Medieval to Edwardian	447530	211612
315	MOX24503	N/A	Ditch and gully features found at Begbroke Science Park	MON	ELE	Post Medieval	447548	213471
316	MOX13803	N/A	No 158 (Jackson's Farmhouse), Cassington Road	MON	BLD	Post Medieval to Late 20th Century	447644	212042
317	MOX28161	N/A	Medieval to Post-Medieval Features	MON	ELE	Medieval to Post Medieval	447680	211890
318	MOX13548	N/A	Parish Clerk's House, Cassington Road	MON	BLD	Post Medieval to Late 20th Century	447690	212007
319	MOX3975	N/A	156 (Home Close), Cassington Road	MON	BLD	Post Medieval to Late 20th Century	447698	212035
320	MOX14706	N/A	No 144 (Tudor Cottage), Woodstock Road	MON	BLD	Post Medieval	447698	212816
321	MOX3976	N/A	Paternoster Farmhouse, Cassington Road	MON	BLD	Post Medieval	447717	211979
322	MOX13806	N/A	Barn and Attached Bakehouse Approximately 5 Metres South of Paternoster Farmhouse, Cassington Road	MON	BLD	Post Medieval	447728	211964
323	MOX13551	N/A	The Old Vicarage, Church Lane	MON	BLD	Post Medieval to Late 20th Century	447752	211694

324	MOX13554	N/A	Chest Tomb approximately 2 metres south west of south Porch of Church of St Bartholomew, Church Lane	MON	BLD	Post Medieval	447766	211666
325	MOX3935	N/A	St Bartholomews Church, Church Lane	MON	BLD	Medieval to Post Medieval	447767	211671
326	MOX3897	N/A	Medieval Cross, St Bartholomews Church, Church Lane	MON	BLD	Medieval	447770	211665
327	MOX13799	N/A	Group of 3 Headstones approximately 10 metres south to south east of south Porch of Church of St Bartholomew, Church Lane	MON	BLD	Post Medieval	447775	211667
328	MOX13552	N/A	Group of three Chest Tombs approximately south east of south Porch of Church of St Bartholomew, Church Lane	MON	BLD	Post Medieval	447775	211670
329	MOX13553	N/A	Group of 2 Headstones approximately 16 metres south to south east of south Porch of Church of St Bartholomew, Church Lane	MON	BLD	Post Medieval	447778	211661
330	MOX3966	N/A	Possible Shrunken Medieval Village	MON	MON	Medieval	447826	211735
331	MOX13802	N/A	Exeter Farmhouse, Cassington Road	MON	BLD	Post Medieval to Late 20th Century	447868	211997
332	MOX3929	N/A	Begbroke Hill Farmhouse, Sandy Lane	MON	BLD	Medieval to Post Medieval	447933	213466
333	MOX23588	N/A	Undated ditches and post medieval field boundary	MON	ELE	Post Medieval	447972	213187
334	MOX3969	N/A	Milestone	MON	BLD	Post Medieval	448000	212480
335	MOX3928	N/A	Medieval/Post Med Pottery and other finds	MON	FS	Medieval to Post Medieval	448000	213400
336	MOX27923	N/A	Post Medieval Agricultural building and other features	MON	ELE	Post Medieval to Edwardian	448220	212600
337	MOX13796	N/A	Rose Cottage and attached Cottage, Woodstock Road	MON	BLD	Post Medieval	448247	212329
338	MOX13805	N/A	Quainton's Cottage, Cassington Road	MON	BLD	Post Medieval	448261	212129
339	MOX3927	N/A	Medieval Pottery	MON	FS	Medieval	448300	213500
340	MOX3907	N/A	Site of former Kidlington Railway Station, Station Approach	MON	MON	Post Medieval	448317	214824
341	MOX13555	N/A	The Grapes Inn, Woodstock Road	MON	BLD	Post Medieval to Late 20th Century	448334	212239
342	MOX3971	N/A	Site of Begbroke Toll House	MON	BLD	Post Medieval	448336	212226
343	MOX3983	N/A	Roundham Lock, Oxford Canal	MON	BLD	Post Medieval	448362	214023
344	MOX26809	N/A	Milestone on Banbury Road, Kidlington	MON	BLD	Post Medieval	448546	214638
345	MOX13524	N/A	BARN AND ATTACHED OUTBUILDING 60 METRES WEST OF NUMBER 89 (PARK FARMHOUSE), BANBURY ROAD	MON	BLD	Post Medieval	448560	214398
346	MOX13523	N/A	BARN AND ATTACHED OUTBUILDINGS APPROXIMATELY 30 METRES NORTH WEST OF NUMBER 89 (PARK FARMHOUSE), BANBURY ROAD	MON	BLD	Post Medieval	448582	214417

347	MOX13525	N/A	CARTSHED AND GRANARY APPROXIMATELY 15 METRES WEST OF NUMBER 89 (PARK FARMHOUSE), BANBURY ROAD	MON	BLD	Post Medieval	448598	214385
348	MOX3934	N/A	No 89 (Park Farmhouse), Banbury Road	MON	BLD	Medieval to Post Medieval	448632	214392
349	MOX3982	N/A	Bridge No 227, Oxford Canal	MON	BLD	Post Medieval	448727	213505
350	MOX13534	N/A	NO 20 (LYNE FARM HOUSE), LYNE ROAD	MON	BLD	Post Medieval to Late 20th Century	448810	214049
351	MOX3964	N/A	Medieval Moat (Moat Cottage)	MON	MON	Medieval	448840	213551
352	MOX3891	N/A	Site of Bridge Chapel of Ease	MON	MON	Medieval	448860	211687
353	MOX3963	N/A	Medieval Fishponds, Moat Cottage	MON	MON	Medieval	448863	213404
354	MOX14700	N/A	NOS 25 & 25A (SUFFOLK HOUSE), BANBURY ROAD	MON	BLD	Post Medieval	448890	214145
355	MOX13533	N/A	GREYSTONES COTTAGE AND ATTACHED WALLS AND OUTBUILDING AND GREYSTONES HOUSE, LYNE ROAD	MON	BLD	Post Medieval to Late 20th Century	448916	214054
356	MOX14546	N/A	NO 10 (NORMANHURST), BANBURY ROAD	MON	BLD	Post Medieval	448917	214164
357	MOX13798	N/A	BRIDGE 228, OXFORD CANAL	MON	BLD	Post Medieval	448918	213331
358	MOX3885	N/A	Bridge and Wharf	MON	MON	Post Medieval	448919	213332
359	MOX14752	N/A	NO 8 (BROOKWOOD HOUSE), BABNURY ROAD	MON	BLD	Post Medieval	448926	214154
360	MOX3887	N/A	Canal Wharf, Oxford Canal	MON	MON	Post Medieval	448958	211508
361	MOX14284	N/A	EXETER HOUSE, CROWN ROAD	MON	BLD	Post Medieval	448958	213883
362	MOX3888	N/A	Drawbridge (Oxford Canal) No 229	MON	MON	Post Medieval	449100	212000
363	MOX3985	N/A	Kidlington Green Lock, Oxford Canal	MON	BLD	Post Medieval	449178	212813
364	MOX13822	N/A	NO 85 HIGH STREET	MON	BLD	Post Medieval to Early 20th Century	449292	214213
365	MOX14702	N/A	NO 87 (HILL FARM HOUSE), HIGH STREET	MON	BLD	Post Medieval to Late 20th Century	449322	214228
366	MOX13821	N/A	NO 93 (HILL HOUSE), HIGH STREET	MON	BLD	Post Medieval	449358	214246
367	MOX27928	N/A	Ridge and Furrow and possible undated ditches	MON	ELE	Medieval to Late 20th Century	449480	212430
368	MOX14699	N/A	STRATFIELD FARMHOUSE	MON	BLD	Post Medieval	449584	212376
369	MOX23848	N/A	Medieval ridge and furrow and undated linear features, Bicester Road	MON	ELE	Medieval	450117	212881
370	MOX3954	N/A	Undated Enclosure, Linear Feature, Pit (1st & 2nd Sand, near Begbroke Hill)	MON	MON	Unknown	447500	213354
371	MOX3967	N/A	Undated Enclosures & Pits (Sands, Begbroke Hill)	MON	MON	Unknown	447745	213733
372	MOX23721	N/A	Linear features from land adjacent to Exeter Farm	MON	ELE	Unknown	447960	212030
373	MOX3955	N/A	Undated Enclosures & Linear Marks (Lankets, Begbroke Hill)	MON	MON	Unknown	448017	213783

374	MOX3910	N/A	Undated Square Enclosure (Deal Ground, Begbroke Hill)	MON	MON	Unknown	448027	213258
375	MOX12415	N/A	Patridge Pit Heavy Anti Aircraft Second World War Gunsite	MON	MON	Second World War	448100	213200
376	MOX3911	N/A	Undated Cropmarks (Further Sand, S of Sandy Lane)	MON	MON	Unknown	448172	212977
377	MOX3996	N/A	World War II Pillbox (beside canal N of Roundham Lock)	MON	BLD	Second World War	448230	214250
378	MOX3953	N/A	Undated Drove and Field System (Boddington Barn & Parkers)	MON	MON	Unknown	448298	213528
379	MOX28160	N/A	Oxford Kidlington Airport	MON	AIRFIELD	Mid 20th Century to Late 20th Century	446920	215535



## APPENDIX B BIBLIOGRAPHY AND LIST OF SOURCES CONSULTED

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## APPENDIX C GEOPHYSICAL SURVEY (MAGNITUDE, 2022)



**magnitude  
surveys**

**Geophysical Survey Report  
Begbroke,  
Oxfordshire**

**For  
Oxford Archaeology**

**Magnitude Surveys Ref: MSSP1306**

**HER Event Number: TBC**

**OASIS Number: TBC**

**October 2022**



## magnitude surveys

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### Abstract

A combined fluxgate gradiometer and electromagnetic induction survey was successfully completed across the majority of the survey area, with c. 6.2ha not surveyed due to the presence of a deer farm and overgrown vegetation. A large number of archaeological anomalies have been identified with 8 major foci across the survey area. These includes multiperiod settlement areas, funerary complexes, enclosure systems, and trackways along with other isolated anthropogenic anomalies. The electromagnetic induction has detected areas of low and high conductivity that correspond respectively with sand and gravel bars and inundated zones. The magnetic and EM results provide complementary results, as most of the archaeological foci occur on sand and gravel deposits. Magnetic disturbance, affecting both techniques, is present over services and along parts of the perimeter of the survey area. Within the magnetic data, anomalies relating to the long-term agricultural use of the land have been identified as former mapped and unmapped field boundaries, and evidence of ridge and furrow cultivation. Modern ploughing and drains have been also detected. Anomalies interpreted as areas of possible former mineral extraction have also been detected. Several anomalies have been classified as 'undetermined' due to lack context or any clear pattern or morphology that would enable a confident interpretation. Nevertheless, an archaeological origin cannot be excluded.

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## 1. Introduction

- 1.1. Magnitude Surveys Ltd (MS) was commissioned by Oxford Archaeology to undertake a geophysical survey over a c. 152.8ha area of land at Begbroke, Oxfordshire (SP 47349 13115).
- 1.2. The geophysical survey comprised hand-pulled & quad-towed, cart-mounted GNSS-positioned fluxgate gradiometer and electromagnetic (EM) induction survey. The EM data were collected simultaneously with the gradiometer survey on the cart-mounted system. Magnetic survey is the standard primary geophysical method for archaeological applications in the UK due to its ability to detect a range of different features. The technique is particularly suited for detecting fired or magnetically enhanced features, such as ditches, pits, kilns, sunken featured buildings (SFBs) and industrial activity (David et al., 2008). EM survey provides data related to both soil electrical conductivity and magnetic susceptibility. It provides multiple datasets corresponding to properties of bulk soil volumes at various depths of investigation, and is particularly suited for detecting paleo-landscape features, such as paleochannels variation in superficial deposits, and deeper conductive targets.
- 1.3. The survey was conducted in line with the current best practice guidelines produced by Historic England (David et al., 2008), the Chartered Institute for Archaeologists (CIfA, 2020) and the European Archaeological Council (Schmidt et al., 2015).
- 1.4. It was conducted in line with a WSI produced by MS (Adams, 2022).
- 1.5. The survey commenced on 22/8/2022 and took four weeks to complete.

## 2. Quality Assurance

- 2.1. Magnitude Surveys is a Registered Organisation of the Chartered Institute for Archaeologists (CIfA), the chartered UK body for archaeologists, and a corporate member of ISAP (International Society for Archaeological Prospection).
- 2.2. The directors of MS are involved in cutting edge research and the development of guidance/policy. Specifically, Dr Chrys Harris has a PhD in archaeological geophysics from the University of Bradford, is a Member of CIfA and has served as the Vice-Chair of the International Society for Archaeological Prospection (ISAP); Finnegan Pope-Carter has an MSc in archaeological geophysics and is a Fellow of the London Geological Society, as well as a member of GeoSIG (CIfA Geophysics Special Interest Group); Dr Paul Johnson has a PhD in archaeology from the University of Southampton, is a Fellow of the Society of Antiquaries of London and a Member of CIfA, has been a member of the ISAP Management Committee since 2015, and is currently the nominated representative for the EAA Archaeological Prospection Community to the board of the European Archaeological Association.
- 2.3. All MS managers, field and office staff have degree qualifications relevant to archaeology or geophysics and/or field experience.

### 3. Objectives

- 3.1. The objective of this geophysical survey is to assess the subsurface archaeological potential of the survey area.
- 3.2. In line with the OCC Guidance Document, the purpose of this geophysical survey is to determine (as far as is reasonably possible from a limited programme of non-intrusive investigation) the nature of the archaeological resource within the specified area using appropriate methods of study which satisfy the stated and implied aims of the project. This evidence will form the basis of any proposals for further investigation.

### 4. Geographic Background

- 4.1. The survey area is located 220m south of Begbroke and consists of several arable and pasture fields (Figure 1). The survey areas are bounded by the A44 to the west and the Oxford Canal to the east, with mixed arable and residential land to the north and south (Figure 2). An area of c. 6.2 ha was not surveyed due to the presence of overgrown vegetation and livestock.

- 4.2. Survey considerations:

Survey Area	Ground Conditions	Further Notes
1	The survey area consisted of a harvested, arable field within crop stubble. There were several depressions at the centre of the survey area.	The survey area was bordered by hedgerow and metal fencing to the northeast and west, with a footpath also following the eastern boundary. In the south, the area was bordered by trees and a river. In the southeast of the survey area there was an area of overgrown vegetation.
2	The survey area consisted of a harvested, arable field with crop stubble.	The survey area was bordered by hedges on all sides.
3	The survey area consisted of a harvested, arable field with crop stubble. A footpath followed the southern field boundary.	The survey area was surrounded by hedgerows on all borders. A telegraph pole was next to the north of the eastern boundary with the overhead cable parallel to the boundary running north to south. Overhead cables followed the eastern boundary.
4	The survey area consisted of a harvested, arable field with crop stubble.	The survey area was surrounded by hedgerows on all borders. A telegraph pole was next to the eastern boundary with the overhead cable follow the parallel to the boundary north south.
5	The survey area consisted of a harvested arable field with crop stubble. A public foot path bisected the field east west.	The survey area was bordered by hedgerow to the east, west and south, and by a river and tree-line to the north.
6	The survey area consisted of a harvested, arable field with crop stubble.	The survey area was bordered by hedges to the northwest, east and south, by a river and tree-line to the north, by a tarmac farm-track in the southwest. In the middle of the survey area there was a building, and an area surrounded by

		trees. Several telegraph poles were located in the west of the survey area, with overhead cables following the western boundary heading north-south.
7	The survey area consisted of a harvested, arable field with crop stubble.	The survey area was surrounded by trees and hedgerow, with the river to the north and canal to the east. The survey area was bisected by telegraph poles carrying an overhead cable oriented north to south, and by a footpath running northeast to southwest.
8	The survey area consisted of a harvested arable field with crop stubble.	The survey area was surrounded by hedges on all sides.
9	The survey area consisted of a harvested, arable field with crop stubble.	The survey area was bordered by hedges along the north, east and southwest, with wood-and-wire fencing to the northwest and south. A wooden telegraph pole was in the south of the survey area carrying overhead cables oriented northwest to southeast.
10	The survey area consisted of a harvested, arable field with crop stubble.	The survey area was bordered by hedges to the south, by treelines to the west and northwest, and by a tarmac farm track to the northeast and east.
11	The survey area consisted of a pasture field.	The survey area was bordered by hedge to the east, south and north, with the railway, and wire fencing to the west. Telegraph poles carrying overhead cable followed the western border of the field. Two boreholes were noted along the southern edge of the field.
12	The survey area consisted of a pasture field, sloping from the north down to the south.	The survey area was surrounded by wire fencing on all sides. There were 4 chicken coops also located within the field. The survey in this area was halted due to presence of deer.
13	The survey area consisted of a harvested, arable field with crop stubble.	The area was bordered by hedgerow to the north, east and south, and by wire fencing to the west. There were several boreholes across the field. Two sets of parallel telegraph poles and overhead cables were present in the field, one next to the eastern boundary, with the other cutting the middle of the field in the south, parallel to the western boundary.
14	The survey area consisted of a harvested, arable field with crop stubble. There was a slight slope going from the east down to the west.	The survey area was surrounded by hedges, along the eastern border, with the rail-line just beyond. A series of telegraph poles carrying overhead cable bisected the survey area north to south down the centre of the field. There was an area of overgrown vegetation in the south.
15	The survey area consisted of a pasture field.	The survey area was bordered by hedges to the north, east and south, by wire fencing to the west. , A house and garden were located to the

		west of the survey area, beyond which was the railway.
16	The survey area consisted of a pasture field.	The survey area was surrounded by hedges and trees.
17	The survey area consisted of a harvested, arable field with crop stubble.	The survey area was surrounded by hedges, with the canal following beyond the eastern boundary. The survey area was bisected by telegraph poles carrying overhead cable oriented northeast to southeast.
18	The survey area consisted of a harvested, arable field with crop stubble.	The survey area was surrounded by hedges on all sides. The canal followed the eastern boundary on the other side of the hedge. The survey area was bisected by telegraph poles carrying overhead cable oriented northeast to southeast.
19	The survey area consisted of a harvested, arable field with crop stubble, sloping from the north down to the south.	The survey area was surrounded by hedges on all sides. The survey area was crossed by telegraph poles carrying overhead cable oriented northeast southeast. There was an area of overgrown vegetation along the northern boundary. There was an infield geotechnical trial pit noted in the southern corner.
20	The survey area consisted of a harvested, arable field with crop stubble. The field sloped from the northwest down to the southwest.	The survey area was surrounded by hedges on all sides, with the canal following the eastern boundary.

- 4.3. The underlying geology consists of primarily of alluvium - clay, silt, sand and gravel with Summertown-Radley member sand and gravel in the north (British Geological Survey, 2022). The majority of the survey area is located on mudstone with the northern area situated within a band of siltstone and limestone.
- 4.4. The soils consist predominantly of freely draining, slightly acid but base-rich soils with slowly permeable, seasonally wet, slightly acid but base-rich loamy and clayey soils to the northeast and loamy soils with naturally high groundwater to the south (Soilscapes, 2022).

## 5. Archaeological Background

- 5.1. The following is a summary of a Desk Based Assessment produced by Archaeology Collective, as by Oxford Archaeology (Lord, 2018) and additionally trench evaluation report produced by Cotswold Archaeology and provided by Oxford Archaeology (Tsamis, 2011).
- 5.2. A trial trench evaluation was carried out in 2001 at Begbroke Science Park, situated in the centre of the survey area. The excavation of 19 trial trenches was carried out across much of the site not occupied by buildings or other structures. Only one archaeological feature was found, this being a small pit cut into the natural gravel, and which contained charcoal in its fill.

- 5.3. Another trial trench evaluation, located in the southern part of Area 9, was carried out in 2011. Two 'ditch-like' features were identified by this evaluation and roughly corresponded with cropmarks shown on the satellite imagery.
- 5.4. A series of cropmarks visible on aerial photographs have been noted in the northern part of the survey area. These represent up to three possible Bronze Age round barrows, and two pairs of adjacent ditches.
- 5.5. A cropmark identified as an Iron Age hut, has been detected 60 m south from the part of Sandy Lane that runs across the survey area. Iron Age and Roman pottery have been found c. 100 m north and c.150 m south of Parker's Farm, located within the survey area.
- 5.6. The site of a Romano-British settlement, identified by pottery found within a series of storage pits, with the fills being identified as being hearth debris, has been detected c. 107 m south from the part of Sandy Lane that runs across the survey area.
- 5.7. Finds of pottery and other items dated to the Medieval Period, have been identified within the survey area approximately 50 m west to the Parker's Farm, as well as c.50 m south of Begbroke Science Centre.
- 5.8. Some undated cropmarks have been identified within the survey area. A square enclosure was located c. 40 m north of Sandy Lane, and a driveway and field system have been detected in the vicinity of Parker's Farm.

## 6. Methodology

### 6.1. Data Collection

1.1.1. Geophysical prospection comprised the complementary magnetic & electromagnetic induction methods as described in the following table.

1.1.2. Table of survey strategies:

Method	Instrument	Traverse Interval	Sample Interval
Magnetic	Bartington Instruments Grad-13 Digital Three-Axis Gradiometer	1m	200Hz reprojected to 0.125m
Electromagnetic Induction – Conductivity and Magnetic Susceptibility	GF Instruments CMD Explorer in HCP orientation	4m	5Hz reprojected to 0.25m

1.1.3. The magnetic and EM data were collected using MS' bespoke hand-pulled & quad-towed cart system GNSS-positioned system.

1.1.4. MS' cart system comprised Bartington Instruments Grad-13 Digital Three-Axis Gradiometers mounted in parallel, and the GF Instruments CMD Explorer in HCP orientation to facilitate greater depth penetration. Magnetic and EM data were

collected simultaneously. Positional referencing was through a multi-channel, multi-constellation GNSS Smart Antenna RTK GPS outputting in NMEA mode to ensure high positional accuracy of collected measurements. The RTK GPS is accurate to 0.008m + 1ppm in the horizontal and 0.015m + 1ppm in the vertical.

1.1.5. Magnetic, electromagnetic and GPS data were stored on an SD card within MS' bespoke datalogger. The datalogger was continuously synced, via an in-field Wi-Fi unit, to servers within MS' offices. This allowed for data collection, processing and visualisation to be monitored in real-time as fieldwork was ongoing.

1.1.6. A navigation system was integrated with the RTK GPS, which was used to guide the surveyor. Data were collected by traversing the survey area along the longest possible lines, ensuring efficient collection and processing.

## 6.2. Data Processing

### 1.1.7. Magnetic data

6.2.1.1. Magnetic data were processed in bespoke in-house software produced by MS. Processing steps conform to the EAC and Historic England guidelines for 'minimally enhanced data' (see Section 3.8 in Schmidt *et al.*, 2015: 33 and Section IV.2 in David *et al.*, 2008: 11).

Sensor Calibration – The sensors were calibrated using a bespoke in-house algorithm, which conforms to Olsen *et al.* (2003).

Zero Median Traverse – The median of each sensor traverse is calculated within a specified range and subtracted from the collected data. This removes striping effects caused by small variations in sensor electronics.

Projection to a Regular Grid – Data collected using RTK GPS positioning requires a uniform grid projection to visualise data. Data are rotated to best fit an orthogonal grid projection and are resampled onto the grid using an inverse distance-weighting algorithm.

Interpolation to Square Pixels – Data are interpolated using a bicubic algorithm to increase the pixel density between sensor traverses. This produces images with square pixels for ease of visualisation.

### 1.1.8. Electromagnetic data

6.2.1.2. Electromagnetic data were processed in bespoke in-house software produced by MS. Processing steps conform to the EAC and Historic England guidelines for 'minimally enhanced data' (see Section 3.8 in Schmidt *et al.*, 2015: 33 and Section IV.2 in David *et al.*, 2008: 11).

Zero Median Traverse – The median of each sensor traverse is calculated within a specified range and subtracted from the



collected data. This removes striping effects caused by small variations in sensor electronics.

Projection to a Regular Grid – Data collected using RTK GPS positioning requires a uniform grid projection to visualise data. Data are rotated to best fit an orthogonal grid projection and are resampled onto the grid using an inverse distance-weighting algorithm.

Interpolation to Square Pixels – Data are interpolated using a bicubic algorithm to increase the pixel density between sensor traverses. This produces images with square pixels for ease of visualisation.

### 6.3. Data Visualisation and Interpretation

1.1.9. For the magnetic results, this report presents the gradient of the sensors' total field data, as well as the total field data from the lower sensors as greyscale images. The gradient of the sensors minimises external interferences and reduces the blown-out responses from ferrous and other high contrast material. However, the contrast of weak or ephemeral anomalies can be reduced through the process of calculating the gradient. Consequently, some features can be clearer in the respective gradient or total field datasets. Multiple greyscale images of the gradient and total field at different plotting ranges have been used for data interpretation. Greyscale images should be viewed alongside the XY trace plots (Figures 25, 28, 31, 34, 37, 40, 43, 46, 49, 52, 55, 58 & 61). XY trace plots visualise the magnitude and form of the geophysical response, aiding anomaly interpretation.

1.1.10. The electromagnetic induction (quadrature-phase and in-phase) results are presented as colourscale images. Multiple images at different plotting ranges have been used for data interpretation. The EM interpretation is partly derived from the quadrature-phase, which is a proxy for apparent electrical conductivity. These datasets are referred to as C1, C2 and C3 and roughly correspond to bulk soil volumes equated to c. 2.2m, 4.2m and 6.7m below ground level, respectively. However, as the EM is measuring a bulk soil volume, it will be sensitive to features above and below these theoretical exploration depths. The in-phase roughly corresponds with a bulk soil volume of half that of the quadrature-phase. The different receiving coil responses are referred to as I1, I2, and I3 for the magnetic susceptibility. The various investigation depths are described comparatively here as shallow, middle, and deep soil volumes. From this point onward, the respective quadrature-phase and in-phase datasets will be referred to as EM conductivity and EM magnetic susceptibility, respectively.

1.1.11. Geophysical results have been interpreted using raster images in a layered environment, overlaid against open street maps, satellite imagery, historical



maps, LiDAR data, and soil and geology mapping. Google Earth (2022) was also consulted, to compare the results with recent land use.

- 1.1.12. Geodetic position of results – All vector and raster data have been projected into OSGB36 (ESPG27700) and can be provided upon request in ESRI Shapefile (.SHP) and Geotiff (.TIF) respectively. Figures are provided with raster and vector data projected against OS Open Data.

## 7. Results

### 7.1. Qualification

- 1.1.13. Geophysical results are not a map of the ground and are instead a direct measurement of subsurface properties. Detecting and mapping features requires that said features have properties that can be measured by the chosen technique(s) and that these properties have sufficient contrast with the background to be identifiable. The interpretation of any identified anomalies is inherently subjective. While the scrutiny of the results is undertaken by qualified, experienced individuals and rigorously checked for quality and consistency, it is often not possible to classify all anomaly sources. Where possible, an anomaly source will be identified along with the certainty of the interpretation. The only way to improve the interpretation of results is through a process of comparing excavated results with the geophysical reports. MS actively seek feedback on their reports, as well as reports from further work, in order to constantly improve our knowledge and service.

### 7.2. Discussion

- 1.1.14. The geophysical results are presented in combination with satellite imagery and historical maps (Figures 14, 16, 18, 20 & 22).
- 1.1.15. The respective magnetic and electromagnetic surveys have generally responded well to the environment of the survey area. The EM survey has been effective for understanding the broader geological context of the site. The EM data reveals anomalies that correlate with mapped geological formations of sand and gravel (low conductivity anomalies), alongside further responses that could represent more-deeply buried channels and processes characteristic of a floodplain (high conductivity anomalies). For simplicity, indicative of channels and bars have been categorised in EM results; these generally correlate well with anomalies detected in the magnetic results as well. The total field data present anomalies of natural origins clearer and is useful for mapping shallower superficial deposits, as well as some archaeological anomalies.
- 1.1.16. A fluxgate gradiometer and electromagnetic induction survey was successfully completed across the majority of the survey area, with c. 6.2ha not surveyed due to the presence of a deer farm and overgrown vegetation. Anomalies of probable and possible archaeological origin have been detected

across the survey area, along with anomalies of natural, agricultural, and undetermined origin. It should be noted that additional anomalies, including those of archaeological origin, may be obscured by extensive and long-term agricultural usage of this local landscape and by anomalies related to the background geology. Modern disturbance has mostly been limited to field edges and services. The electromagnetic (EM) survey has produced conductivity data that have been interpreted separately to the magnetic data, and those two understandings then assessed in combination, along with comparisons to secondary sources.

1.1.17. Extensive archaeological activity has been identified within the survey area.

This activity is concentrated around 8 main foci. Additionally, several isolated anomalies of probable and possible archaeological origin have been identified. All these anomalies together represent an extensive, multi-period archaeological landscape, with multi-phased settlements and funerary complexes, networks of trackways, and smaller enclosure systems. Some of these anomalies are both visible on satellite imagery as cropmarks and correspond with excavated archaeological evidence, which help establish that this landscape was in use for most of the Prehistoric and Roman Period, and later through to the Medieval Period (See Section 5). It is worth noting that the majority of probable burials correspond with strong, low conductivity anomalies caused by sand, silt, and gravel, interpreted as natural levees within the floodplain. The ring ditches and barrows are therefore located in areas relatively higher in the landscape, typical of features of this type where intervisibility between monuments is thought to be important. It is also interesting to note that features whose morphology suggests an earlier chronology respect the paleo-landscape visualized by the EM data to a greater extent, than structures proposed to date to more recent periods. It appears that both settlement complexes associated with younger chronology (Iron Age and Romano-British Period), spread across both, low and high conductivity areas with no recognition of the presence of a former channel that snakes around the high ground [**EM4**]. This relationship could indicate that this particular watercourse was no longer visible and recognized at the time that the settlement was created and occupied. This relative chronology is further supported by the EM data itself, as these anomalies appear clearly in the deeper responses to the EM coils.

1.1.18. Several further penannular, linear, and curvilinear anomalies have been identified within the survey area and have been categorised as possible archaeology. This categorisation has been ascribed to these anomalies because they have defined edges and morphology consistent with cut features such as ditches or pits, but are weaker than the anomalies discussed above. These may also demonstrate a lack of clear organisation or pattern, and therefore a more confident interpretation cannot be given.

1.1.19. The magnetic and EM data show the changes in local geology. Strong, low conductivity anomalies appear in areas of higher elevation, and are likely caused

by the presence of sand and gravel deposits. The strong/weak high conductivity responses present across most of the site match the known changes in the superficial geology, and appear to follow the contour lines in the west of the survey area. The strong, low conductivity anomalies in the northern part of the survey area, correlate with mapped areas of sand and gravel. In the east of the survey area the environmental composition is typical of a floodplain environment, seen especially in the high conductivity areas. Former waterlogged areas have been interpreted in the northwest and east of the survey area (Figures 3 to 8). Across the survey area the archaeological foci appear to correlate with areas of low conductivity, such in [EM1], [EM2] & [EM3].

1.1.20. The magnetic and electromagnetic datasets correlate well with each other. In the northwest of the survey area the strong, positive natural anomalies identified most clearly in the magnetic total field data, align with high conductivity anomalies associated with former channels (Figure 12). In the west of the survey area, natural zones and strong linear anomalies appear to correlate with another high conductivity anomalies (Figure 12). The changes in the contrast caused by different natural background, mostly alluvium zone, could have affected visibility of some anomalies of an archaeological origin around archaeological zones, such as in Area 17.

1.1.21. Previous agricultural activity has been detected in the form of extensive ridge and furrow cultivation identified in the magnetic data, former mapped and unmapped historical field boundaries, drainage features and ploughing trends. The presence of ridge and furrow ploughing regimes indicate that the area has been under cultivation since at least the medieval/post-medieval period.

1.1.22. Throughout most of the survey area, anomalies that have been classified as 'Undetermined' have been identified. Some of these, characterised by strong, dipolar signal might be representative of in-situ burning. All of these anomalies have limited context or lack any clear pattern or morphology to enable a confident interpretation. Nevertheless, an archaeological origin cannot be excluded.

## 7.3. Interpretation

### 1.1.23. General Statements

7.3.1.1. Geophysical anomalies will be discussed broadly as classification types across the survey area. Only anomalies that are distinctive or unusual will be discussed individually.

7.3.1.2. **Ferrous (Spike)** – Discrete dipolar anomalies are likely to be the result of isolated pieces of modern ferrous debris on or near the ground surface.

7.3.1.3. **Ferrous/Debris (Spread)** – A ferrous/debris spread refers to a concentration of multiple discrete, dipolar anomalies usually resulting

from highly magnetic material such as rubble containing ceramic building materials and ferrous rubbish.

7.3.1.4. **Magnetic Disturbance** – The strong anomalies produced by extant metallic structures, typically including fencing, pylons, vehicles and service pipes, have been classified as ‘Magnetic Disturbance’. These magnetic ‘haloes’ will obscure weaker anomalies relating to nearby features, should they be present, often over a greater footprint than the structure causing them.

7.3.1.5. **Undetermined** – Anomalies are classified as Undetermined when the origin of the geophysical anomaly is ambiguous and there is no supporting contextual evidence to justify a more certain classification. These anomalies are likely to be the result of geological, pedological or agricultural processes, although an archaeological origin cannot be entirely ruled out. Undetermined anomalies are generally distinct from those caused by ferrous sources.

#### 1.1.24. Specific Anomalies (Magnetic)

7.3.1.6. **Probable Archaeology (Focus I: Funerary Complex 1)** – In the central part of Area 1, three annular and three penannular anomalies have been identified [1a] (Figures 13, 23, & 24). The location of this complex, corresponds with a sand and gravel bar known from geological mapping (See Section 4.4) and detected on EM data [EM1]. Their signal is positive, strong and defined, probably indicating infilled ditch-like features. Their diameter varies between c. 15 m and 10m. These anomalies, correspond with cropmarks visible on satellite imagery and are mentioned in Section 5.4 of the Archaeological Background (Figures 14 & 16). The morphology of these features suggests that they are possible Bronze Age round barrows.

7.3.1.7. **Probable Archaeology (Focus II: Funerary Complex 2)** – A series of annular, penannular and rectilinear anomalies surrounded by multiple circular and linear anomalies have been detected within the northern part of Area 6 [6a] (Figures 26 & 27). This complex corresponds with low conductivity anomalies indicative of possible sand and gravel formations [EM2]. All anomalies exhibit strong, positive magnetic signals, indicative of filled ditches. The diameter of the anomalies in this complex varies between c. 15 and 10 m, which is the same as ranges recognized above in Focus I. The most clearly recognisable anomaly of this focus is annular in shape and c.15 m in diameter. Its morphology and signal are akin to the anomaly recognized within Focus 1 and interpreted as a Bronze Age round barrow. Given the fact that these foci are located only c. 170 m apart, it is not unlikely that they are related.

**7.3.1.8. Probable Archaeology (Focus III: Possible Enclosure System with**

**Trackways)** – A series of annular, D-shaped, and rectilinear anomalies have been identified in the eastern part of Area 6 [6b] (Figures 26, 27, 35 & 36). This focus corresponds with low conductivity anomalies indicative of possible sand and gravel formations [EM2]. These are characterized by strong and weak, positive signal and are partially cut by a positive, weak, linear anomaly that constitutes part of what looks to be a double-ditch trackway, running to the northwest and southwest. This would suggest that these two sets of anomalies are not contemporaneous. Immediately to the north of this complex, a double-ditch trackway running southwest–northeast exhibits a similar signal and morphology to the aforementioned anomalies, however they do not seem to be connected [7a]. The possible enclosure system could be Bronze Age in date, but the trackway could be of different chronology, as it does not appear to respect the position of the enclosure in the landscape.

**7.3.1.9. Probable Archaeology (Focus IV: Possible Enclosure System)**

– In the eastern part of Area 4 continuing into the western part of Area 5, a complex of multiple discontinuous linear, rectilinear, curvilinear and penannular anomalies have been detected [4a; 5a] (Figure 29, 30, 32 & 33). This focus corresponds with low conductivity anomalies indicative of preferentially dry areas where archaeological activity is usually expected. All of these represent strongly enhanced signal suggestive of ditches, which could be related to a broader enclosure system. Parts of this complex are visible on satellite imagery as cropmarks (Figure 14). In the southern part of this focus, annular anomalies have been identified. These also show strong positive signal, indicative of infilled ditches. A sample of these features were investigated by trial trenching (See Section 5.3) and categorised as Bronze Age enclosures.

**7.3.1.10. Probable Archaeology (Focus V: Multiphase Settlement Complex with Trackways 1)**

– In the south-eastern part of Area 6 a complex of strong, positive, linear, curvilinear, rectilinear, annular and circular anomalies has been identified [6c] (Figures 35 & 36). This focus is partially located within low conductivity anomalies indicative of preferentially dry areas, and high conductivity anomalies that could be related to a former channel. The signals of these anomalies are characteristic of ditches and cover an area of approximately 3 ha, possibly extending into Area 11. The main rectilinear anomaly provides a boundary respected by most of the smaller enclosures within it. There are a series of overlapping anomalies within this focus, which do not respect each other and therefore suggest multi-phased occupation. However, it is hard to differentiate clearly which anomalies within the complex could belong to different phases. In the

centre of this complex, anomalies indicating the presence of a double-ditched trackway have been identified. This feature continues to the west, where it bifurcates to form two separate trackways to the northwest [6d] and southeast [10b] (Figure 32, 33 & 41, 42). The trackway is clearly respected by the layout of the rectilinear settlement which suggests that they are contemporaneous. Finds of Iron Age and Roman, as well as Medieval, pottery and other items (See Section 5) within and in the vicinity of the complex, could suggest continuous settlement in this area throughout the Iron Age to Medieval Period.

**7.3.1.11. Probable Archaeology (Focus VI: Multiphase Settlement Complex with Trackways 2)**

– In the centre of Area 13 a multitude of anomalies covering an area of approximately 6 ha has been identified (Figures 47, 48, 50 & 51). This focus is partially located within low conductivity anomalies indicative of preferentially dry areas, and high conductivity anomalies that could be connected to a former channel. Anomalies recognised exhibit positive, strong and weak signals and are linear, curvilinear, rectilinear, annular, penannular and circular in shape. Many anomalies overlap each other, giving the impression of multiple phases of activity, likely relating to settlement, within this complex [13a]. Immediately to the west of this complex, a double-ditched track has been identified. It is unclear how the trackway is related to the settlement, but it could be linked to one of the settlement phases. Further to the north, in the vicinity of this focus, the site of a Romano-British settlement has previously been identified (See Section 5.6). This would suggest that this complex could extend to the north and therefore at least some phases of this settlement could be dated to the Roman Period.

**7.3.1.12. Probable Archaeology (Focus VII: Funerary Complex 3)**

– In the eastern and south-eastern part of Area 17 a great number of positive, strong and weak, annular and penannular anomalies have been identified [17a] (Figures 53, 54, 56 & 57). This focus is situated across the preferentially dry area and preferentially wet zones detected within the EM dataset. These anomalies are accompanied by less numerous linear, curvilinear, and circular anomalies displaying similar strong and weak positive signals, indicative of ditches and pits. This complex of anomalies spreads across approximately 4ha. The diameter of the annular and penannular anomalies varies between 16m and 8 m. Many of these ring-shaped anomalies respect others, creating distinctive clusters only occasionally overlapping other features. The morphology and signal of these anomalies suggest they could be round barrows, and therefore possibly date to the Bronze Age. The quantity and general location of these anomalies suggest



intensive, and potentially long-lasting use of this area for burial, with round barrows visible and recognized in the local landscape.

7.3.1.13. **Probable Archaeology (Focus VIII: Possible Enclosure System)** – In the south-eastern part of Area 18, multiple linear, curvilinear, rectilinear, and circular anomalies have been detected (Figures 56, 57, 59 & 60). All of these present strong and weak positive signals, indicative of ditch-like features and pits [18a]. Anomalies overlap each other frequently and are most probably associated with multiple enclosures.

7.3.1.14. **Probable Archaeology (Scattered Anomalies)** – Across the survey area, several anomalies of probable archaeological origin have been identified. These are isolated from the main foci of archaeological activity described above, and their relation to these centres is unknown. All these anomalies are located within preferentially dry areas detected within the EM dataset which are preferably used in antiquity. Within Area 9 two anomalies of annular [9a] and rectilinear [9b] shape have been detected. Both exhibit strong, positive signal that indicates ditch-like features (Figures 41 & 42). The ring ditch [9a] is approximately 10m wide and could represent a round barrow of Bronze Age date. The rectilinear anomaly could be associated with a small enclosure. In the southwest corner of Area 10, a rectilinear, strong, positive anomaly has been identified [10a] (Figures 41 & 42). It could represent an enclosure with visible entrances. The anomaly is also visible on satellite imagery as a cropmark (See Section 5. 8) (Figure 18). In the south-eastern part of Area 13 a positive, weak, rectilinear anomaly has been identified [13b] (Figures 50 & 51). There is an internal anomaly to its eastern boundary that would suggest a double-ditch structure and some undetermined anomalies in the western part, that are obscured broadly by natural zone, so they can't be defined better. Its signal and morphology suggest the existence of yet another enclosure, possibly related to settlement activity nearby; nevertheless existence of a double ditch and some possible inside structures could suggest different function and possibly Romano-British chronology. In the northern part of Area 19, annular, linear and circular anomalies have been detected (Figures 59 & 60). These anomalies create a cluster with two possible ring ditches of 8m diameter each in the centre [19a]. Their signal is positive and weak, but despite their ephemerality could indicate the existence of more round barrows.

7.3.1.15. **Possible Archaeology (Strong/Weak)** – Across the survey area several positive, weak, penannular, and strong, curvilinear anomalies have been identified (Figures 23 to 60). Most of these anomalies have the potential to be anthropogenic in origin, and therefore a possible

archaeological categorisation has been given. These anomalies could form part of a former field system, parts of enclosures, or be indicative of ring ditches, yet they lack clear characteristics that would allow for a confident interpretation.

7.3.1.16. **Ridge and Furrow (Trend)** – Arrangements of regularly-spaced, weak, linear and curvilinear anomalies have been detected across the survey area (Figures 23 to 60). These anomalies are indicative of ridge-and-furrow regimes and have been identified as following two different alignments. In many areas it is difficult to distinguish between drainage and ploughing trends.

7.3.1.17. **Agricultural (Weak & Strong)** – Several weak linear, and strong discrete, anomalies have been identified crossing Areas 2, 4, 5, 6, 9, 11, 13 & 15 (Figures 26, 27, 29, 30, 32, 33, 35, 36, 38, 39, 44, 45, 47, 48, 50, 51 ). Some of these anomalies broadly align with field boundaries recorded on 2<sup>nd</sup> Edition Ordnance Survey (OS) mapping, or with footpaths visible on satellite images (Figures 23 to 60). Others have been interpreted as being unmapped field boundaries due to their similarities in magnetic signal to the mapped field boundaries.

7.3.1.18. **Agricultural (Trend)** – Weak linear trends have been identified across the survey area. These anomalies correspond with modern ploughing visible on satellite imagery (Figures 23 to 60).

7.3.1.19. **Drainage Features** –Several linear anomalies are noted in Areas 6, 9, 10, & 18. Two types of magnetic responses have been recorded. The first type of response consists of strong, negative, linear signal. The second type of anomalies have a weak, dipolar signal indicative of modern ceramic drains (Figures 35, 36, 41, 42 56 & 57).

7.3.1.20. **Natural (Strong/Weak/Spread)** - Across the survey area, strong and weak, linear and discrete anomalies have been detected (Figures 23 to 60). These anomalies are likely a result of alluvial superficial deposits. These anomalies also correlate with changes in conductivity seen in the electromagnetic results. Many strong and weak magnetic anomalies have been detected overlapping with high conductivity zones indicating the courses of former channels in a floodplain, for example, in Areas 10, 18, 19 & 20.

7.3.1.21. **Undetermined (Strong/Weak/Spread)** –Multiple linear, curvilinear, and discrete anomalies have been identified across the survey area (Figures 23 to 60). Some of these, characterised by strong, dipolar signals might be representative of in-situ burning activity [2a] (Figures 29 & 30). Other anomalies do not have any supporting contextual evidence and may be partially obscured by the spreads of anomalies indicating geological variation across the area. These anomalies are themselves likely to be the result of geological or agricultural



processes, although an archaeological origin cannot be entirely ruled out.

7.3.1.22. **Industrial (Spread/ Weak)** – Within Area 1 several rectangular anomalies the largest of which is c. 100m x c.10m, and roughly square anomalies in areas 10 & 19 have been identified (Figures 23, 24, 59 & 60). The anomalies in the northern part of the survey area appear to represent trenches with a distinct cut edge being visible as the possible infill appears more magnetic than the undisturbed material around them [1b]. These have been interpreted as being possible extraction pits/trenches, or possible unrecorded evaluation trenches (archaeological or geotechnical). Another similar anomaly is located within Area 10 [10c] and assigned to the same category due to presenting a similar morphology (Figures 41 & 42). The anomaly within eastern corner of Area 19 was a geotechnical trench.

#### 1.1.25. Specific Anomalies (Electromagnetic)

7.3.1.23. **High conductivity (Strong and Weak)** – Large amorphous anomalies of high conductivity have been interpreted across the survey area (Figures 3 to 8). High conductivity anomalies could represent the locations of former watercourses. Within the north and east of the survey area these appear to be near to the modern course of the canal and relate to natural processes characteristic of those occurring within floodplains or other commonly inundated areas (Figures 3 to 8). The EM results reveal sinuous, high conductivity anomalies that snake north-south in the central part (Areas 5, 6 & 10) of the survey area respecting the slope [EM4]. Their clear detection in the deeper EM coils indicate they may reflect more-deeply buried channels and landforms.

7.3.1.24. **Low conductivity (Strong and Weak)** – The survey has detected large, amorphous low-conductivity anomalies across the survey area (Figures 3 to 8). Very strong low-conductivity responses correlate with the mapped sand and gravel superficial geology within Area 1 [EM1]. Pockets of low-conductivity responses along the former channel, may indicate the further presence of sand and gravel [EM2; EM3]. Within the centre and north of the survey area these appear to match changes in the superficial geology of sands and gravels.

## 8. Conclusions

- 1.2. A fluxgate gradiometer and an electromagnetic induction survey were successfully completed across the majority of the survey area, with c. 6.2ha not surveyed due to the presence of overgrown vegetation and livestock. Although the magnetic and EM survey results were targeting different types of physical characteristics, the respective results have proven complementary as many of the archaeological and natural anomalies detected in the magnetic survey appear to respect landform changes identified in the EM survey.
- 1.3. The natural variations within the survey area are evident in both magnetic and EM survey results. The EM is more effective at delineating the paths of former waterlogged areas, channels and the locations of sand and gravel bars.
- 1.4. The survey has detected an extensive amount of archaeology across the whole survey area, with 8 major foci of activity identified. Other more-isolated anomalies can also be interpreted as possibly/probably archaeological in origin. All these anomalies together represent an extensive, multi-period archaeological landscape, with settlements likely existing through multiple phases of occupation, burial complexes, networks of trackways, and smaller enclosure systems. The archaeological foci, especially those with potentially early chronology, appear to be connected to the preferentially dry areas of sand and gravel, possibly suggesting a preference for these areas in some periods, whereas archaeology related to potentially later periods do not respect this order strictly.
- 1.5. Long term agricultural use of the land within the survey area has been detected in the form of extensive ridge and furrow cultivation, former mapped and unmapped historic field boundaries, drainage features and ploughing trends identified in the magnetic data.
- 1.6. Magnetic disturbance affecting both techniques is present close to services and along parts of the perimeter of the survey area. Anomalies interpreted as filled trenches, possibly for mineral extraction or for site evaluation, have been detected in several locations across the survey area.
- 1.7. Several anomalies have been classified as 'Undetermined' due to lack of context, or any clear pattern or morphology which would enable a confident interpretation. Nevertheless, an archaeological origin for these cannot be excluded.

## 9. Archiving

- 9.1. MS maintains an in-house digital archive, which is based on Schmidt and Ernenwein (2013). This stores the collected measurements, minimally processed data, georeferenced and un-georeferenced images, XY traces and a copy of the final report.
- 9.2. MS contributes reports to the ADS Grey Literature Library upon permission from the client, subject to any dictated time embargoes.

## 10. Copyright

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## 11. References

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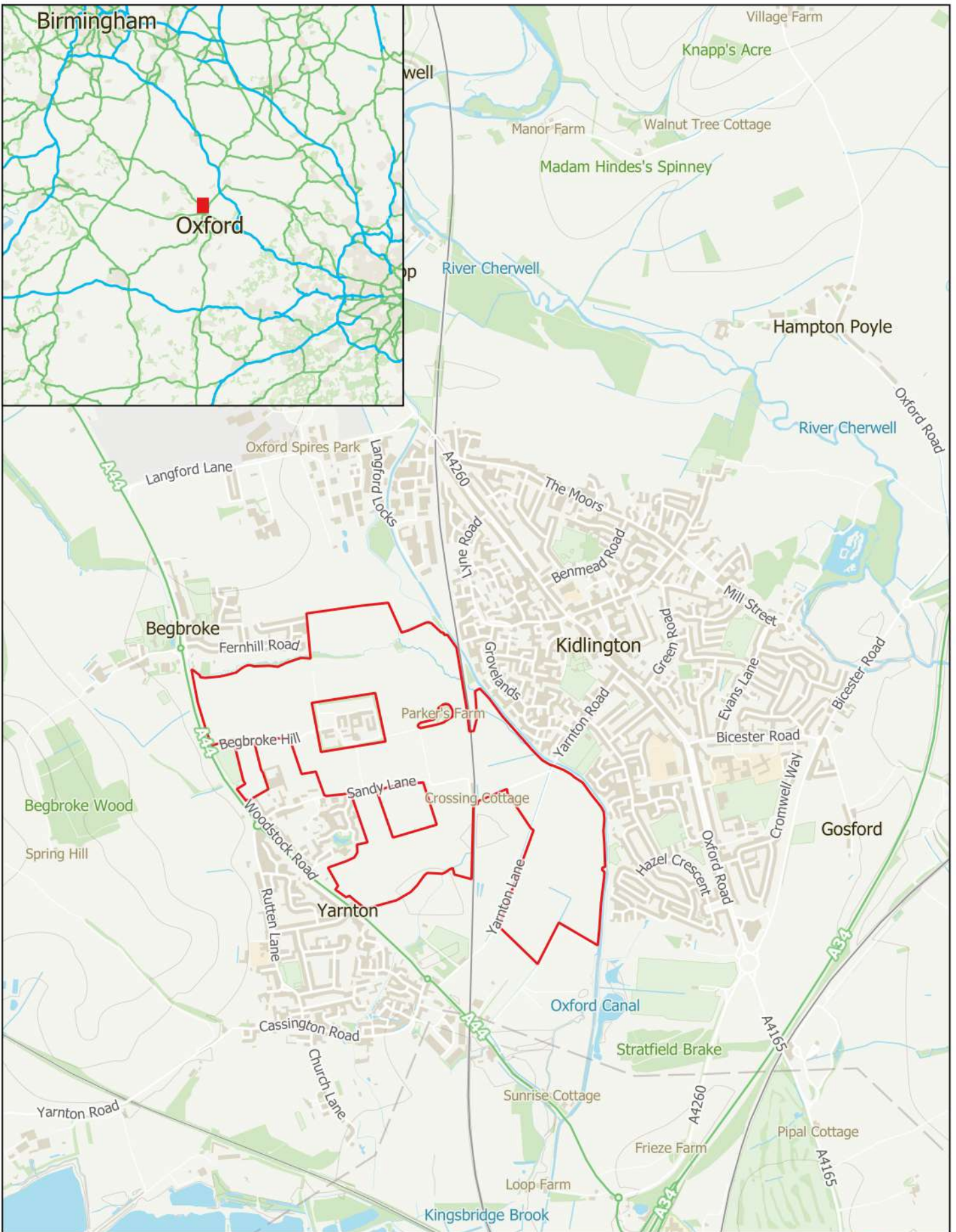
## 12. Project Metadata

MS Job Code	MSSP1306
Project Name	Begbroke, Oxfordshire
Client	Oxford Archeology
Grid Reference	SP 47349 13115
Survey Techniques	Magnetometry, Electromagnetic Induction – Conductivity and Magnetic Susceptibility
Survey Size (ha)	c. 152.8ha (Magnetometry & Electromagnetic Induction )
Survey Dates	2022-8-22 to 2022-9-14
Project Lead	Dr Anna Chmielowska PCIfA
Project Officer	Dr Anna Chmielowska PCIfA
HER Event No	TBC
OASIS No	TBC
S42 Licence No	NA
Report Version	0.3

## 13. Document History

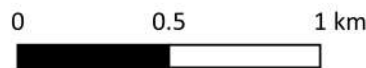
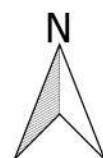
Version	Comments	Author	Checked By	Date
0.1	Initial draft for Project Lead to Review	AC, FC	CH	14 October 2022
0.2	Draft for Director's Approval	AC	PJS	18 October 2022
0.3	Draft after Director's corrections	AC	AJS	22 October 2022





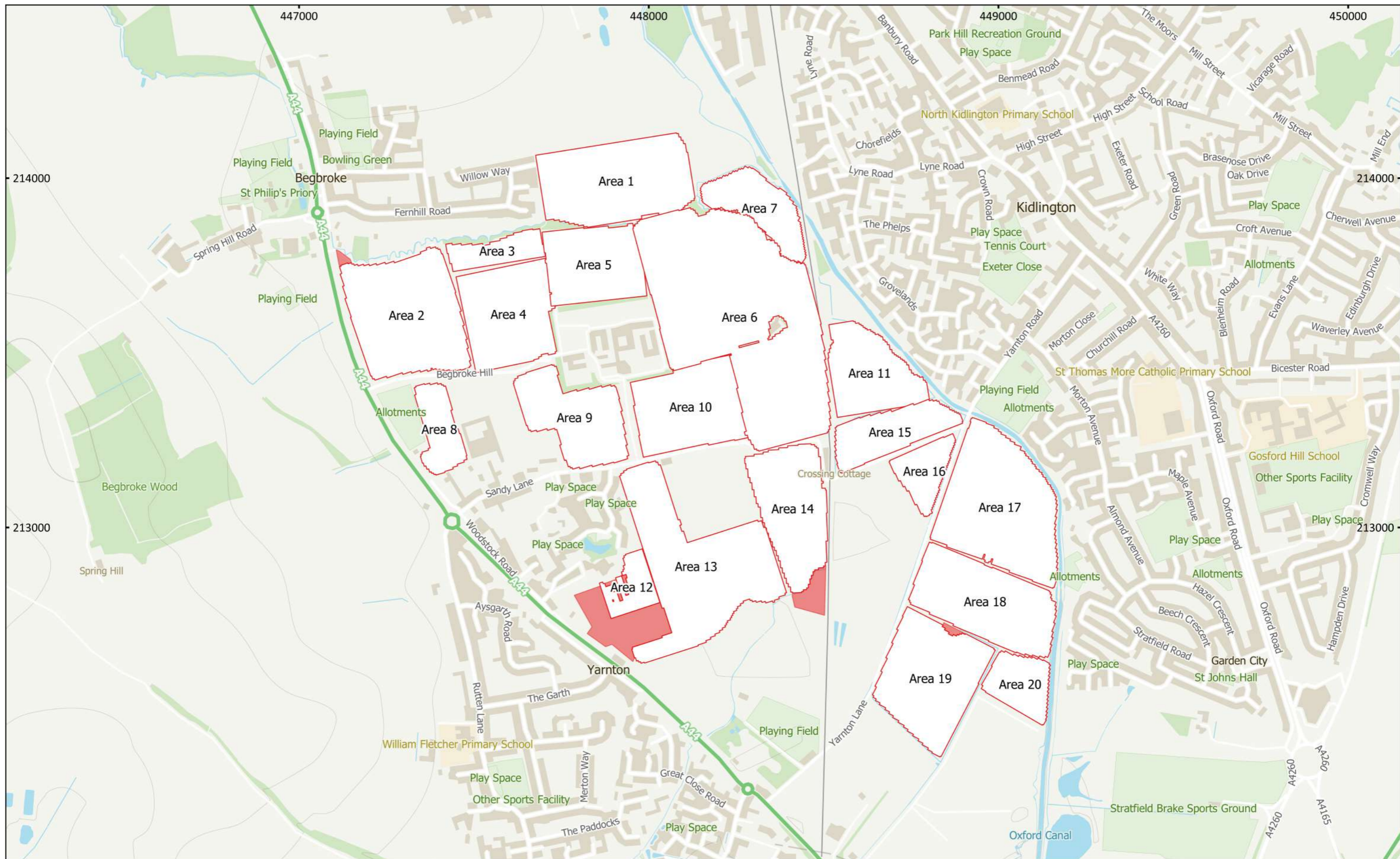
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 Site Boundary



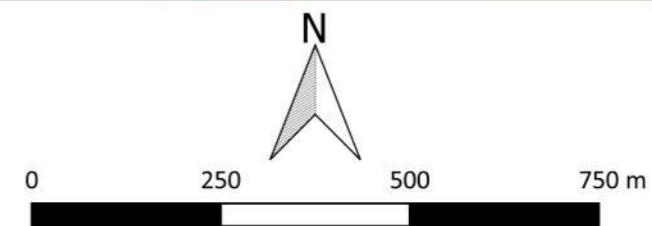
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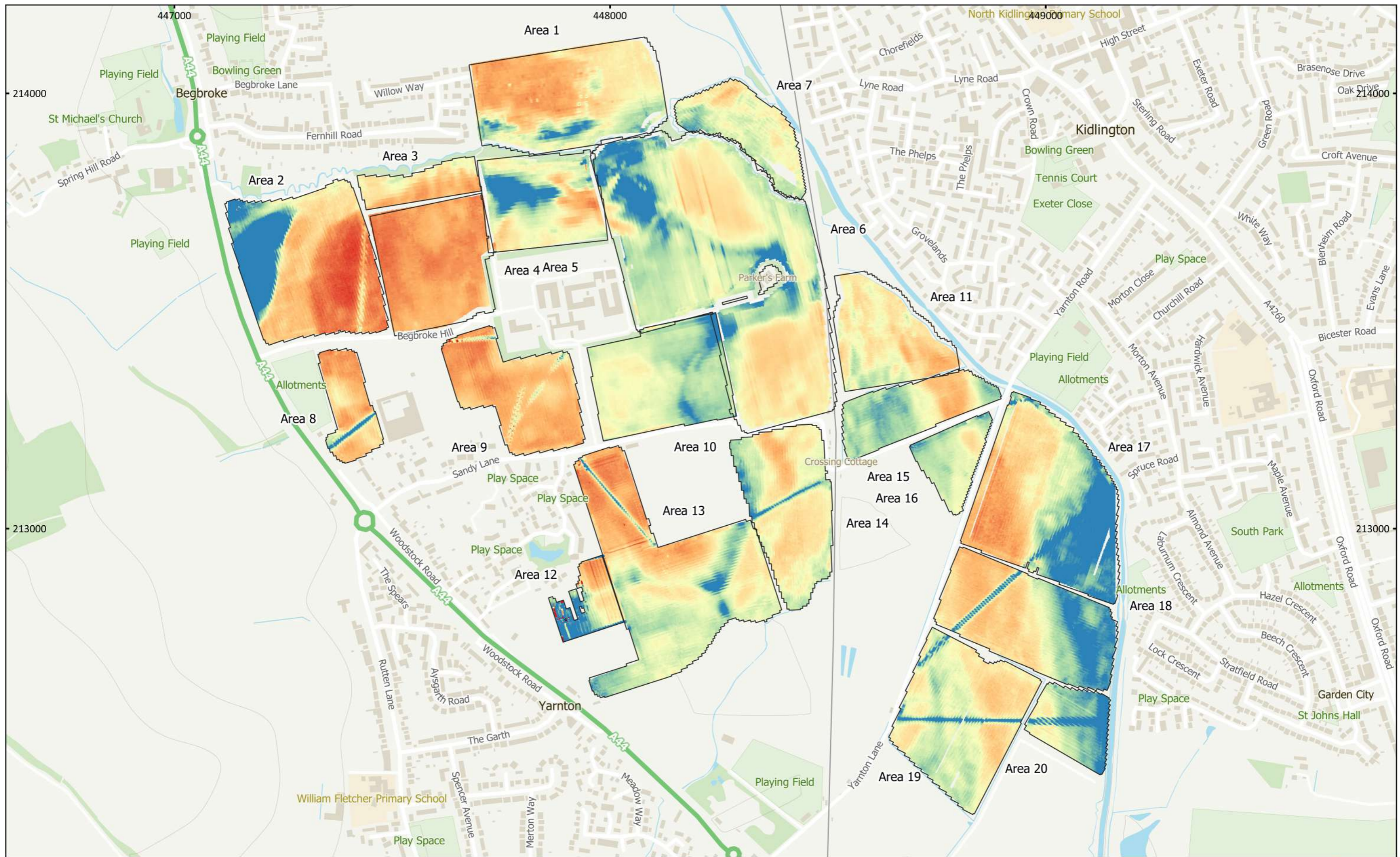


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 Figure 2 - Location of Survey Area  
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- Survey Area
- Unsurveyable Area

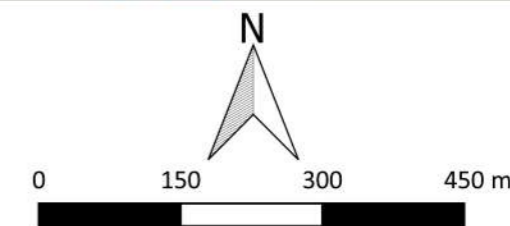
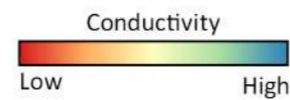




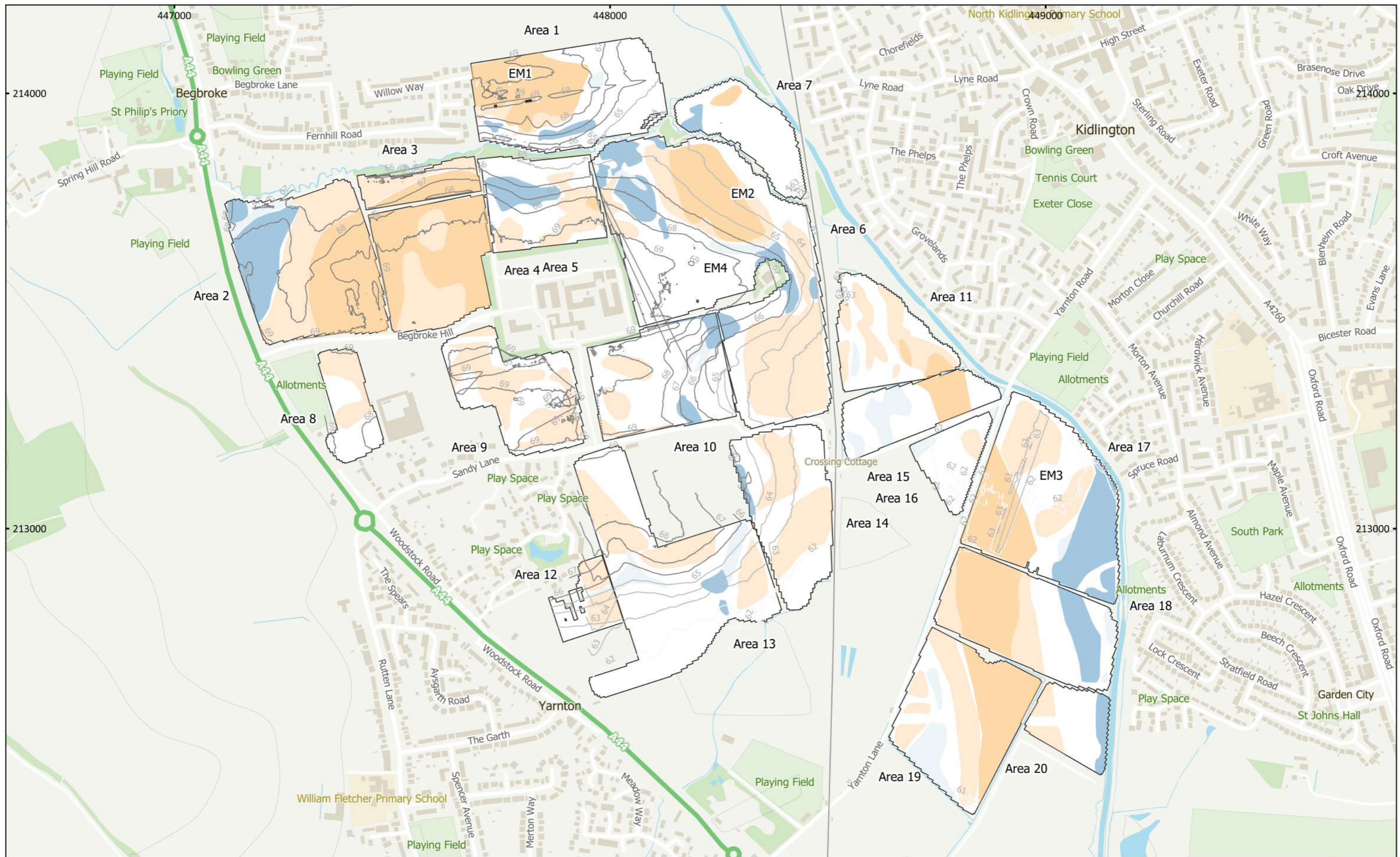


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 Figure 3 - Electromagnetic Conductivity: Conductivity Coil 1 (Overview)  
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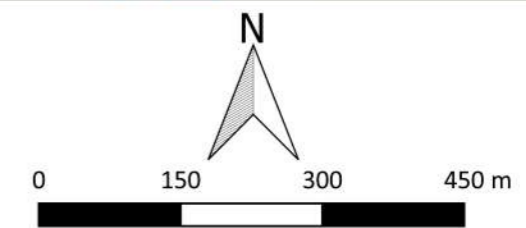
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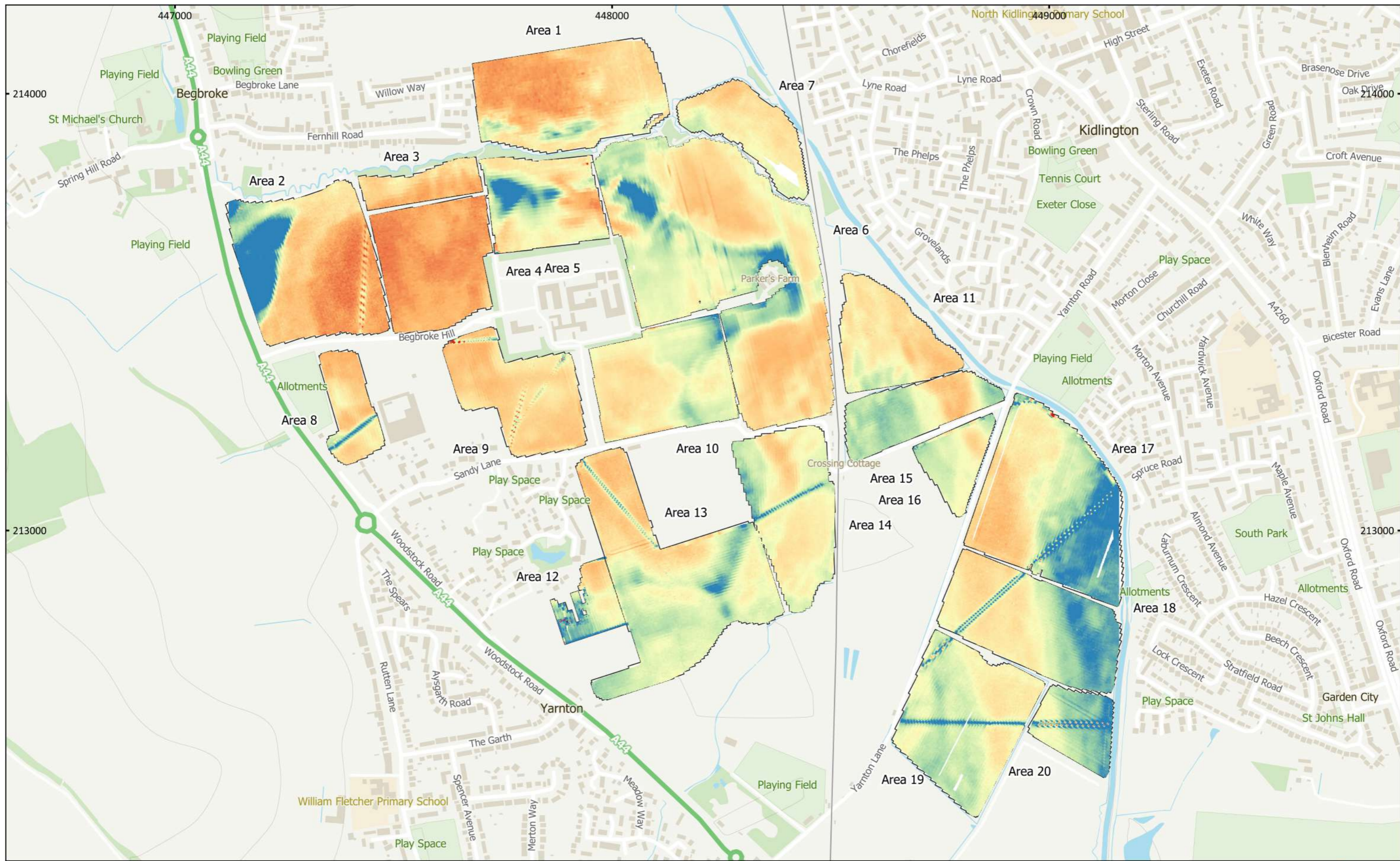




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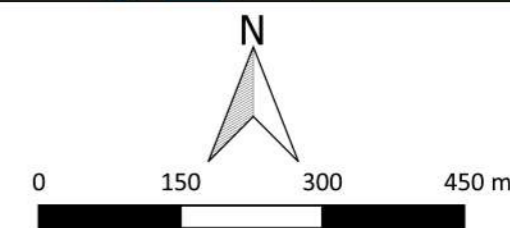
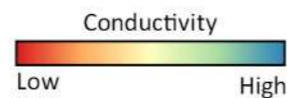




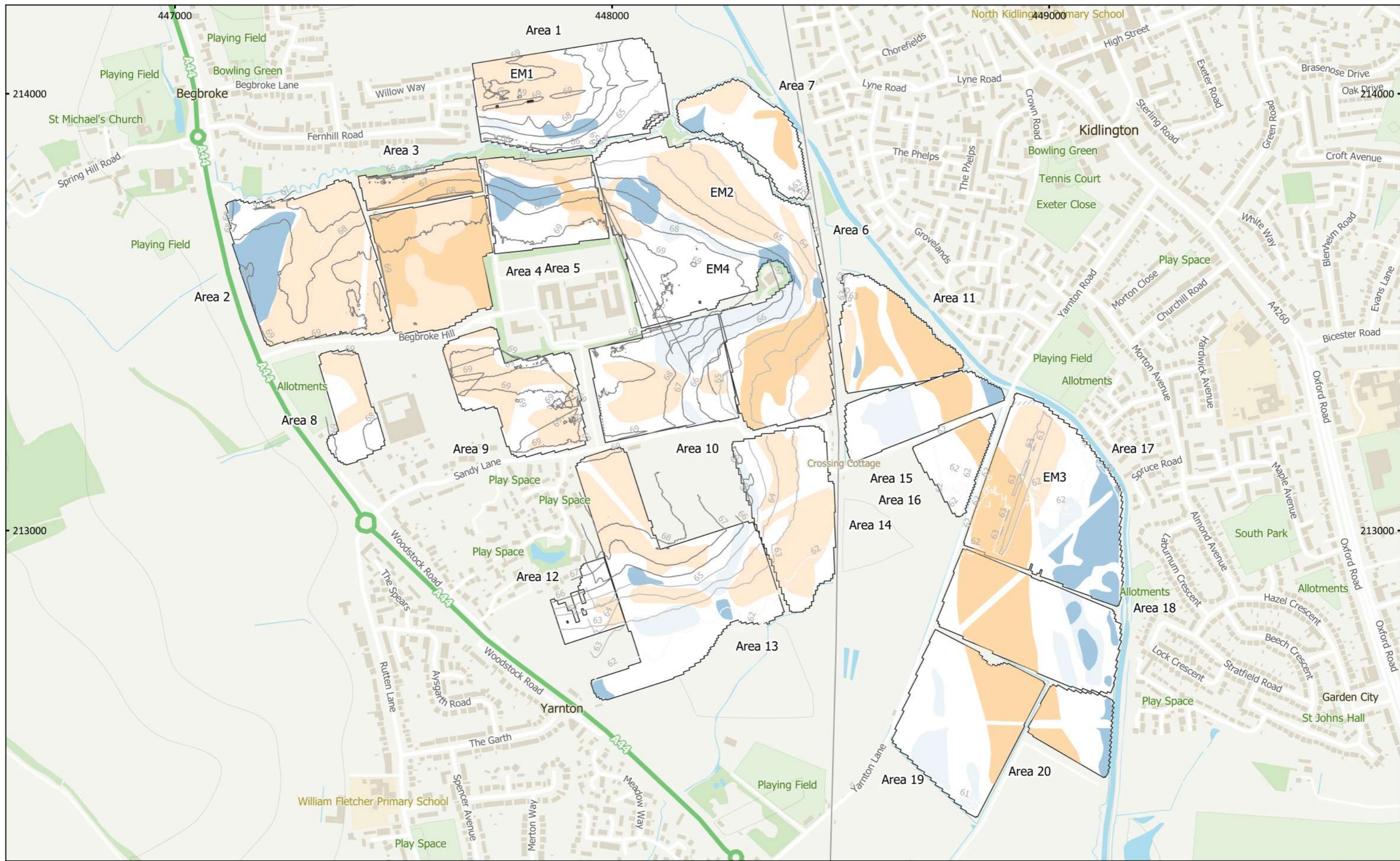


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 Figure 5 - Electromagnetic Conductivity: Conductivity Coil 2 (Overview)  
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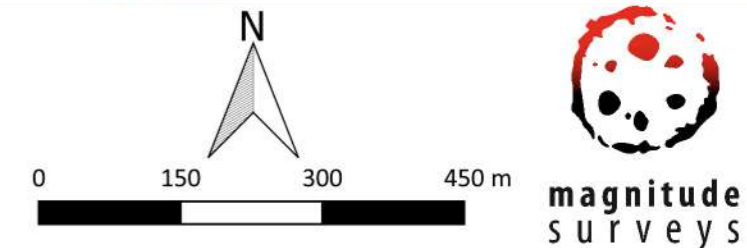
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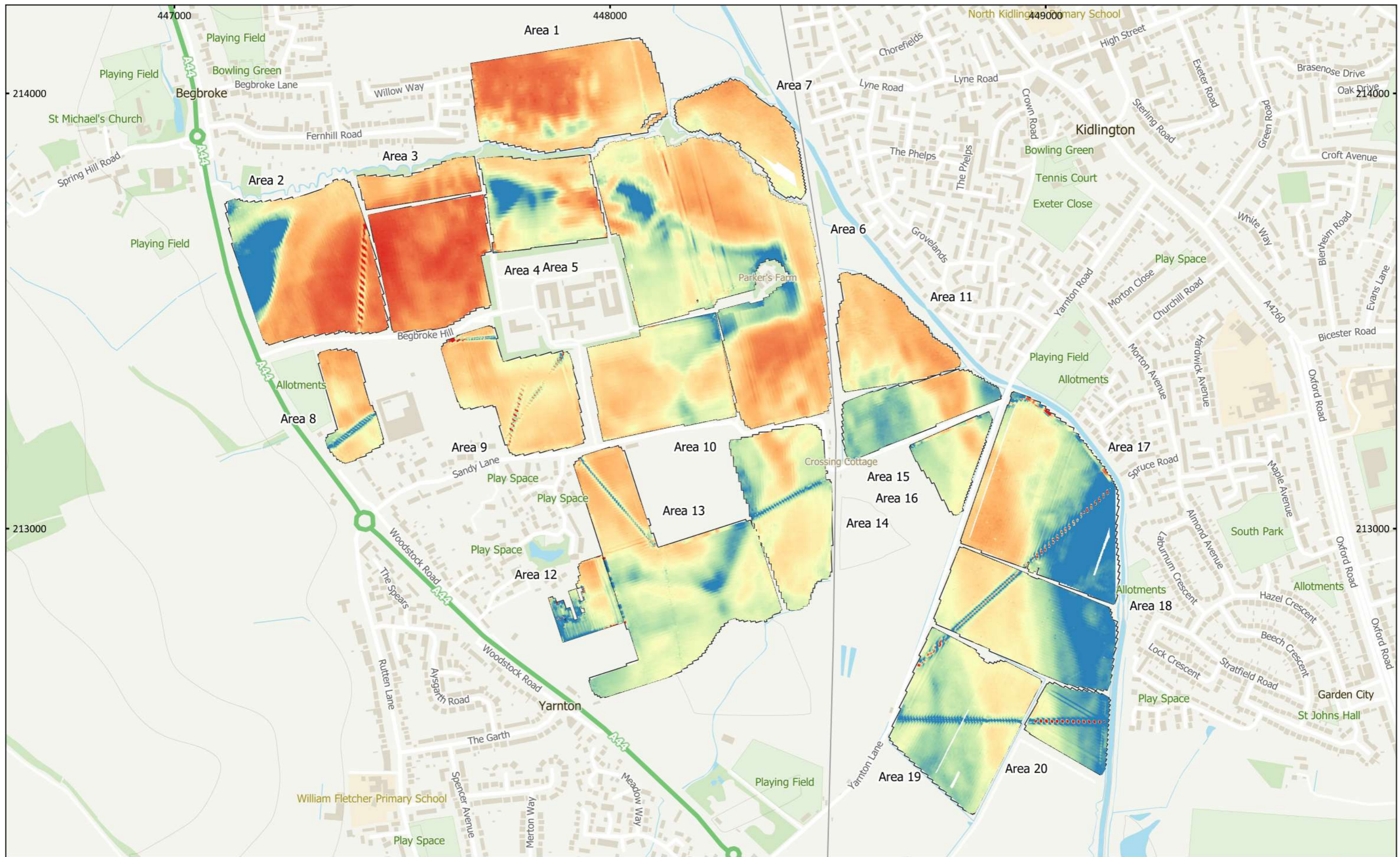




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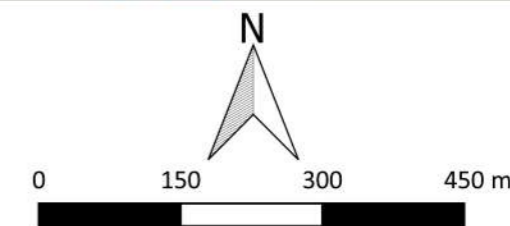
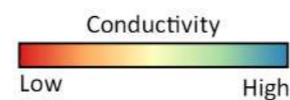




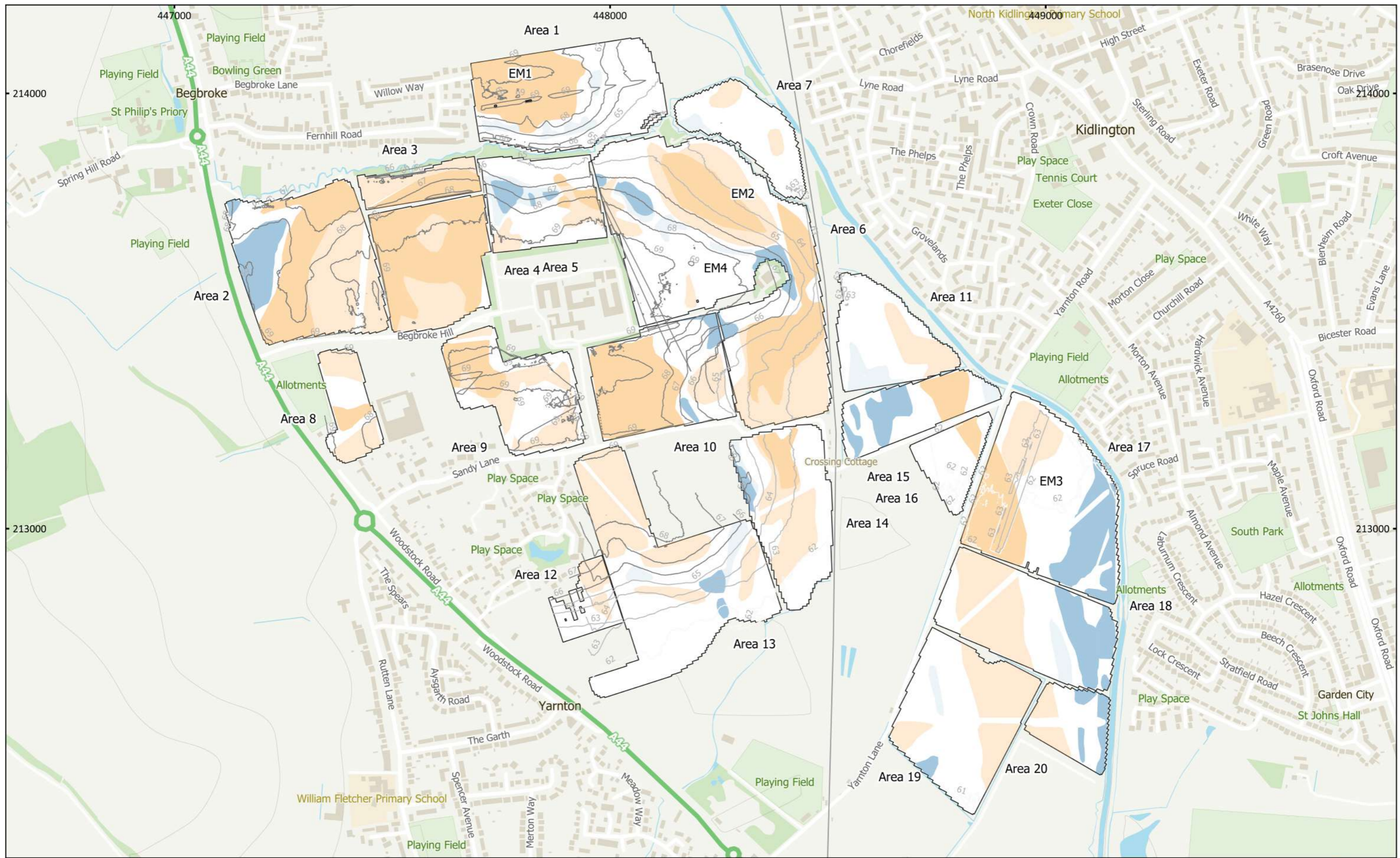


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 Figure 7 - Electromagnetic Conductivity: Conductivity Coil 3 (Overview)  
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**Conductivity Coil 3 - Approximate Depth: c.6.7m**






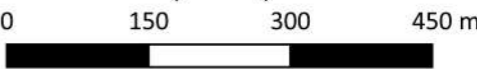


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 Figure 8 - EM conductivity Composite Interpretation C3 (Overview)  
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 High Conductivity (Strong)	 High Conductivity (Weak)	 Low Conductivity (Strong)	 Low Conductivity (Weak)
 Contour			

N





0 150 300 450 m

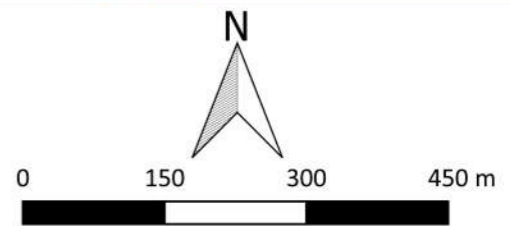
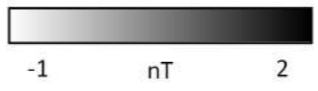


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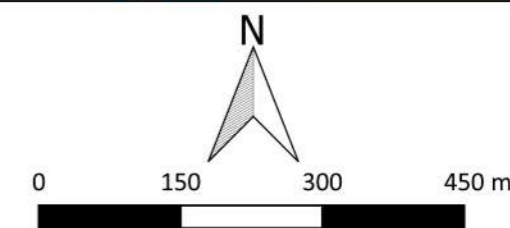
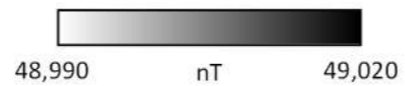
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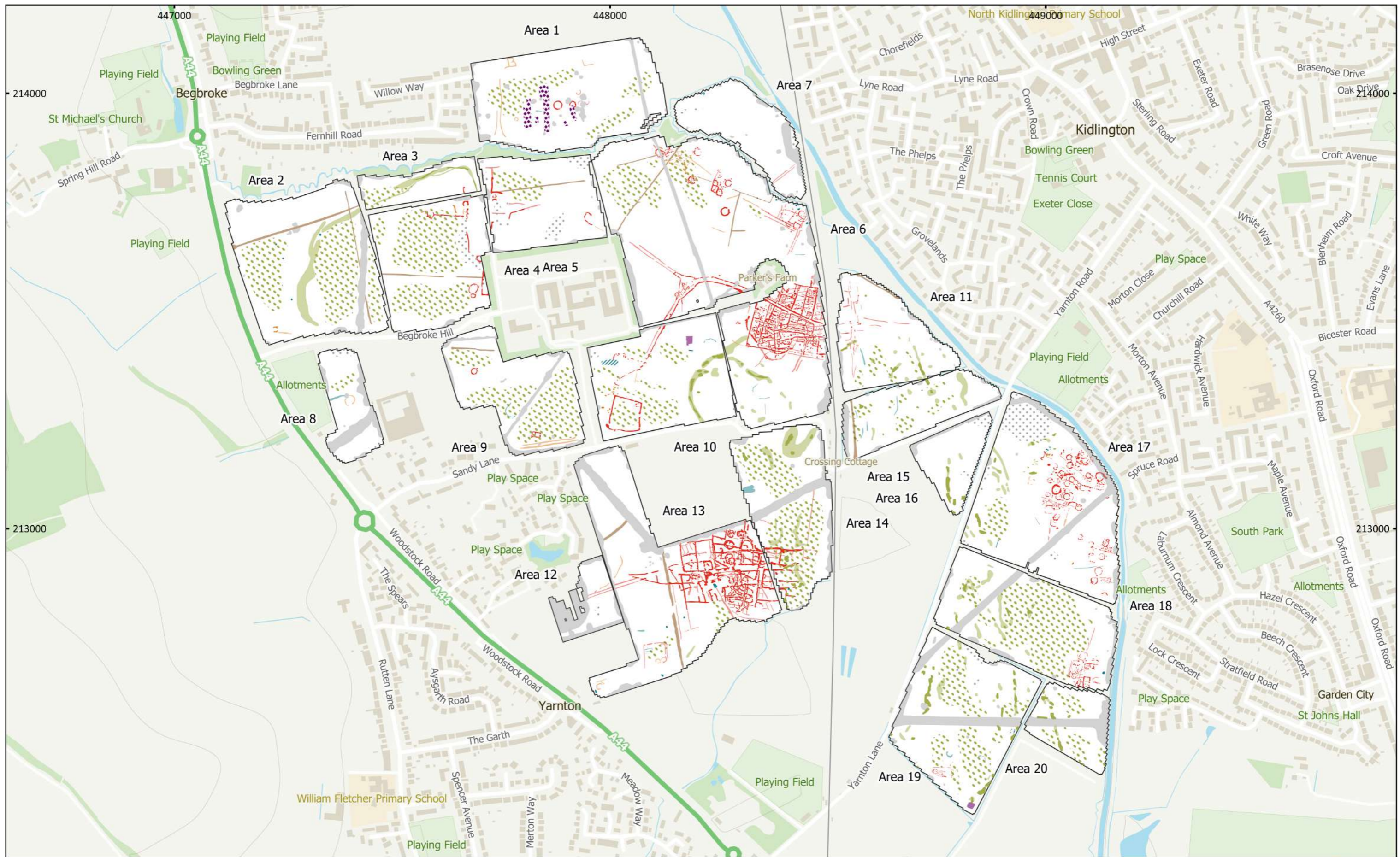




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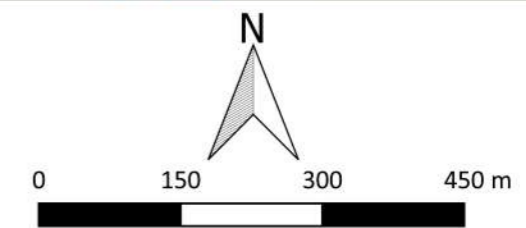




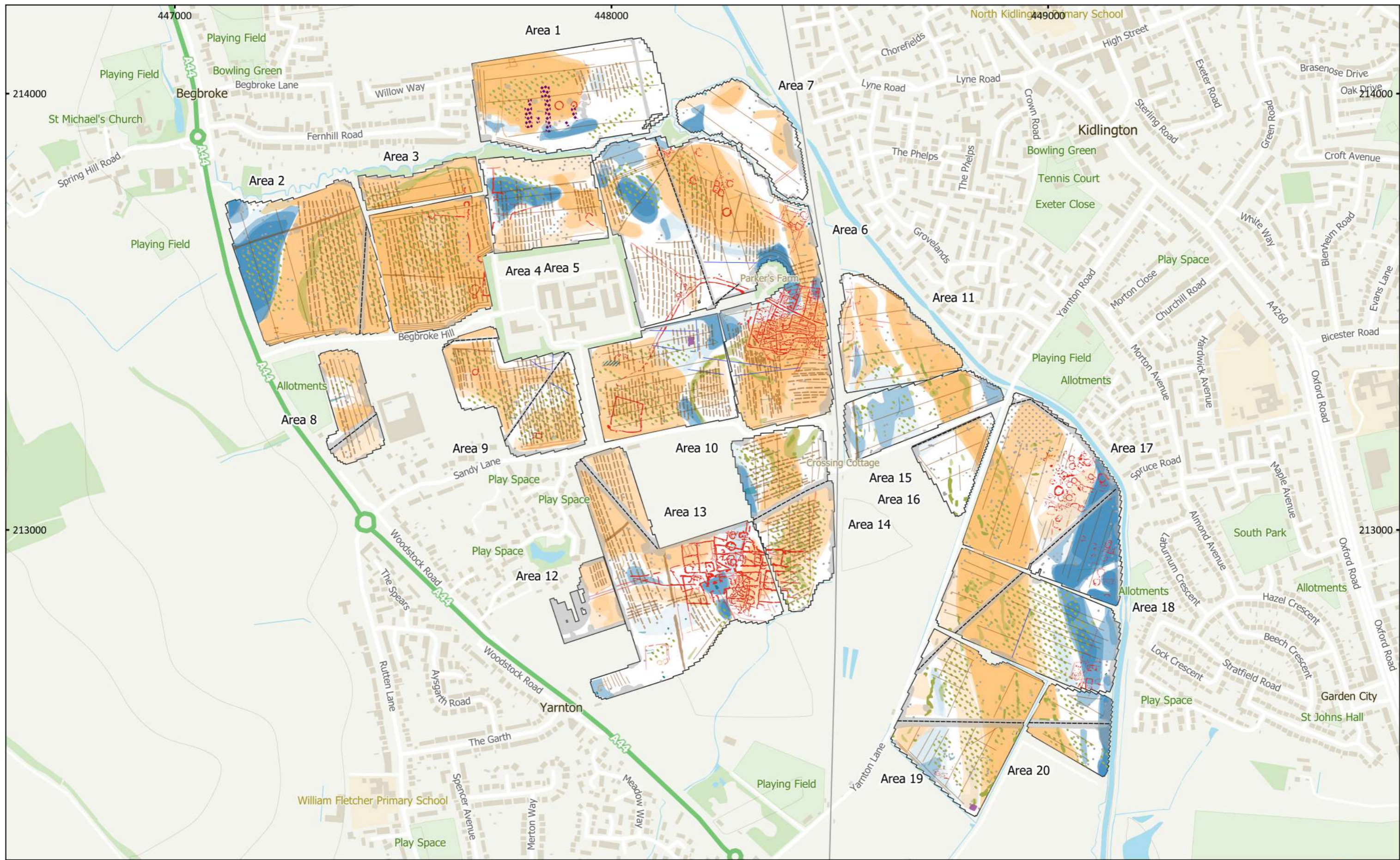


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 Figure 11 - Magnetic Interpretation (Overview)  
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Archaeology Probable (Strong)	Agricultural (Strong)	Natural (Strong)	Ferrous/Debris (Spread)
Archaeology Probable (Weak)	Agricultural (Weak)	Natural (Weak)	Undetermined (Strong)
Archaeology Possible (Strong)	Industrial/Modern	Natural (Zone)	Undetermined (Weak)
Archaeology Possible (Weak)	Industrial/Modern (Spread)	Magnetic Disturbance	Undetermined (Spread)







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 Figure 12 - Magnetic Interpretation and EM conductivity Composite Interpretation C1, C2 & C3  
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Archaeology Probable (Strong)	Industrial/Modern (Spread)	Undetermined (Weak)	High Conductivity (Strong)
Archaeology Probable (Weak)	Natural (Strong)	Undetermined (Spread)	High Conductivity (Weak)
Archaeology Possible (Strong)	Natural (Weak)	Agricultural (Trend)	Low Conductivity (Strong)
Archaeology Possible (Weak)	Natural (Zone)	Service	Low Conductivity (Weak)
Agricultural (Strong)	Magnetic Disturbance	Ridge and Furrow (Trend)	
Agricultural (Weak)	Ferrous/Debris (Spread)	Drainage Feature	
Industrial/Modern	Undetermined (Strong)	Ferrous (Spike)	

N

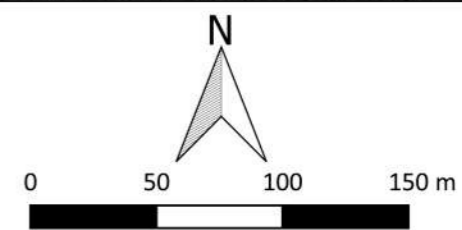
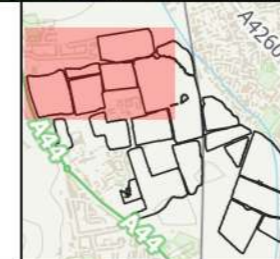
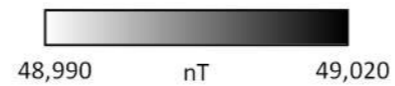
0 150 300 450 m

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 Figure 13 - Magnetic Total Field (Lower Sensor) (Overview) (Northwest Area)  
 1:3,000 @ A3  
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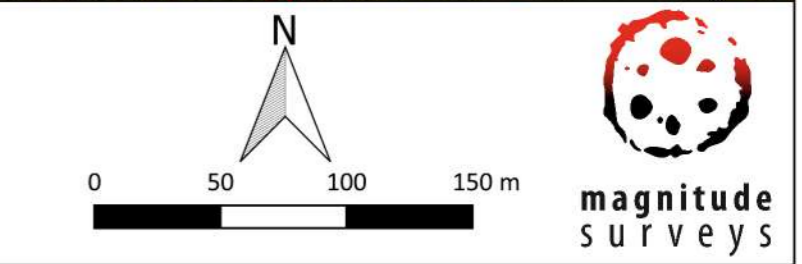


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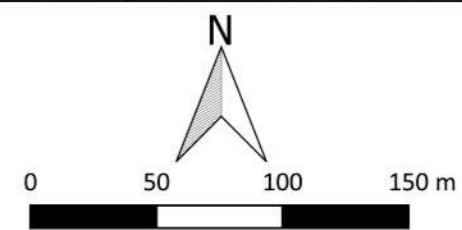
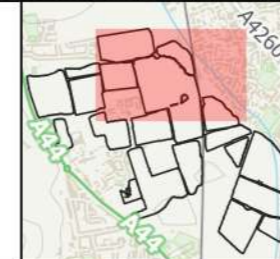
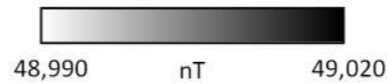
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 Figure 14 - Magnetic Interpretation Over Historical Maps and Satellite Imagery (Overview) (Northwest Area)  
 1:3,000 @ A3  
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 Contains historical mapping © CLS Data 2022: Ordnance Survey, 6" 2nd edition c. 1882-1913  
 Contains satellite imagery © 2022 Bing Satellite







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 Figure 15 - Magnetic Total Field (Lower Sensor) (Overview) (Northeast Area)  
 1:3,000 @ A3  
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 Figure 16 - Magnetic Interpretation Over Historical Maps and Satellite Imagery (Overview) (Northeast Area)  
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 Contains satellite imagery © 2022 Bing Satellite

	Archaeology Probable (Strong)		Industrial/Modern (Spread)		Undetermined (Weak)
	Archaeology Probable (Weak)		Natural (Strong)		Agricultural (Trend)
	Archaeology Possible (Strong)		Natural (Weak)		Service
	Archaeology Possible (Weak)		Natural (Zone)		Ridge and Furrow (Trend)
	Agricultural (Strong)		Magnetic Disturbance		Drainage Feature
	Agricultural (Weak)		Ferrous/Debris (Spread)		Ferrous (Spike)
	Industrial/Modern		Undetermined (Strong)		

