

Worcestershire County Council

Worcester Major Scheme Bid
Cultural Heritage Desk Based Assessment,
Ketch Park and Ride
September 2009

Halcrow Group Limited

Worcestershire County Council
Worcester Major Scheme Bid
Cultural Heritage Desk Based Assessment,
Ketch Park and Ride
September 2009

Halcrow Group Limited

Halcrow Group Limited

Red Hill House 227 London Road Worcester WR5 2JG
Tel +44 (0)1905 361361 Fax +44 (0)1905 361362
www.halcrow.com

Halcrow Group Limited has prepared this report in accordance with the instructions of their client, Worcestershire County Council, for their sole and specific use. Any other persons who use any information contained herein do so at their own risk.

© Halcrow Group Limited 2009

Worcestershire County Council

Worcester Major Scheme Bid

Cultural Heritage Desk Based Assessment, Ketch Park and Ride

Contents Amendment Record

This report has been issued and amended as follows:

| Issue | Revision | Description | Date | Originator | Checked | Authorised |
|-------|----------|---------------------------|---------------------------|------------|------------|------------|
| 1 | | Draft issue for review | 17th September 2009 | J.Goad | S. Griffin | S Morgan |

Contents

| | |
|---|-----------|
| Worcestershire County Council | 1 |
| 1 Executive Summary | 1 |
| 2 Introduction | 2 |
| 2.1 <i>Project Background</i> | 2 |
| 2.2 <i>Site Location</i> | 2 |
| 2.3 <i>Proposed Development Summary</i> | 2 |
| 2.4 <i>Report Structure</i> | 2 |
| 3 Aims and Methodology | 4 |
| 3.1 <i>Aims</i> | 4 |
| 3.2 <i>Methodology</i> | 4 |
| 4 Planning and Legislative Framework | 6 |
| 4.1 <i>Introduction</i> | 6 |
| 4.2 <i>National Planning Policy</i> | 6 |
| 4.3 <i>Regional, County and Local Planning Policy</i> | 6 |
| 5 Archaeological Resource Baseline Data | 12 |
| 5.1 <i>Introduction</i> | 12 |
| 5.2 <i>Statutory and Non-Statutory Protected Features</i> | 12 |
| 5.3 <i>Historic Environment Record (HER) Data</i> | 12 |
| 5.4 <i>Archaeological Baseline</i> | 13 |
| 5.5 <i>Geology, Topography and Palaeoenvironmental</i> | 15 |
| 5.6 <i>Historic Landscape</i> | 15 |
| 5.7 <i>Previous Excavation and Survey</i> | 16 |
| 6 Additional Archaeological and Historical Data | 17 |
| 6.1 <i>Historic Map Sources</i> | 17 |
| 6.2 <i>Aerial Photography</i> | 20 |
| 6.3 <i>Walkover Survey</i> | 20 |
| 7 Assessment of Archaeological Potential | 22 |
| 7.1 <i>Known Constraints</i> | 22 |
| 7.2 <i>Past Impacts</i> | 22 |
| 7.3 <i>Archaeological Potential</i> | 23 |

| | | |
|----------|---|-----------|
| 8 | Impact Assessment | 24 |
| 8.1 | <i>Likely Construction Impacts</i> | 24 |
| 8.2 | <i>Operational Impacts</i> | 25 |
| 8.3 | <i>Consultation</i> | 25 |
| 8.4 | <i>Possible Local Authority Archaeological Investigation/ Mitigation Requirements</i> | 26 |
| 9 | Bibliography | 27 |

1 Executive Summary

This report was written to assess the impact of development of a park and ride facility on the cultural heritage resource at Ketch and Norton. The impacts of such a scheme on buried archaeology, built heritage and historic landscapes were studied in order to inform a business case for such a facility.

The desk study identified a number of statutorily protected area designations, along with non-statutory and local designations in the wider study area surrounding the site. One designation, an Archaeologically Significant Area (ASA) denoting the line of the Worcester-Gloucester Roman road is located at the west end of the site. An area of ridge and furrow within the site has also been identified. In addition, listed buildings were located in the wider study area, with one adjacent to the site boundary.

The main impacts from a park and ride facility would be on the buried archaeology associated with either the Roman road, or other previously unknown buried archaeology throughout the remainder of the site outside the ASA. Other potential impacts have been identified, concerning the historic and visual setting of a listed building on Taylor's Lane. The extent and scale of these impacts will very much depend on where exactly the facility is located.

It is likely that a programme of intrusive archaeological investigation will be required by the two local authority's archaeological advisors on whatever part of the site is chosen for the proposed scheme.

2 Introduction

2.1 Project Background

Halcrow Group Ltd. (Halcrow) has been commissioned by the client, Worcestershire County Council (WCC) to provide environmental consultancy as part of the Worcester Major Scheme Bid (MSB).

This cultural heritage (archaeology, historic structures and historic landscapes) desk-based assessment (DBA) is one a series of such studies undertaken as part of the MSB. The DBA aims to inform the business case for developing the proposals and could, in the future, support a cultural heritage chapter in an Environmental Statement (ES) to support planning application. Through the synthesizing of available data, the DBA will raise the archaeological, built heritage and historic landscape issues surrounding development of a park and ride facility at Ketch (the site) at an early stage in the planning process. This will assist the client in making any necessary provision for appropriate implementation of investigative measures to inform mitigation.

2.2 Site Location

The site is located in a zone immediately to the south of the Southern link Road in Worcester, with the western end of the site (NGR SO 853 515) adjacent to the line of the A38 and the eastern end of the site (NGR SO 867 522) near the existing mainline railway line. The site is 1.64 km in length and at its broadest point 0.3 km wide.

The site straddles the boundary between Worcester City and Wychavon District Councils.

2.3 Proposed Development Summary

The client is considering options for a new park and ride facility at Ketch, with the exact location within the study area not firmly fixed at this point, although the preferred location is at the west end of the site, in the fields immediately adjacent to the A38.

However, a wider area (the site) is under consideration for the proposed facility (Figures 1-2). A park and ride facility would comprise hard-standing car parks with new road infrastructure leading from the A4440 or A38, along with bus shelters, lighting, drainage and power connections presumably leading in from the existing roads.

2.4 Report Structure

Section 3 outlines the aims and methodology of this appraisal. Section 4 outlines national, regional and local planning policies relating to archaeology, built heritage and Conservation Areas. Section 5 outlines the Archaeological Resource Baseline. Information regarding the

known cultural heritage resource within the site and study area discussed. Section 6 documents all additional research that was carried out to add to the understanding of the historical and archaeological background of the site. Section 7 presents an outline of archaeological potential on the site, with Section 8 providing an impact assessment upon the cultural heritage resource. This section also suggests possible archaeological investigation and possible mitigation measures that might be a requirement of WCC's or Worcester City Council's archaeological advisory service. Section 9 features the Bibliography.

Appendix 1 contains the gazetteer of Cultural Heritage features constructed as part of this assessment, while Appendix 2 contains the report figures which support the text. Appendix 3 contains photos taken during the site walkover.

3 Aims and Methodology

3.1 Aims

It is in the interest of the local community, developer and council that archaeological issues are discussed, with an appropriately trained specialist, at an early stage in the planning process. This assessment represents a commitment to provide early advice concerning the cultural heritage resource of the site and surrounding study area.

The aims of this desk-study are to provide an indication as to the extent, survival and importance of archaeological and built heritage features potentially impacted by the proposals and to inform an approach to future work including archaeological fieldwork (investigation and mitigation).

The scope of this DBA has been established after consultation with the Worcester City Council and WCC archaeological advisory services. The scope includes a study establishing the potential for further unknown buried archaeology, and the production of an impact assessment on the known and unknown archaeological resource. The impact assessment will also include the potential effects on the built heritage resource and, as far as is possible given the incomplete nature of the Worcestershire Historic Landscape Characterisater (HLC) study, on the historic landscape character of the site and study area.

3.2 Methodology

This assessment was conducted with regard to standards set out by the Institute for Archaeologists (IFA) *Standards and Guidance for archaeological desk-based assessment* (2001). The general approach and methodology has been to consider the archaeology in terms of the archaeological sites and monuments present within the site, and a surrounding area of approximately 500 metres projecting outwards from the edge of the site boundary (hereafter known as 'the study area').

These resources may be nationally or locally designated (by registration, listing or scheduling), may appear in the national or local archaeological record, or may be identified here from specialist scrutiny of the landscape and historic records.

In summary the work has involved:

- identifying the client's objectives;
- identifying the sources available for consultation, and;

- assembling, consulting and analysing the available resources within the wider study area surrounding and including the site.

In summary, the study has entailed:

- consulting WCC's archaeological advisor (Worcestershire Historic Environment and Archaeology Service);
- Consulting Worcester City Council's archaeological advisor (Worcester City Museums and Archaeology Section)
- consulting the WCC Historic Environment Record (HER) for archaeological sites and monuments data;
- Consulting the Worcester City HER for archaeological sites and monuments data;
- consulting the National Monuments Record (NMR) for listed building information;
- examination of historic cartographic sources (OS and non-OS);
- collation and examination of published archaeological and historical data;
- collation and examination of unpublished archaeological reports (so-called 'grey literature');
- examination of aerial photographs held at WHEAS HER;
- examination of documents held by Worcestershire Archives Service (Record Office and Local History Centre);
- visiting the site, and;
- preparation of the written report.

A gazetteer listing the cultural heritage features that fall within the study area surrounding the site is provided in Appendix 1. Each entry has been assigned a unique single or double-digit number, marked on the figures and discussed in the text, rather than relying on the longer WCC, WCMAS HER and NMR numbers.

4 Planning and Legislative Framework

4.1 Introduction

The following section highlights the key national, regional and local planning policies relevant to this project.

4.2 National Planning Policy

4.2.1 National Planning Policy Guidance 16: Archaeology and Planning

The importance of archaeology in the planning process is detailed in PPG16. The underlying principle is that archaeological remains should be seen as a finite and non-renewable resource and should be regarded as a part of the environment to be protected and managed. The primary objective is to secure the best possible treatment of the archaeological heritage.

Where nationally important archaeological remains, whether scheduled or not, and their settings are affected by a proposed development there should be a presumption in favour of their physical preservation. If physical preservation in-situ is not feasible, an archaeological excavation for the purposes of 'preservation by record' may be an acceptable alternative. From an archaeological point of view, this should be regarded as a second best option.

4.2.2 National Planning Policy Guidance 15: Planning and Historic Environment

PPG15 recognises that the listed buildings, conservation areas and other historic sites, which together form some of the individual elements of the historic environment, are a unique and irreplaceable record that contributes to our understanding of both the present and the past.

In any development control decision, planning authorities are required to fully take account of and mitigate the possibility of unnecessary erosion or damage to this resource. PPG15 ensures that protection should be given not only to the assets themselves but also to the settings, which contribute to their character.

4.3 Regional, County and Local Planning Policy

4.3.1 Regional Planning Guidance for the West Midlands (RPG 11)

Policy QE1: Conserving and enhancing the environment

The Regional Planning guidance contains a section that sets out the government's aims and policies concerning the Historic Environment of the region. It explains that local authorities and other agencies in their plans, policies and proposals should *'protect and where possible enhance other irreplaceable assets and those of a limited or declining quantity, which are of fundamental importance to the Region's overall environmental quality, such as ...historic landscape features and built heritage'*

Policy QE5: Protection and enhancement of the Historic Environment

More specifically this policy sets out guidelines for development policy;

‘Development plans and other strategies should identify, protect, conserve and enhance the region’s diverse historic environment and manage change in such a way that respects local character and distinctiveness

Development plans and other strategies should recognize the value of conservation led regeneration in contributing to the social, spiritual and economic vitality of communities and the positive role that buildings of historic and architectural value can play as a focus in an area’s regeneration’

4.3.2 The Worcestershire County Structure Plan (Adopted 1996)

Policy CTC16: Archaeological Sites of National Importance

‘There will be a presumption in favour of physical preservation in situ of internationally or nationally important remains, their settings and amenity value. Development which would affect internationally or nationally important archaeological remains, their settings or amenity value will not be allowed.’

Policy CTC17: Archaeological Sites of Regional or Local Importance

‘Development proposals which affect regionally or locally important archaeological remains or their settings should take account of their relevant importance. Where the remains are identified as being particularly worthy of preservation any development which may damage the archaeological importance of the remains or its setting will not normally be allowed.

Where development proposals affect regionally or locally important archaeological remains every effort should be made to preserve them intact. Where preservation in situ cannot be justified, arrangements should be made to record those parts of the site that may be destroyed or altered.’

Policy CTC18: Enhancement and Management of Archaeological Sites

‘The management, understanding and enhancement of archaeological sites is to be encouraged and where relevant should be taken into account by the Local Planning Authority when considering development proposals. To assist in this District Planning Authorities should set out appropriate policies for their area within Local Plans.’

Policy CTC19: Areas and Features of Historic and Architectural Significance

‘Any development that would adversely affect those features and areas of historic and/or architectural significance which contribute towards the urban or rural parts of the County will not normally be allowed. Such features and areas should be retained and their appropriate management encouraged.

Features and areas include:

1. Listed Buildings and their settings and Conservation Areas and their settings;
2. Significant historic landscapes and;
3. Significant buildings or features of local historic and/or architectural interest.’

4.3.3 The Wychavon District Council Local Plan (Adopted June 2006)

Policy ENV 10: Sites of Archaeological Significance

‘Proposals for development affecting national, regional or locally important archaeological sites and their settings, whether scheduled or unscheduled, will only be permitted where proposals can demonstrate that the archaeological interest is capable of being preserved in situ and without damage to its setting.

If this is not merited, where the reasons for the proposal outweigh the intrinsic importance of the site/ remains or the setting of the feature and there is no reasonable alternative or solution to accommodate the development proposed, then the developer must agree to an appropriate level of investigation and recording prior to and during development and the subsequent analysis and publication of results and curation of remains.

Applications for development affecting sites where archaeological remains are likely to exist should be accompanied by an assessment/ survey to establish the nature, condition or significance of any remains prior to the determination of any planning application.’

Policy ENV 14: Settings of listed buildings

‘Proposals for development will only be permitted where they would preserve the setting of a listed building’

4.3.4 The Worcester City Local Plan (Adopted 1996-2011)

Policy BE5: Setting of Conservation Areas

‘Planning permission will be granted for development which will not adversely affect the setting of a Conservation Area, particularly in respect of:

- Views into or out of a Conservation Area
- Protection of any skyline of architectural or historic importance within or adjoining a Conservation Area’

Policy BE 6: Open Areas in Conservation Areas

‘Planning permission will not be granted for new buildings which are located in; encroach upon; subdivide or otherwise detract from open areas which contribute to the special character or appearance of a Conservation Area’

Policy BE16: The setting of listed buildings

‘Planning permission will not be granted for development which would adversely affect the setting of a listed building. In particular, development within the setting of a listed building should not:

- Involve the sub-division of a garden or landholding designed as an integral part of the setting of a building;
- Obscure important views of the building from within or outside its curtilage;
- Introduce a new use which by virtue of visual or other impact is injurious to the setting or the special architectural or historic interest of the listed building.’

Policy BE18: Buildings of Local Interest – New Development

‘Planning permission will normally be granted for development related to or affecting any building identified as being of local interest, provided that the identified features or elements of local interest have been properly accounted for in the proposed development’

Policy BE19: Buildings of Local Interest - Recording

‘Where planning permission is granted for development involving the demolition or substantial alteration of a building of local interest measures for the recording or commemoration of lost features shall be part of the permission’

Policy BE21: Development within archaeologically sensitive areas-design principles

‘In discharging its duties as a local planning authority the city council will seek the preservation of the city’s varied but finite archaeological resource and its setting. The most extensive areas which are currently known to be archaeologically sensitive are defined on the

proposals map, and other sites of archaeological significance are registered on the city's sites and monuments record. The city council will ensure that any development in these areas is designed to minimise damage to features or remains of archaeological interest, preserving such features or remains in situ wherever possible.'

Policy BE22: Development within archaeologically sensitive areas – written assessment and field evaluation

'Applications for development which may adversely affect archaeological features or remains within the archaeologically sensitive areas shown on the proposals map, or other sites of archaeological significance registered on the city's archaeological sites and monuments record, shall be accompanied by a written assessment of the archaeological interest in the site, including an archaeological field evaluation report where that is considered necessary by the city council.'

Policy BE23: Development within archaeologically sensitive areas – determination criteria

'Planning permission will only be granted for development requiring excavation beneath the ground in archaeologically sensitive areas, or other sites of archaeological significance registered on the city sites and monuments record, when:

- An archaeological field evaluation has been submitted and approved, and the city council's recommendations based on this evaluation have been taken fully into account, as necessary, in the design of below-ground structures and works associated with the development;
- Adequate measures are provided to ensure the proper excavation and recording of the archaeological interest of the site where it is affected by the proposed development, as identified through an archaeological field evaluation, and this is considered the appropriate course of action by the city council;
- The city council is satisfied that the development proposals will not adversely affect the archaeological interest of the site'

Policy BE24: Protection of nationally and internationally important archaeological sites

'There would be a presumption against development which would damage or adversely affect nationally or internationally important archaeological sites, their settings or their amenity value, whether scheduled or not.'

Policy BE25: Development outside areas currently known to be archaeologically sensitive

‘If, as a result of new evidence, new sites or areas of archaeological significance come to light, the city council will apply the policies of Policies BE 21, BE22 and BE23 to development affecting such sites or areas as appropriate.’

Policy BE26: Historic landscapes and features

‘The city council will seek to protect significant historic landscapes and their component features, including the historic Battlefield of Worcester...and other valuable historic features, from the adverse effects of development.’

Policy BE27: Access to and interpretation of the historic environment

‘The city council will require the provision of physical and/or intellectual access to the historic environment as part of an approved development scheme.’

4.3.5 Malvern Hills District Council Local Plan (Approved July 2006)

Policy QL13: New development affecting the setting of listed buildings

‘Planning permission will not be granted for development which would harm the setting of a listed building.’

Policy QL14: Scheduled Ancient Monument and other archaeological sites

‘Development which would have a direct or indirect adverse impact on the site, setting or amenity value of a scheduled ancient monument, or other archaeological remains of national importance, will not be permitted as there is a presumption in favour of the physical preservation of such remains in situ.’

Development which would have a direct or indirect adverse impact on the site or setting of archaeological remains of regional, county or local importance, will not be permitted unless it is clearly demonstrated that the following criteria are met:

- (a) There are no reasonable alternative means of meeting the need for development appropriate to the level of importance of the archaeological site and its setting, and
- (b) The reasons for the development outweigh the archaeological importance of the site and its settings and the need to safeguard the wider stock of such settings.’

5 Archaeological Resource Baseline Data

5.1 Introduction

The cultural heritage designations have been assigned a unique number for ease of reference. These are given in bold after the monument or building name. The full details of these sites and features have been reproduced in the gazetteer of cultural heritage features (Appendix 1). The locations of these receptors are located on the supporting figures (Figures 1 and 2).

5.2 Statutory and Non-Statutory Protected Features

There are no scheduled monuments (SMs), World Heritage Sites, Historic Parks and Gardens, Conservation Areas or Registered Battlefields within the site boundary.

The one designation located within the site boundary is the Gloucester to Worcester Roman Road Archaeologically Significant Area (1) which is a local Worcester City Council area designation used to denote areas of known or potential significant archaeology.

The wider study area however, has a number of different area designations that comprise:

- The Riverside Conservation Area (3);
- The Battle of Worcester (2) Registered Battlefield site;
- Two SM sites at Crookbarrow Farm (4) and Middle Battenhall Farm (5);
- The Upper Battenhall Farm Archaeologically Significant Area (6);

In addition, there are nine listed buildings within the study area;

- The three listed buildings located at Upper Battenhall Farm (7) which include the farmhouse, a cow shed and another outbuilding as separate listings;
- Timberdine Farmhouse (8);
- Clerkenleap Farmhouse (9);
- Upper Broomhall farmhouse (10);
- Norton Barracks keep and flanking walls (11);
- The Cottage (12) and;
- Middle Broomhall farmhouse (13).

5.3 Historic Environment Record (HER) Data

The Worcestershire and Worcester City HERs were consulted to establish the known baseline with regard to archaeological sites and monuments, place names evidence and areas of archaeological activity. Although inclusive of some designations data, the HERs have

incomplete listed building information and therefore NMR listed building data was utilised. The cultural heritage data has been reproduced on the supporting figures (Figures 1-2, Appendix 2).

5.4 Archaeological Baseline

This section provides a brief overview of the archaeological and historical background of the study area, which will aid in understanding the likelihood of encountering currently unrecorded resources within the application site and potentially determine their significance and likely condition. The sites are listed in more detail in the Gazetteer of Cultural Heritage features (Appendix 1). The Gazetteer includes some buildings and monuments located through historic mapping which have been included in the baseline section below. The data is presented below by period, which will highlight the time-depth of the area with respect to human activity. The period-by-period breakdown reproduces all the non-designated archaeological/ built heritage data. There are 28 non-designated archaeological monuments and historic buildings locations within the dataset, of which one is within the site boundary.

5.4.1 Prehistoric Period (Circa 750,000 BP – 43 AD)

There are no known monuments or find spots that date to this period. However, absence of evidence can not always be taken as evidence of absence, as the paucity of information is likely to reflect the lack of formal investigation rather than any definite lack of archaeological features relating to these periods.

5.4.2 Romano-British (43 – 410 AD)

The Gloucester-Worcester Roman Road (1) is, along some sections of its length, represented by an alignment of footpaths, tracks, roads and hedge rows. Within the site the road appears to be marked by the presence of a field boundary.

There are two records of Romano-British activity in the wider study area, represented by a 19th century discovery of Roman coins (26) to the south west of Crookbarrow Hill and the discovery of a substantial Romano British settlement (39) during pipeline excavation work to the south west of Crookbarrow Hill during the Strensham Aqueduct pipeline monitoring (see Section 5.7). This site was only partially investigated and the true extent and phasing of the settlement was not accurately established. However, the site consisted of enclosures, houses and metal-working sites.

5.4.3 Early Medieval (410 – 1066 AD)

There are no known monuments or find spots that date to this period. Again, absence of evidence does not mean evidence of absence as far as buried archaeology is concerned. A lack of formal investigation is possibly a fundamental reason for the lack of evidence.

5.4.4 Later Medieval (1066 – circa 1540)

The only monument within the site boundary is an area of ridge and furrow (37) which has been detected from crop marks. These are in the field immediately to the north of Upper Broomhall Farm.

There are ten later medieval monuments within the wider study area. These comprise the two SM sites (4 and 5); the fish weir (15) and Ferry (17) at Ketch; a fish weir at Kempsey (20); a moat (21) and possible deserted medieval village (22) at Upper Broomhall Farm (23) and a series of ridge and furrow earthworks both adjacent to the farm (38) and to the west of Crookbarrow Hill (24). These lie in close proximity to a hollow way (41) that links the city of Worcester with Whittington village.

5.4.5 Post-Medieval to Modern (circa 1540 – Present)

Ridge and furrow (37) is likely to date to this period.

The Registered Battlefield (2) is an area covering the engagements during the English Civil Wars, thereby denoting post-medieval activity. The listed buildings (7-13) in the study area are predominantly timber-framed buildings dating from the same period (17th century).

Former farm buildings at Timberdine (14) have been demolished, although the farmhouse and other buildings have survived. This site lies within the modern suburban development of St Peters.

A fish weir (16), Ferry (17) and wrecked boat (19) in the River Severn to the west of the site have been located either through river survey or documentary study.

Defence of Britain (DoB) sites off the Bath Road include the former Ketch oil depot (18) in and a pillbox (35) at the edge of Norton Barracks. In addition, a WWII observation post (40) was located on Crookbarrow Hill.

The Birmingham-Gloucester Railway (25) is still an active railway line.

The threshing barn and other farm outbuildings (26) at Upper Broomhall Farm are located in close proximity to the southern site boundary.

5.4.6 Unknown

Aerial photography has located a three-sided enclosure (36) adjacent to Middle Broomhall Farm (13).

5.5 **Geology, Topography and Palaeoenvironmental**

The underlying geology is Mercian Mudstone (British Geological Survey, 1993, 1:50,000 series, England and Wales, Sheet 199) overlaid by soils of the Whimple Association (Soils Surveys of England and Wales, 1:50,000 series, Sheet 150, Soils of the Worcester and Malvern Districts). The Whimple Soils are rather dark, slightly stony clay (or silty) loam soils with reddish subsoils (Beard et al 1986). These soils are relatively well-drained, though subject to some seasonal waterlogging. The soils are suitable for arable cultivation, which is the predominant use of the site today.

There are no known natural watercourses that pass through the site, though there would appear to be a number of artificial drains that have been excavated during the site's use as agricultural land. There are a number of ponds also identified within the site, which seem to be quite evenly-spaced out from west to east across the site. A couple of these are visible on the tithe maps (**Figures 4 and 5**).

Topographically the site has slight variations, with the area in between the A38 and Norton Road being flat. The section of the site east of Norton Road is on a slight slope, with the higher end at the eastern site boundary (in the vicinity of Crookbarrow Hill). From that side the fields slope very gently westwards before reaching the level of the rest of the site at Norton Road.

5.6 **Historic Landscape**

The county-wide HLC study has covered the site and part of the surrounding study area (south of the Broomhall and Crookbarrow Way). The HLC study has not yet been finalised, but preliminary consultation with the HLC officer at WCC, Steve Crowther, indicates that the general area has been subject to much landscape modification in the latter half of the 20th century, particularly following the construction of the A4440 (Broomhall and Crookbarrow Ways) and the setting out of the road junction linking the two stretches of road.

The majority of the land in between the A38 and Norton Road indicates piecemeal enclosure in the post-medieval period, but also includes a sizeable area of 19th century parliamentary enclosure, which includes the fields west of Norton Road south of the city-county boundary.

The fields in between Norton Road and Brockhill Lane historic mapping has indicated a regular and organised field pattern suggesting planned private enclosure, resulting from formal agreement between landowners in the 17th to 19th centuries. However, this field pattern did not survive into the 20th century, with the development of the village of Norton and the amalgamation of the fields adjacent to Crookbarrow Way.

The HLC within the site appears, after preliminary study only, to be of relatively low value. However, the wider landscape might be of greater significance, which may enhance the value of the HLC within the site.

5.7 Previous Excavation and Survey

There have been no previous archaeological interventions within the site boundary. In the wider study area there have been two periods of salvage recording activity (**29 and 30**) on the Powick Booster and Main Supply Deficiency Scheme west of the site, as well as the Worcester-Strensham Aqueduct. The Powick Booster Scheme identified a number of brick features and pottery waste which was identified as an outfarm site. The Strensham Aqueduct salvage recording (**30**) identified the Romano-British settlement at the junction of the railway line and the M5 (Jackson et al 1996). The true nature and extent of this site was not fully ascertained, but confirmed the area east of Norton is archaeologically sensitive.

Excavation, under scheduled monument consent, on Middle Battenhall Farm fishponds (**31**) identified the deliberate excavation as the method for construction rather than augmenting banks.

A series of building assessments and recording (**32**) has been carried out at Timberdine Farm prior to restoration and refurbishment works.

Archaeological walkover survey (**33**) has been carried out on areas of ridge and furrow in Battenhall.

Archaeological access condition (**34**) on land on Tire Avenue identified grey clay in open excavation work. The site was in close proximity to the Duck Brook.

6 Additional Archaeological and Historical Data

6.1 Historic Map Sources

6.1.1 Pre—Ordnance Survey (OS) mapping

St Peter the Great Tithe Map, 1840 (Figure 3) – This shows the section of the site north of the current city (St Peter the Great parish) boundary (which has remained consistent into the present day).

The fields vary in size and shape, but are generally sub-rectangular in shape. West of Norton Road (which is on the same alignment as today) the fields are oriented roughly north south, whilst east of that line the fields are oriented roughly east-west.

The line of the A38 is marked on, as is the River Severn, with Lower and Upper Timberdine Farm and The Ketch marked as the only buildings in the immediate vicinity of the site.

A small pond is visible at the western end of the site, adjacent to the parish boundary.

The map shows the completely rural nature of the area in the northern part of the study area. The map also highlights the extent of 20th century infrastructure and development on field enclosure truncation and amalgamation.

Kempsey Tithe Map, 1841 (Figure 4) – this map shows the area of parliamentary-enclosed fields west of Norton Road and on the south side of the city boundary. The fields on the tithe map (labelled nos. 1-4 from east to west) appear in the same form as they are today, with the sole exception that the most western of the four fields on the tithe map has since been divided into two, resulting in five fields at time of writing. The field boundary dividing this western field from the others also appears wavy, not two straight sections as it is today. The long, roughly rectangular, pond near the junction of Taylor’s Lane and Norton Road (on the boundary between field nos. 1 and 2) is present in much the same form as it is today.

Worcestershire Historic Environment and Archaeology Service (WHEAS) have produced a transcribed copy of the tithe map which indicates that the four fields present in the study area are named, west to east; ‘Fifteen Acres’ (field no.4), ‘Twelve Acres’ (field no. 3) and ‘Goose Close’ (field nos. 2 and 1).

The study area to the south shows the buildings of Upper Broomhall farm and the extant moat area on the north side of the farm buildings. The moat appears to cut into Taylor’s Lane. The tithe map also shows how the fields south of Taylor’s Lane appear to be in what must be their original form, not the amalgamated collection that exists today.

Norton-Juxta-Kempsey Tithe Map, 1839 (Figure 5) – this map contains that portion of the site that exists in between Norton Road and Brockhall Lane. The currently amalgamated fields in this section are shown in their original form in this map, which shows a rural zone within the study area, with the moated enclosure of Newlands Farm visible, as are some small isolated properties on the eastern side of Norton Road.

The WHEAS-annotated tithe map copy (transcribed 1999) indicates the three fields that are present are named ‘The World’s End’ (tithe map field no. 1), ‘The Reddings’ (field no. 11) and ‘Broad Meadow’ (field no. 2).

6.1.2 Ordnance Survey (OS) Mapping

Worcestershire Sheet 33 SE, 6” to 1 mile, 1886 (Figure 6) – the map indicates a very rural area similar to the earlier tithe maps. The appearance of Norton Barracks for the first time provides a clear edge to the eastern end of the site boundary and the form of the landscape east of Norton Lane. The central part of the site appears to be the same as the tithe maps, with the exception that one of the Goose Close fields appears to be used as an orchard, and the field boundary of ‘Fifteen Acres’ has been straightened.

The field immediately adjacent to Upper Broomhall Farm (to the south of Taylor’s Lane) is being used as orchard or plantation.

The line of the GWR Oxford, Worcester and Wolverhampton railway also appears for the first time at the eastern end of the study area.

The line of the Roman Road is more discernable on the map at the west end of the site, with field boundaries and a footpath forming a more or less continuous line from St Peter the Great area into the Kempsey side of the site. South of Taylor’s Lane, the road is marked solely by a footpath. Some field amalgamation has also occurred in the area south of Taylor’s Lane, although this is difficult to ascertain to what degree because of the rather faint nature of the photocopy supplied.

There appear to be a collection of agriculturally-related features just to the east of Timberdine Farm.

Worcs Sheet 33 SE, 6” to 1 mile, 1905 (Figure 7) – There are no changes from previous mapping, other than the sub-division of ‘The Reddings’ at the far eastern end of the site.

Worcs Sheet 33 SE, 6” to 1 mile, 1930 (Figure 8) – There are no major changes to the site or surrounding study area, with the exception that ‘Twelve Acres’, roughly in the middle of the site, is also now being used as orchard or some other plantation. The sub-division of ‘The Reddings’ has disappeared.

Worcs Sheet 33 SE, 6" to 1 mile, 1938 (Figure 9) – there are no changes to the site in this map from the previous map. Norton Barracks appears to have developed, with more buildings around the Parade Ground.

SO 85 SE, 6" to 1 mile, 1955 (Figure 10) – There are no changes within the site in this map. Norton Barracks has expanded greatly though, with auxiliary buildings surrounding the parade ground area to the west and south, significantly infilling the fields in between Norton Road and the railway line.

SO 85 SE, 6" to 1 mile, 1966 – there are no discernable differences within the site on this map.

SO 85 SE, 1:10,000, 1972 (Figure 11) – this map indicates that there has been some field amalgamation at the western end of the site, with the removal of the field boundaries to the west of the projected line of the Roman Road. This activity is on contrast to the eastern end of the site, where the field labelled as ‘The Reddings’ on the Norton-Juxta-Kempsey tithe map has been sub-divided laterally.

The pond at the western end of the site, which abutted the city boundary, also appears to have been filled in.

In addition to the field boundary activity, the map indicates the construction of the ‘West View’ residence on the east side of Norton Road within the site.

In the wider study area, the area along Norton Road has seen some more infill development (in the vicinity of the Barracks). There has been an electrical sub-station development on the northern part of the study area.

SO 85 SE, 1:10,000, 1990 (Figure 12) – this map indicates the greatest level of change in the wider study area than any previous map. The map shows the construction of the ring road (formerly known as the A422 which comprises Broomhall Way and Crookbarrow Way) which now form the northern boundaries to the site.

The area north of the ring road shows the large-scale residential development of the St Peter’s housing estate, which has largely eroded the historic field patterns in that area.

SO 85 SE, 1:10,000, 1995 (Figure 13) – There have been no further changes to the site itself, the study area has continued to change. The residential development on the north side of the ring road has encroached on to it, infilling the final areas of open field remaining from the last map. The character of Norton Barracks also appears to have changed, with the great

majority of military buildings surrounding the main Barracks building itself no longer present.

6.2 Aerial Photography

A collection of oblique aerial photographs were viewed at the WHEAS HER, with the purpose of establishing the true locations and extents of the crop mark sites recorded as monuments in the HER record, as well as spotting any sites that were not included on the record.

Two photographs (AB 1958, film reference no. 727, WHEAS photo no. 387 and WAB 1958, film ref. no. 728, WHEAS photo no. 389) show clearly the line of the Roman Road (1) in the field immediately to the south of the site boundary.

The extent of the three-sided enclosure (36) was established from a further oblique aerial photograph (JP 1986, film ref. 1274, WHEAS photo no. 520).

Google Earth indicates that, at the time of the most recent satellite photo coverage of the area, the site was being utilised purely for arable purposes.

6.3 Walkover Survey

A site walkover was conducted on Thursday 20th August and covered the length of the site from east to west.

The part of the site east of Norton Road (Plate 1) is slightly sloping, with the naturally higher ground, with Crookbarrow Hill, being located near the M5 Junction 7. The remaining old field boundaries in this part of the site (around the field formerly known as Broad Meadow) show mature vegetation and trees. The topography is such that most of Crookbarrow Hill (4) is sufficiently removed from the site not to be clearly seen. Mature trees line the footpath (Brockhall Road) at the eastern side of the site, which obscures the part of this distinctive landscape feature that would ordinarily be visible from this part of the site.

The fields to the west of Norton Road are all roughly oriented north-south. Most are arable fields, or have been so historically, but two (Plates 6 and 9) are currently under pasture. Upper Broomhall Farm (10) contains the listed buildings closest to the site boundary. The farmhouse itself (Plate 3) is close to Taylor's Lane, with the old moat (Plate 5) fronting directly on to the road. One of the fields opposite is used for hops (Plate 4). Previous inspection of satellite photography indicates the arable uses for this field have changed in the recent past.

The western end of the site is the preferred park and ride location (Plate 9) and the hedgerow visible from the road denotes the probable line of the Worcester to Gloucester

Roman Road (1) with the field as a whole covered by the Archaeologically Sensitive Area designation. The field is currently under pasture, but recent aerial photographs (see Section 6.2) have indicated that it has been arable until the recent past.

7 Assessment of Archaeological Potential

7.1 Known Constraints

7.1.1 Inside Site Boundary

The primary constraints within the site boundary are the Roman Road Archaeologically Significant Area (1) at the western end of the site. This designation covers the preferred area for the scheme. The line of the Roman Road is approximately marked by a field boundary still extant at that end of the site. Although no physical remains are visible above ground, it is possible to suppose that buried remains relating to the road exist. Such remains could be of high significance, dependent upon their extent and preservation.

The crop marks which are believed to denote ridge and furrow (37) are also present within the site as buried archaeology. These are perhaps of low archaeological significance, but are one element of a wider historic landscape.

7.1.2 Wider Study Area

The immediate setting of Upper Broomhall Farm (10) is also a potential constraint to development within the central portion of the site.

The Registered Battlefield (2) which covers the estimated area of the Battle of Worcester lies immediately to the north of the site on the other side of the A4440. This is an area that has already been subject to intensive housing development around road infrastructure.

The Riverside Conservation Area (3) abuts the west side of the A38, and the settings of these designations are protected by policies in the Worcester Local Plan.

The Crookbarrow Farm (4) and Middle Battenhall (5) SMs as well as the listed buildings closest to the site, such as Upper Broomhall Farmhouse (10) and Clerkenleap Farmhouse (9) are in close enough proximity to the site for issues of historic setting to be an issue.

7.2 Past Impacts

The impact likely to be of the most significance to buried archaeology within the site relates to the construction of the A4440 Crookbarrow Way and Broomhall Way in the late 1980's and early 1990's. Although the site is to the south of the road (which largely lies in cutting) the area of the construction corridor is likely to have been much wider. Within this zone a host of activities would likely have taken place which could have had a detrimental effect on the buried environment e.g. plant activity, earth-moving to facilitate landscaping etc

The site has been used predominantly for arable cultivation and this might have had a detrimental effect on the presence of both known and unknown buried archaeology. If the site has been deep-ploughed (sub-soiled) at any time, the damage would be of a greater extent than that limited to the topsoil.

There is believed to be some limited hard-standing on the area of land in between A4440 and the city boundary in between Norton and Ketch roundabouts, which may or may not be associated with the car boot sale that happens in this parcel of land on a regular basis. The extent of the hard standing is unknown, but may have had some limited impact on buried soil horizons.

7.3 Archaeological Potential

Given the lack of prehistoric archaeological remains from the study area, the potential for archaeology from this period would appear to be **low to moderate**. Despite the lack of prehistoric finds within the study area, the site lies virtually adjacent to the River Severn on a gravel terrace. Human activity from these periods is generally focussed on river valleys as they were an essential resource ripe for exploiting. The Severn valley in particular has a mix of significant archaeological sites, which relate to both permanent settlement and funereal landscapes, although no evidence for these has been found in the immediate vicinity of the site.

With the likely presence of the Roman Road (1) at the west end of the site, and the large Romano-British settlement (39) at the east end of the study area, there is a **high potential** for unknown Romano-British remains to exist within the site. The potential is highest within the boundaries of the Archaeologically Sensitive Area, but also at the east end of the site near to the extensive Romano-British settlement on Brockhill Farm. The presence of an undated enclosure (36) by Middle Broomhall Farm could also date to this period, and indicates the presence of farming or settlement activity in the area to the south of Taylor's Lane.

There is a **high potential** for later medieval archaeology to exist, given the extensive activity at the east end of the study area within Crookbarrow (4) and Middle Battenhall Farm (5) which includes extant ridge and furrow, hollow ways and ditched fortifications. The likely presence of ridge and furrow within the site indicates the continuous agricultural use of the site from the later medieval and perhaps into the post-medieval period.

Ridge and furrow and old field boundaries from the post-medieval period may exist within the site to give a **high potential** for archaeology of this period to exist. This is likely to be of low significance though.

8 Impact Assessment

8.1 Likely Construction Impacts

The development of a park and ride facility within the site would entail the creation of hardstanding and necessary associated services. The level of landscaping involved for a park and ride site, in addition to the nature of ecological mitigation e.g. the creation of new ponds etc is currently unknown, but if implemented, the impacts are liable to be adverse both on the settings of the existing historic listed (and non-listed) buildings, but also on known and unknown buried archaeology. This is most likely given that in Greenfield areas like this one, buried archaeology is likely to lie very close to the surface. Similarly, the site will require road access from the present highway, and this will entail similar impacts to the remainder of the construction.

Earth-moving associated with landscaping activities, the creation of services and the associated movement of plant around the construction zone can adversely affect buried archaeology through removal, truncation or compression of archaeological deposits. Vibration from piling activities and the changes in the water-content of soils from drainage can lead to the disturbance, damage and degradation of archaeological deposits.

The buried remains associated with both the Roman Road (1) and the area of ridge and furrow (37) both have the potential to be removed or severely truncated and/ or damaged by construction work directly over them or in the immediate vicinity.

The archaeological remains associated with Upper Broomhall farmhouse i.e. the moat (21) potential DMV (22) and listed farmhouse (10) have the potential to be physically affected by vibration associated with large plant movement or piling in the immediate vicinity. In addition, if development took place directly opposite Upper Broomhall farmhouse, the visual setting of the building might be adversely affected, as the house is not shielded by mature vegetation and fronts quite openly on to Taylor's Lane.

It is unlikely that the visual setting of the SMs (4 and 5) would be adversely affected by the construction phase, given the partial visual severance of the designations from the site from both the local topography and the operational railway line.

The hedgerow along both sides of Taylor's Lane appears to be tall and very mature most of the way along its length (Plate 8). If mostly retained along Taylor's Lane, this would likely prevent any adverse visual impacts on nearby listed buildings.

8.2 Operational Impacts

Although the various area designations (1, 2, 3 4 and 5) will not be directly physically affected by the proposed scheme, their wider historic setting might be affected by the proposed scheme. To what extent each individual designation would be affected depends on the location of the facility. However, given the scale of modern development such as the St Peter's housing estate, in addition to post-medieval infrastructure like the railway line (25) the historic setting of the local area would seem to have been already adversely affected. The presence of a park and ride facility south of the A4440 in the site would not add to this impact.

With respect to impacts on visual settings of area and listed building designations, the generally topography at the eastern end of the site would appear to neutralise any visual impacts to the SM sites.

West of Norton Lane, the visual setting of Upper Broomhall Farmhouse would be adversely affected if the facility was located directly opposite the farm buildings.

Given the visual severance provided by the A4440 and the developed nature of the Registered Battlefield (2) immediately north of the site, there would appear to be no adverse impacts to the setting of this designation.

The Riverside Conservation Area (3) is located west of the A38 and therefore there is the severance of that highway and the hedgerows either side which would effectively rule out any impacts to the visual setting of this designation from development on the currently preferred area at the west end of the site.

There will be no adverse impact to buried archaeology from the operational phase of the proposed scheme, as all the adverse impacts to archaeology within the site will come during construction.

There is likely to be a minimal impact to the HLC of the site or surrounding study area, although this depends on the nature of the final scheme design. The overall significance of the HLC in the wider area around the site also has yet to be established, so the scale of impact is an estimate at time of writing.

8.3 Consultation

Consultation was undertaken with both the WCMAS archaeological officer and the WCC historic environment archaeologist with regard to the scope of this assessment and their initial thoughts as to mitigating any potential impacts to buried archaeology.

The archaeological officer for WCMAS, James Dinn, stated that the Worcester to Gloucester Roman Road alignment is within the preferred area, and although there isn't a great deal more archaeological information on the City HER for the study area, the wider area beyond that indicates that there is a potential for prehistoric, Romano-British and early medieval archaeology.

Mr Dinn also stressed the green infrastructure potential of the Roman road (1) and also of the Registered Battlefield to the north of the site. These considerations were given in light of the Worcester City Council's draft green infrastructure study for the Worcester Growth Point.

Mike Glyde of WCC indicated that if the park and ride facility was located within the portion of the site in Wychavon or Malvern Hills District Councils, then it was likely that he would request intrusive archaeological evaluation within the footprint of the facility's location. This would preferably be undertaken prior to planning application i.e. for planning determination purposes.

8.4 Possible Local Authority Archaeological Investigation/ Mitigation Requirements

The consultation exercise established that archaeological evaluation within the Malvern Hills and Wychavon District Council's portions of the site would be a requirement to inform planning determination. The trenching sample in the chosen area would be 4%. This programme of archaeological investigation would seek to determine the presence, extent and significance of hitherto unknown archaeological deposits.

It is likely that if the currently preferred area at the west end of the site is chosen as the location of the proposed scheme, an intrusive archaeological evaluation to the same sample (4%) would be a likely measure to inform planning determination.

These investigative measures would most likely have to be implemented as condition of planning consent if not undertaken prior to planning application.

The programme of evaluation would inform the necessity for, and nature of, measures to mitigate the impacts to buried archaeology. The evaluation would not comprise mitigation in itself.

9 Bibliography

Institute for Archaeologists 2001 (revised) Standard and guidance for desk-based assessment

Jackson, R, Hurst, D, Pearson, E and Ratkai, S 1996 *Archaeology on the Strensham to Worcester Aqueduct* in Transactions of the Worcestershire Archaeology Society, Series 3, Vol. 15

Appendix 1 Gazetteer of Cultural Heritage Features

Halcrow number = Halcrow’s unique reference number

WCM number = Worcester City Monuments number, assigned by the Worcester City Museums Archaeology Service (WCMAS)

WSM number = Worcestershire Sites and Monuments, assigned by Worcestershire Historic Environment and Archaeology Service (WHEAS)

NMR number = National Monuments Record (numbers of listed buildings and other designations)

HER = Historic Environment Record

| Halcrow No. | Period | Form | Site name and description | Designation | WCMAS/ WHEAS HERs and NMR nos. |
|-------------|--------|------------------|--|--|---|
| 1 | n/a | Area designation | Roman Road to Gloucester – evidence of this road outside the city boundary but little within it. Generally believed to be marked by hedge boundaries, lane alignments and footpaths. Roman industrial activity at the nearby former Bath Road oil depot site indicates possible associated activity. Line of the road within the city boundary is a local area designation, whilst south of the city boundary the monument is not designated | Archaeologically Sensitive Area No. 23 | WCM 96406/ WSM 30539 |
| 2 | n/a | Area designation | Battle of Worcester – designation relates to the 1642 Battle of Powick bridge at the outset of the First Civil War, and the ‘main’ Battle of Worcester in 1651, where Cromwell’s army routed the Scots led by Charles II | Registered Battlefield | WCM 91095/ WSM 00249 |
| 3 | n/a | Area designation | The Riverside Conservation Area – this designation terminates just to the west of the site, and incorporates generally undeveloped floodplain | Conservation Area | |

| Halcrow No. | Period | Form | Site name and description | Designation | WCMAS/ WHEAS HERs and NMR nos. |
|-------------|----------------|------------------|--|--|---|
| 4 | Later Medieval | Monument | Crookbarrow Farm - comprises both earthwork and buried remains of a motte on Crookbarrow Hill, with earthwork and buried remains of a moat to the north east of the hill, along with later medieval agricultural remains (ridge and furrow). Crookbarrow Hill is a distinctive local historic landmark | Scheduled Monument | SM 27530/ WSM 00552 |
| 5 | Later Medieval | Monument | Middle Battenhall Farm – monastic moated grange and fishpond complex. Designation comprises the buried and earthwork remains of the known extent of the moated grange, fishpond complex and associated water-control features | Scheduled Monument and Archaeologically Sensitive Area | SM 31945 |
| 6 | n/a | Area designation | Upper Battenhall Farm | Archaeologically Sensitive Area | |
| 7 | Post medieval | Building | Upper Battennhall Farmhouse, with separate listed outhouse and Cow house. 17 th century timber-framed farmhouse with brick infill complete with 18 th and 19 th century additions. Cow house also timber-framed with brick infill and sits on a stone plinth and shows 19 th century additions. This construction and amendments also apply to the other outbuilding | Grade II listed buildings | NMR 147297, 147299 and 147300/ WCM 91090, 96608 and 96609/ WSM 03199 |
| 8 | Post medieval | Building | Timberdine Farmhouse – a former residence converted to a public house. 16 th century timber-frame construction with brick and wattle and daub infill. Later additions. Possibly lies on the site of an earlier manor house with moat | Grade II listed building | NMR 147297/ WCM 91036/ WSM 03198 |
| 9 | Post medieval | Building | Clerkenleap Farmhouse – timber-framed house, formerly a farmhouse, with brick infill. Dates to late 16 th or early 17 th century but remodelled in 1840 | Grade II listed building | NMR 435687 |
| 10 | Post medieval | Building | Upper Broomhall Farmhouse on Taylor's Lane – timber-framed house dating to 17 th century | Grade II listed | NMR 153336/ WSM 39087 |

| Halcrow No. | Period | Form | Site name and description | Designation | WCMAS/ WHEAS HERs and NMR nos. |
|-------------|---------------------------------|----------|---|--------------------------|---|
| | | | | building | |
| 11 | Post medieval | Building | Norton Barracks, with keep and flanking wings – 1877 construction and converted to flats in 1994. Formerly consisted of a barracks armoury, guard house, store and married quarters | Grade II listed building | NMR 446388 |
| 12 | Post medieval | Building | The Cottage – timber-frame 17th century and thatched cottage | Grade II listed building | NMR 443824 |
| 13 | Post medieval | Building | Middle Broomhall Farmhouse – timber-frame and brick infill | Grade II listed building | NMR 153322 |
| 14 | Post medieval | Monument | Timberdine Farm – the site of demolished farm buildings just to the east of the former farmhouse building (8) | | WCM 98173 |
| 15 | Later Medieval | Monument | A fish weir on the east side of the River Severn near The Ketch has been drawn from documentary evidence including the Domesday Book | | WSM 23811 |
| 16 | Post medieval | Monument | A fish weir on the west bank of the River Severn – ‘Night Meadow’ appears on the Powick Tithe map opposite The Ketch | | WSM 23813 |
| 17 | Later medieval to post medieval | Monument | Site of The Ketch Ferry – located at the point of a ford | | WSM 32613 |
| 18 | Modern | Monument | Site of The Ketch WWII oil depot just off the Bath Road – used for filling vehicles and jerry cans during the conflict – site has since been redeveloped | | WCM 92399 |
| 19 | Post-medieval or modern | Monument | A boat wreck in the River Severn – submerged boat found during River Severn survey. Date unknown but probably 19 th or 20 th century | | WSM 39961 |

| Halcrow No. | Period | Form | Site name and description | Designation | WCMAS/ WHEAS HERs and NMR nos. |
|-------------|----------------|-------------------------|--|-------------|---|
| 20 | Later Medieval | Monument | Approximate possible site of a fish weir at Kempsey located through documentary evidence | | WSM 23814 |
| 21 | Later Medieval | Monument | The remains of a moat at Upper Broomhall Farm located on historic mapping when obviously still visible as an earthwork | | WSM 02130 |
| 22 | Later Medieval | Monument | The possible site of a Deserted Medieval Village (DMV) or Shrunken Medieval Village (SMV) at Upper Broomhall Farm | | WSM 32555 |
| 23 | Later Medieval | Monument | Areas of extant ridge and furrow within the former Battenhall Park – some within Upper Battenhall Farm ASA designation | | WSM 15900, 15899, 09466, 23262 and 23261/ WCM 91151 |
| 24 | Later Medieval | Monument | Areas of ridge and furrow just to the west of Crookbarrow Hill – the area of earthworks straddles the designation boundary | | WSM 09465 and 09461 |
| 25 | Post-medieval | Building | Birmingham to Gloucester Railway – still in service, this section is the Abbotswood Junction to Shrub Hill Station | | WSM 38088 |
| 26 | Post-medieval | Building | Barns at Upper Broomhall Farm which are associated with the rest of the farm, although are not listed. The barns include a pierced brick threshing barn. At time of writing these might have been converted into residences. | | WSM 34902 |
| 27 | Romano-British | Find spot | Roman coin findspot located to the south west of Crookbarrow Hill in the early 19 th century | | WSM 00551 |
| 28 | Post-medieval | Place name | Windmill Hill in Whittington, just to the north of Crookbarrow Hill – field name possibly denoting site of a windmill – present on 1842 Whittington Tithe Map | | WSM 30284 |
| 29 | n/a | Archaeological activity | Salvage recording on the Powick Booster and Main Supply Deficiency Scheme – various post-medieval features recorded including a possible outfarm | | WSM 23930 |
| 30 | n/a | Archaeological | Salvage recording on the Worcester-Strensham Aqueduct | | WSM 15343, |

| Halcrow No. | Period | Form | Site name and description | Designation | WCMAS/ WHEAS HERs and NMR nos. |
|-------------|----------------------------------|-------------------------|--|-------------|---|
| | | activity | | | 15342 and 15350 |
| 31 | n/a | Archaeological activity | Excavation of fishponds at Middle Battenhall Farm revealed original construction was through excavation rather than by building-up of the banks | | WSM 30158 |
| 32 | n/a | Archaeological activity | A series of buildings assessments and archaeological evaluation at Timberdine Farm | | WCM 101404, 101405 and 100881 |
| 33 | n/a | Archaeological activity | A walkover survey of ridge and furrow in Battenhall | | WCM 100249 |
| 34 | n/a | Archaeological activity | An access condition on land off Tire Avenue identified clay layers in excavation next to Duck Brook at a depth of 1.3 – 2 m from the ground surface | | WCM 100550 |
| 35 | Modern | Monument | A pillbox was located on the road junction on the edge of the wall of Norton Barracks | | WSM 31456 |
| 36 | Unknown | Monument | Three sides of an enclosure picked up as crop mark from aerial photography | | WSM 01367 |
| 37 | Later medieval/ Post-Medieval | Monument | An area of ridge and furrow within the site boundary identified from aerial photographs. These are aligned north west to south east and are associated with parkland-style tree planting | | WSM 39129 |
| 38 | Later medieval/ Post-Medieval | Monument | An area of ridge and furrow south of Upper Broomhall Farm aligned north north east to south south west and detected using aerial photographs | | WSM 39130 |

| Halcrow No. | Period | Form | Site name and description | Designation | WCMAS/ WHEAS HERs and NMR nos. |
|--------------------|----------------|-------------|---|--------------------|---|
| 39 | Romano-British | Monument | The site of a rural Romano-British occupation, which indicates a settlement, or series of settlements (nature and quantity of settlement evidence inconclusive) which was occupied from the 2 nd through to the 4 th centuries. The settlement(s) showed evidence of farm compounds, workshops and houses. As well as a large quantity of metal-working evidence, a substantial pottery assemblage was recovered. | | WSM 37617 |
| 40 | Modern | Monument | The site of a WWII observation post on Crookbarrow Hill, at first manned by soldiers from Norton Barracks but subsequently by the Home Guard | | WSM 27728 |
| 41 | Later Medieval | Monument | The line of a later medieval hollow way, or sunken road, linking Worcester to Whittington. Within the city boundary the route still exists as a footpath through the housing estates of St Peter's | | WSM 41543 |

Appendix 2 Report Figures

Figure 1: Site Location Plan

Figure 2: Cultural Heritage Features Plan

Figure 3: St Peter The Great Tithe Map, 1840

Figure 4: Kempsey Tithe Map, 1840

Figure 5: Norton-Juxta-Kempsey, 1839

Figure 6: Ordnance Survey Worcestershire Sheet 33 SE, 6" to 1 mile, 1886

Figure 7: OS Worcs Sheet 33 SE, 6" to 1 mile, 1905

Figure 8: OS Worcs Sheet 33 SE, 6" to 1 mile, 1930

Figure 9: OS Worcs Sheet 33 SE, 6" to 1 mile, 1938

Figure 10: OS Sheet SO 85 SE, 6" to 1 mile, 1955

Figure 11: OS Sheet SO 85 SE, 1:10,000, 1972

Figure 12: OS Sheet SO 85 SE, 1:10,000, 1990

Figure 13: OS Sheet SO 85 SE, 1:10,000, 1995

Appendix 3 Site Photographs



Plate 1: Section of the site in between Brockhall Lane and Norton Road (in background)



Plate 2: Field on the west side of Norton Road (behind hedge in background)



Plate 3: Upper Broomhall Farm on the south side of Taylor's Lane



Plate 4: Field of hops directly opposite Upper Broomhall Farm buildings



Plate 5: Remains of moat at Upper Broomhall Farm



Plate 6: Pasture field towards the centre of the site (looking north from Taylor's Lane)



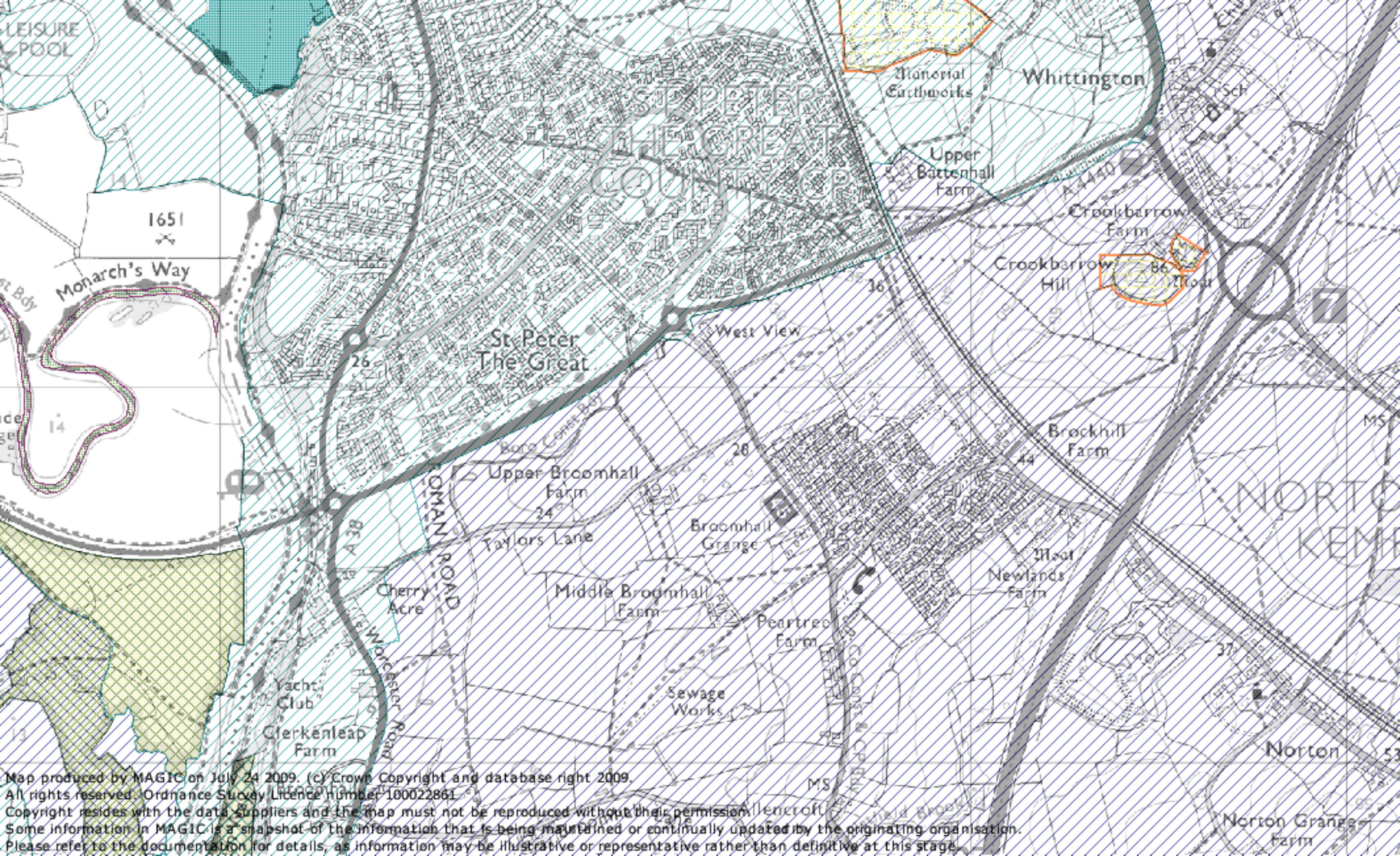
Plate 7: Arable field in western half of site with small tree-lined pond towards right of picture



Plate 8: looking west along Taylors Lane at western end of site



Plate 9: View across pasture field at the western end of the site (the Archaeologically Sensitive Area designation). Photograph looks towards hedge which denotes the approximate line of the Roman Road (1).



Map produced by MAGIC on July 24 2009. (c) Crown Copyright and database right 2009.

All rights reserved. Ordnance Survey Licence number 100022861

Copyright resides with the data suppliers and the map must not be reproduced without their permission.

Some information in MAGIC is a snapshot of the information that is being maintained or continually updated by the originating organisation.

Please refer to the documentation for details, as information may be illustrative or representative rather than definitive at this stage.

Halcrow Group Limited
Red Hill House 227 London Road Worcester WR5 2JG
Tel +44 (0)1905 361361 Fax +44 (0)1905 361362
www.halcrow.com