

Bicester Eco Town, Oxfordshire

PART 1: The Entire Site

Interpretation of Aerial Photographs for Archaeology

October 2010

Bicester Eco Town, Oxfordshire

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Interpretation of Aerial Photographs for Archaeology

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Signed

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Bicester Eco Town, Interpretation of Aerial Photographs for Archaeology PART 1
CC210-0802-1-1

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| | 0802/06 October 2010 CC |

SUMMARY

- S1 This interpretation of aerial photographs was prepared by Chris Cox at Air Photo Services Ltd on behalf of Hyder Consulting (UK) Ltd in September and October 2010. The work was commissioned to support the assessment of the potential impact of a proposed development on cultural heritage assets within the site.
- S2 The report contains two parts.
- S3 This report, Part 1 (210-0802-1-1) assesses the Entire Site, including the Exemplar Site (**Plan 1** 0802/01). Part 2 (210-0802-2-1) assesses The Exemplar Site only, and may be presented as a separate report if necessary.
- S4 The Entire Site is centred at National Grid Reference (NGR) SP 565 240, to the north-west of Bicester in Oxfordshire, UK. It comprises c. 4.5 km² of land. The study area lies on a limestone substrate which give rise to thin well drained calcareous soils and has been ploughed and used for arable agriculture. Calcareous soils and substrates are free draining and thus conducive to the formation of crop marks, where cereal and other crops grow more vigorously over buried ditches and pits, or less well over banks and metalled surfaces. They also commonly show natural geological features as marks in crops in addition to any archaeological features.
- S5 The object of this aerial photographic interpretation was to provide information on the location and nature of any archaeological features or areas of archaeological potential visible on existing aerial photographs within the site, in comparison to the wider environs.
- S6 Aerial photographs taken between 1930 and the present day were examined in the library of the English Heritage National Monuments Record (EH NMR), the Oxfordshire Heritage Environment Record (OHER) and online at Google Earth (timelines between 1999 and 2010) and Multimap.co.uk (Getmapping, 1999). Photographs were examined by Chris Cox and Rog Palmer. Data supplied by the NMR Monuments Reports the OHER, Ordnance Survey (OS) and mapping and data supplied by the Soil Survey of England and Wales (SSEW 1983).
- S7 Fifteen individual areas of archaeological interest were identified from aerial photographs. These are summarised in Table 1 over the page, illustrated at **Plans 2 - 4** (0802/02, 03 & 06) and discussed below.

| AP Site No | NGR | Description | OHER Reference |
|------------|------------|--|------------------------|
| AP 1 | SP 564 253 | Upstanding and eroded Medieval fields (ridge and furrow) and buried former boundary ditches. | None |
| AP 2 | SP 569 257 | Upstanding Medieval fields (ridge and furrow) and headland. | None |
| AP 3 | SP 573 248 | Complex and extensive ditches pits and enclosures which show as marks in crops. | 15958 |
| AP 4 | SP 573 244 | Unusual curvilinear shaped probable cut feature which shows as a crop mark. The origin of this is uncertain. | None |
| AP 5 | SP 573 244 | Slightly upstanding ridges in the floodplain of a small watercourse which may be either traces of Post Medieval water meadows or Medieval cultivation or drainage. | None |
| AP 6 | SP 577 253 | Buried sub-rectangular ditched enclosure, pits and ditches which show as marks in crops. | None |
| AP 7 | SP 584 255 | Upstanding remains of a Deserted Medieval Village (DMV) at Caversfield, outside of the Site. | Outside the study area |
| AP 8 | SP 568 245 | Eroded Medieval fields (ridge and furrow) and cut feature. | None |
| AP 9 | SP 565 242 | Buried ditches and possible enclosures centred upon Aldershot Farm. | None |
| AP 10 | SP 558 240 | Eroded and slightly upstanding Medieval fields (ridge and furrow) | None |
| AP 11 | SP 560 238 | Buried ditches, possible enclosures and a ring ditch (possible eroded and buried Bronze Age funerary site). | 13907 |
| | | | |

| | | | |
|-------|------------|--|------|
| AP 12 | SP 551 233 | Possible buried sinuous ditches and small possible enclosure which lies just outside the Site boundary. | None |
| AP 13 | SP 565 233 | Possible buried ditched enclosure and sinuous ditches. | None |
| AP 14 | SP 564 230 | Possible ditches. This site is not easily distinguished from the many complex natural features in the area, but may link with previously recorded sites which now lie beneath houses in the adjacent area to the west. | None |
| AP 15 | SP 562 230 | Buried ditches and enclosures. | None |

- S8 The natural ground in this area shows very complex evidence for cracking in the underlying limestone and 'patterned ground'. These natural features show as marks in crops and often mask or hinder interpretation and differentiation of the buried archaeological landscape.
- S9 This assessment has added features to the known resource in this area. These new data have been derived from vertical aerial photographs which have not been previously interpreted in detail for archaeological purposes.

1 INTRODUCTION

- 1.1 This interpretation of aerial photographs was prepared by Chris Cox at Air Photo Services Ltd on behalf of Hyder Consulting (UK) Ltd., in September and October 2010.
- 1.2 The work was commissioned to support the assessment of the potential impact of a proposed development on cultural heritage assets within the site.
- 1.3 The object of this aerial photographic interpretation was to provide information on the location and nature of any archaeological features or areas of archaeological potential visible on existing aerial photographs within the study area and its environs.
- 1.4 It is important to note that aerial photographs usually only show part of the horizontal and vertical extent of buried features. Their capacity to reveal features as vegetation marks, soil marks or upstanding features depends upon a number of environmental and agricultural factors prevalent at the time of photographic survey. The appearance of marks in crops over buried features is also governed by a complex interaction of land use, soil type, weather and other factors (Riley 1980, Wilson 1982 and 2000). Natural features also show as detailed marks in crops and soils where differences in the depth and composition of the soils are created by anomalies in the underlying rocks. Limestone areas such as the study area often exhibit very complex evidence for geological cracks and anomalies. This area contains extensive striations, pits, cracks and very dense and complex 'patterned ground' which shows as crop marks (Stephens, 1990, 114 – 124; Wilson 1982, 143 – 155 (and 2000 2nd Ed)).
- 1.5 Air Photo Interpretation (API) data thus acts as a starting point for ground-based investigations, which may reveal further details of the date and nature of the deposits which are initially identified from the air.

2 THE STUDY AREA

Location

- 2.1 The site is located to the north-west of Bicester in Oxfordshire, UK and is centred at NGR SP 565 240. The site boundary contains a separately defined area, which is referred to in this report as 'The Exemplar Site'.
- 2.2 **Plan 1 (0802/01)** shows the location of the Entire Site, which includes the Exemplar Site, its immediate environs, and the archaeological features which were recorded from aerial photographs during this assessment.
- 2.3 The whole site and the Exemplar Site comprise agricultural land with a small proportion of woodland and hedgerows.
- 2.4 The site has been observed on aerial photographs under intense arable cultivation (bare soil, growing crops and ripe crops) with some smaller areas under grass, on aerial photographs taken between the 1940s and the present day.

Geology and Soils

- 2.5 The study area lies on limestone substrates, which are particularly conducive to the formation of marks in crops over more humic, moisture retentive, buried features. These substrates give rise to well drained calcareous soils which are conducive to the formation of marks in vegetation and crops in times of drought over the sites of buried features. These soils are equally suitable for the cultivation of cereals or pasture and were attractive to past settlers due to the well drained soil and fertile environment.
- 2.6 The soil in the site is classified by the Soil Survey of England and Wales (SSEW 1983) as the Aberford type soil association (511a).

Archaeology

- 2.7 The boundary of the whole site contains recorded archaeological assets which comprise a buried eroded ring ditch (OHER 13907) and curvilinear and rectilinear enclosures (OHER 15958). There is also recorded evidence for prehistoric, Iron Age, Romano-British, Medieval, Post-Medieval and Modern military sites in the immediate environs. The Exemplar Site does not contain any previously recorded archaeological features. There are also built heritage assets (OHER 18643) within the site and its environs, and the site lies to the immediate north of Bignall House and its gardens.
- 2.8 This assessment aimed to identify and clarify the nature and extent of features visible on aerial photographs within the site and the Exemplar Site.

3 ARCHAEOLOGY FROM AERIAL PHOTOGRAPHS

The Role of Aerial Photographic Interpretation

- 3.1 Air photo interpretation provides an overview of landscape history and changes in land use. It provides informed guidance for subsequent desk and ground-based investigations and complements cartographic and documentary research.
- 3.2 Some information gained from aerial photographs cannot easily be detected by other means. Aerial photographs provide a chronologically documented and seasonal overview of a landscape and sites and features within it. The interpretation of contemporary and archival aerial photographs is thus an important component of multi-disciplinary archaeological investigation.
- 3.3 Interpretation of aerial photographs allows the accurate mapping of archaeological sites or natural features recorded as crop, grass or vegetation marks (caused by the differential growth of plants over buried features); soil marks (caused by differences in soil colour over ploughed buried features) and shadows cast by upstanding earthworks and features seen in relief.

Limitations of the Data

- 3.4 Aerial photographic evidence is limited by seasonal, agricultural, meteorological and environmental factors which affect the extent to which either buried or upstanding archaeological features can be detected. It is thus advantageous to examine a range of photos taken under a variety of environmental conditions in order to build up a comprehensive interpretation of the archaeological landscape. The visibility of archaeological features may differ from year to year, and be obscured by differential depths of soil or differing types of vegetation. Individual photographs often record only a small percentage of the actual extent of buried or upstanding features.

Relevance in this case

- 3.5 In this case, the range of aerial photographs available for interpretation was comprehensive, both seasonally and chronologically. It is obvious from the range of available aerial images, which date from 1930 to the present day that the area has been surveyed and examined from the air by specialist archaeological surveyors, and also covered in full over many decades by vertical aerial surveys for non-archaeological purposes. In addition to the data already recorded by the EH NMR and the OHER, further sites have been seen and recorded within the site from aerial photographs during this assessment.

4 AERIAL PHOTOGRAPHS: Types and Sources

Types

- 4.1 Two types of aerial photograph are used for archaeological interpretation. Vertical aerial photographs are taken for general-purpose survey using a camera mounted inside a modified aircraft. The aircraft is flown on a pre-planned set of overlapping flight-lines which cover the survey area completely. The camera points straight towards the ground. The vertical viewpoint provides aerial photographic coverage from a fixed scale and constant 180° angles at the centre of each frame. The overlap between the areas covered by each consecutive frame is usually 60%. This overlap between frames enables the photo interpreter to study each pair of vertical photos under a stereoscope.
- 4.2 The stereoscope combines the two images to allow the interpreter to see one three-dimensional image of the ground surface. Vertical aerial photographs carry inherent distortions introduced by variations in perspective and ground height, but are essentially 'map-like' in appearance. They are generally taken for non-archaeological, civil and military purposes and form the basic data from which most modern maps are compiled. Vertical aerial photographs are a very useful source of archaeological data, particularly in areas where features survive as earthworks.
- 4.3 Oblique aerial photographs are taken using a hand held camera by an aerial archaeologist to portray features which have been identified during specialist survey. These photos are extremely useful, but contain inherent perspective distortions, which must be accounted for in rectification and mapping procedures. In this case, both vertical aerial photographs, and specialist obliques which are taken with a hand held camera by an archaeological surveyor, were available for interpretation.

Sources of Data

English Heritage National Monuments Record (EH NMR)

- 4.4 National Monuments Record (NMR) Centre, English Heritage, Kemble Drive, Swindon, Coversearch number 53316. Vertical and oblique photographs dating from 1930 to 2006 provided a primary source of data for the assessment. Photographs held at OHER were also consulted.
- 4.5 The ortho-rectified mosaics of vertical aerial photographs provided by Bluesky, the GeoInformation Group, Getmapping plc and TeleAtlas were consulted online for this assessment in September 2010 and included all available timelines.

5 INTERPRETATION AND MAPPING METHODOLOGY

- 5.1 All photographs were interpreted in accordance with the client's brief for works at this site and Palmer & Cox (1993).
- 5.2 The photographs were closely examined, under 1.5x and 4x magnification and interpreted with the aid of a mirror stereoscope where appropriate, or in detail on screen when consulted as digital files.
- 5.3 Photographs which were selected for mapping were scanned and ortho-rectified using AirPhoto 3.41 software to a 1:2500 scale surveyed OS digital map base. The resulting rectified files were then imported to AutoCad as geo-tiff files and the accurate positions of all visible archaeological features were mapped as a separate digital layer.
- 5.4 All control point mismatch values between the map and the photographs fell below 2.0 m, which lies within the stated accuracy of OS mapping at 1:2500 scale.
- 5.5 Printed maps are presently scaled to fit the appropriate paper size for illustration. They are also provided digitally for accurate scaling as required by the client, for import to a Geographic Information System (GIS) in Drawing Exchange Format release 12 (DXF 12).

6 RESULTS

6.1 Over the entire site, fifteen individual areas were identified which contain archaeological features which are visible on aerial photographs.

6.2 These are illustrated on **Plans 2 - 4** (0802/02, 03 & 06) and summarised in Table 1 below.

| AP Site No | NGR | Description | OHER Reference |
|------------|------------|--|------------------------|
| AP 1 | SP 564 253 | Upstanding and eroded Medieval fields (ridge and furrow) and buried former boundary ditches. | None |
| AP 2 | SP 569 257 | Upstanding Medieval fields (ridge and furrow) and headland. | None |
| AP 3 | SP 573 248 | Complex and extensive ditches pits and enclosures which show as marks in crops. | 15958 |
| AP 4 | SP 573 244 | Unusual curvilinear shaped probable cut feature which shows as a crop mark. The origin of this is uncertain. | None |
| AP 5 | SP 573 244 | Slightly upstanding ridges in the floodplain of a small watercourse which may be either traces of Post Medieval water meadows or Medieval cultivation or drainage. | None |
| AP 6 | SP 577 253 | Buried sub-rectangular ditched enclosure, pits and ditches which show as marks in crops. | None |
| AP 7 | SP 584 255 | Upstanding remains of a Deserted Medieval Village (DMV) at Caversfield, outside of the Site. | Outside the study area |
| AP 8 | SP 568 245 | Eroded Medieval fields (ridge and furrow) and cut feature. | None |

| | | | |
|-------|------------|--|-------|
| AP 9 | SP 565 242 | Buried ditches and possible enclosures centred upon Aldershot Farm. | None |
| AP 10 | SP 558 240 | Eroded and slightly upstanding Medieval fields (ridge and furrow). | None |
| AP 11 | SP 560 238 | Buried ditches, possible enclosures and a ring ditch (possible eroded and buried Bronze Age funerary site). | 13907 |
| AP 12 | SP 551 233 | Possible buried sinuous ditches and small possible enclosure which lies just outside the Site boundary. | None |
| AP 13 | SP 565 233 | Possible buried ditched enclosure and sinuous ditches. | None |
| AP 14 | SP 564 230 | Possible ditches. This site is not easily distinguished from the many complex natural features in the area, but may link with previously recorded sites which now lie beneath houses in the adjacent area to the west. | None |
| AP 15 | SP 562 230 | Buried ditches and enclosures. | None |

6.3 These features are detailed in the following gazetteer of sites which concords the findings of this assessment with the Oxfordshire Heritage Environment Record (OHER) and locates each site to a central National Grid Reference (NGR).

Gazetteer of Sites recorded from aerial photographs

| | |
|-------------------------|--|
| AP Site | AP 1 |
| NGR | SP 564 253 |
| Plan | Plan 2 (0802/02) |
| Location | Bucknell |
| Site type | Medieval fields and Post Medieval boundaries |
| OHER | NA |
| Photo references | SP5525/4 & 5, 73 252 074 – 075, OS 6642 034 -035 |

Description

Upstanding and eroded Medieval fields and a visible headland. Some photos show traces of Modern boundaries as crop marked ditches. These features traverse the site boundary at Bucknell.

| | |
|-------------------------|--|
| AP Site | AP 2 |
| NGR | SP 569 257 |
| Plan | Plan 2 (0802/02) |
| Location | Manor Farm |
| Site type | Medieval fields and a Post Medieval boundary ditch |
| OHER | NA |
| Photo references | 73 252 074 – 075, OS 6642 034 -035 & Google Earth (1st October 2010) |

Description

Upstanding and eroded Medieval fields and a boundary ditch which traverse the site boundary to the east of Bucknell.

| | |
|-------------------------|---|
| AP Site | AP 3 |
| NGR | SP 573 248 |
| Plan | Plan 2 (0802/02) |
| Location | Hawkswell Farm |
| Site type | Probably Prehistoric or Romano-British settlement |
| OHER | 15958 |
| Photo references | SP 5724/1-2, F2 542 RAF 0007 |

Description

A complex and extensive area of buried ditches, pits, probable tracks and enclosures. These features show as distinctive marks in crops at Hawkswell Farm. They are partially masked, but not confused with, a series of very clear crop marks which, in common with all parts of this Site, show the patterns of jointing in the limestone and other periglacial features.

| | |
|-------------------------|-------------------------------|
| AP Site | AP 4 |
| NGR | SP 574 244 |
| Plan | Plan 2 (0802/02) |
| Location | Hawkswell Farm |
| Site type | Possible agricultural feature |
| OHER | NA |
| Photo references | SP5724/5-8 & 9-11 |

Description

This feature is a rather unusual curvilinear possible cut feature which shows as a mark in growing crops. It was recorded on one occasion only, and its shape is not consistent with any previously recorded archaeological feature. It has therefore been mapped as a possible feature, and is possibly the result of an agricultural process such as accidental release of fertiliser pellets. However, this is a conjectural explanation, and its origin cannot be rigorously proven from the available aerial photographs.

| | |
|-------------------------|-------------------------|
| AP Site | AP 5 |
| NGR | SP 573 244 |
| Plan | Plan 2 (0802/02) |
| Location | Lord's Farm |
| Site type | Possible water meadows |
| OHER | NA |
| Photo references | OS 70 023 |

Description

Slight ridges on the floodplain of a small watercourse which may be either water meadows or Medieval cultivation or drainage.

| | |
|-------------------------|---|
| AP Site | AP 6 |
| NGR | SP 576 254 |
| Plan | Plan 2 (0802/02) |
| Location | Partially within Exemplar Site at Caversfield |
| Site type | Ditches and enclosure |
| OHER | NA |
| Photo references | 75/312 031, 68/252 017, 94-214 005 – 007, SP 5724/1 & 2 |

Description

The Exemplar Site, which lies within the Entire Site, contains evidence for fragmentary ditches and possible ditched enclosures at this location. These are heavily masked by natural geological features and show as marks in crops on vertical aerial photographs. The focus of these features is a buried ditched sub rectangular enclosure which lies to the immediate south of the Exemplar Site within the Entire Site. These features are all eroded and buried and are visible only via marks in crops where the plants grow more vigorously over the buried ditches in times of drought.

There is also a sub-rectangular area of deeper soil which may be a place where local quarrying has been undertaken for stone extraction, then filled in when worked out.

| | |
|------------------------------|---|
| AP Site | AP 7 |
| NGR | SP 584 255 |
| Plan | Plan 2 (0802/02) |
| Location | Caversfield |
| Site type boundary | Deserted Medieval Village (DMV) which lies to the north of the Site |
| OHER | NA |
| Photo references | CPE UK 1897 3153 |

Description

A partially upstanding area of earthworks at Caversfield DMV which lies outside and to the north of the Site boundary.

| | |
|-------------------------|---|
| AP Site | AP 8 |
| NGR | SP 568 245 |
| Plan | Plan 2 (0802/02) |
| Location | Aldershot Farm |
| Site type | Medieval fields and unidentified cut feature |
| OHER | NA |
| Photo references | 94-214 006 and ridge and furrow on various vertical APs |

Description

In common with the site and its environs, this area contains traces of heavily eroded Medieval fields and geological features. There is also an oddly shaped cut feature which is now in filled. Most small quarries in this area are sub-rectangular or square, but this feature has a number of projections. Given the proximity of a local World War 2 airbase, this may possibly have been a bombing decoy which is now in filled, but it is not visible on photographs taken immediately after the War in 1946. Its origin is therefore uncertain.

| | |
|-------------------------|---------------------------------|
| AP Site | AP 9 |
| NGR | SP 565 242 |
| Plan | Plan 3 (0802/03) |
| Location | Aldershot Farm |
| Site type | Ditches and possible enclosures |
| OHER | NA |
| Photo references | 75 312 031 |

Description

A series of ditches and enclosures centre upon Aldershot Farm and are visible as crop marks. Their type or origin is uncertain but they are likely to pre-date the modern farm buildings. They are underlain by complex geological features, and are visible on vertical aerial photographs which were taken in July 1975 when the weather was very dry.

| | |
|-------------------------|-------------------------|
| AP Site | AP 10 |
| NGR | SP 558 240 |
| Plan | Plan 3 (0802/03) |
| Location | Crowmarsh Farm |
| Site type | Medieval fields |
| OHER | NA |
| Photo references | Various vertical APs |

Description

An area of partially eroded Medieval fields.

| | |
|-------------------------|---|
| AP Site | AP 11 |
| NGR | SP 560238 |
| Plan | Plan 3 (0802/03) |
| Location | Himley Farm |
| Site type | Ditches, enclosures and possible Bronze Age funerary site |
| OHER | 13907 |
| Photo references | 75 312 072 & 073 |

Description

This location contains buried ditches and pits which are visible on vertical aerial photographs as marks in crops, in addition to the underlying geological features in the area.

The site also contains a buried ring ditch, indicative of a possible eroded Bronze Age funerary site. The OHER records this feature, but the AP reference on the record cites an unrelated NMR photograph and an Aerial photograph taken by Dr K St Joseph which is held in the Cambridge University Collection. This collection is not presently accessible for consultation, and the photograph could not be located as a copy in any other archive. The position of the ring ditch is therefore derived from the OHER record, as it is not visible on any other photographs.

A circular feature, with some adjacent straight cut features was also visible at this site as a crop mark and its former function is unknown.

| | |
|-------------------------|-------------------------|
| AP Site | AP 12 |
| NGR | SP 551 233 |
| Plan | Plan 3 (0802/03) |
| Location | West of Lovelynch House |
| Site type | Possible buried ditches |
| OHER | NA |
| Photo references | F21 542 RAF 0006 |

Description

Traces of possible sinuous ditches and a possible enclosure. These lie to the west of the site boundary, and re masked by geological features. Their origin is unknown, but they may extend into the study area to the east of Lovelynch House.

| | |
|-------------------------|--|
| AP Site | AP 13 |
| NGR | SP |
| Plan | Plan 3 (0802/03) |
| Location | South of Gowell Farm |
| Site type | Eroded Medieval fields and possible buried ditches |
| OHER | NA |
| Photo references | 75 312 071, 072 & 031 |

Description

This area contains some very well defined crop marked buried features which may either be natural or archaeological. They cannot be well defined as either, therefore have been mapped as possible features which may require further investigation as appropriate. The area also contains some eroded traces of Medieval fields.

| | |
|-------------------------|--------------------------------------|
| AP Site | AP 14 |
| NGR | SP 564 230 |
| Plan | Plan 3 (0802/03) |
| Location | North of Bignall Belt |
| Site type | Unknown, possible buried cut feature |
| OHER | NA |
| Photo references | 75 312 071, 072 & 031 |

Description

This feature is of unknown origin. It may be part of the complex geological features which show as crop marks in this area. Alternatively, it may be a linking feature from buried settlement sites which now lie beneath houses in Bicester to the east of the Site to some archaeological features in the adjacent field at AP 15.

| | |
|-------------------------|-------------------------------|
| AP Site | AP 15 |
| NGR | SP 562 230 |
| Plan | Plan 3 (0802/03) |
| Location | North of Bignall Belt |
| Site type | Buried enclosures and ditches |
| OHER | NA |
| Photo references | 75 312 071, 072 & 031 |

Description

A complex of very clearly defined ditches, possible double ditched boundary, track way and enclosures. These features show as well defined crop marks to the north of Bignall Park within the Site, on vertical aerial photographs which were taken during dry conditions in July 1975.

7 CONCLUSION

- 7.1 At first appraisal, this site contains evidence for only two complexes of crop marked buried archaeological features.
- 7.2 Detailed examination of vertical aerial photographs in conjunction with the evidence provided by specialist obliques has identified extensive areas of buried ditches, pits and ditched enclosures throughout the Site.
- 7.3 These features are in many cases underlain by extensive geological features which also show as crop marks. Where the two types of features cannot be distinguished, features have been mapped as possible archaeological assets.
- 7.4 Buried features which appear on aerial photographs cannot be dated from the AP sources alone, unless very typical morphologies are identified. Medieval fields have been confidently identified, alongside some Modern boundaries. Other sites may date to the Prehistoric and Roman-British periods, but no further dating evidence may be asserted from these sources.
- 7.5 **Plans 2 and 3** (0802/ 2&3) present accurately mapped interpretations of features seen on all the photographs which were used for the assessment. It is likely that the horizontal and vertical extent of all these sites will be greater than represented on the available photographs, and this should be considered when planning any intrusive investigations as appropriate to the requirements of the project.

8 CARTOGRAPHIC SOURCES AND BIBLIOGRAPHY

Soil Survey of England and Wales, **Sheet 4 Eastern England.1:250000 scale change**

Palmer R & Cox C, 1993

Uses of Aerial photography in Archaeological Evaluations IfA Technical Paper 12. IfA Reading

Riley DNR, 1980

Early Landscape from the Air. Sheffield

Stephens N (ed), 1990

Natural Landscapes of Britain from the Air Cambridge

Wilson DR 1982 and 2000

Air Photo Interpretation for Archaeologists London and 2nd Ed 2000, Stroud

APPENDIX 1

Aerial Photographs Consulted at English Heritage National Monuments Record (EH NMR)

ENGLISH HERITAGE : NATIONAL MONUMENTS RECORD
Air Photographs

Customer oblique listing - Obliques, Standard Order
Customer enquiry reference number: 53316

| Photo reference (NGR and Index number) | Film and frame number | Original number | Date | Film type | | Map Reference (6 figure grid ref) |
|--|-----------------------|-----------------|-------------|--------------|--------------|-----------------------------------|
| SP 5525 / 4 | NMR 18561 / 21 | | 16 NOV 1999 | Colour neg | 35 mm | SP 559253 |
| SP 5525 / 5 | NMR 18561 / 22 | | 16 NOV 1999 | Colour neg | 35 mm | SP 559253 |
| SP 5622 / 1 | CCC 8975 / 6758 | SEE PRINTS | 27 MAR 1930 | Black& white | Unknown | SP 564229 |
| SP 5623 / 1 | CAP 8110 / 67 | LN | 26 APR 1953 | Black& white | Unknown | SP 565235 |
| SP 5623 / 2 | CAP 8110 / 68 | LN | 26 APR 1953 | Black& white | Unknown | SP 565235 |
| SP 5625 / 1 | NMR 18616 / 08 | | 16 NOV 1999 | Black& white | 70mm,120,220 | SP 561253 |
| SP 5625 / 2 | NMR 18616 / 09 | | 16 NOV 1999 | Black& white | 70mm,120,220 | SP 561253 |
| SP 5625 / 3 | NMR 18616 / 10 | | 16 NOV 1999 | Black& white | 70mm,120,220 | SP 562253 |
| SP 5625 / 4 | NMR 18616 / 11 | | 16 NOV 1999 | Black& white | 70mm,120,220 | SP 561254 |
| SP 5625 / 5 | NMR 18616 / 12 | | 16 NOV 1999 | Black& white | 70mm,120,220 | SP 561254 |
| SP 5625 / 6 | NMR 18561 / 23 | | 16 NOV 1999 | Colour neg | 35 mm | SP 560254 |
| SP 5625 / 7 | NMR 18561 / 24 | | 16 NOV 1999 | Colour neg | 35 mm | SP 560254 |
| SP 5625 / 8 | NMR 18561 / 25 | | 16 NOV 1999 | Colour neg | 35 mm | SP 561255 |
| SP 5724 / 1 | NMR 4634 / 05 | | 02 JUN 1990 | Black& white | 70mm,120,220 | SP 573248 |

| | | | | | | | |
|--------------|-----------|------|--|-------------|----------------|--------------|-----------|
| SP 5724 / 2 | NMR 4634 | / 06 | | 02 JUN 1990 | Black& white | 70mm,120,220 | SP 573248 |
| SP 5724 / 3 | NMR 18074 | / 28 | | 27 JUL 1998 | Colour slide | 35 mm | SP 579240 |
| SP 5724 / 4 | NMR 18074 | / 31 | | 27 JUL 1998 | Colour slide | 35 mm | SP 578240 |
| SP 5724 / 5 | NMR 24225 | / 08 | | 07 JUN 2006 | Black& white | 70mm,120,220 | SP 574244 |
| SP 5724 / 6 | NMR 24225 | / 09 | | 07 JUN 2006 | Black& white | 70mm,120,220 | SP 574244 |
| SP 5724 / 7 | NMR 24225 | / 10 | | 07 JUN 2006 | Black& white | 70mm,120,220 | SP 574245 |
| SP 5724 / 8 | NMR 24225 | / 11 | | 07 JUN 2006 | Black& white | 70mm,120,220 | SP 574245 |
| SP 5724 / 9 | NMR 24266 | / 13 | | 07 JUN 2006 | Digital colour | 35 mm | SP 573244 |
| SP 5724 / 10 | NMR 24266 | / 14 | | 07 JUN 2006 | Digital colour | 35 mm | SP 573244 |
| SP 5724 / 11 | NMR 24266 | / 15 | | 07 JUN 2006 | Digital colour | 35 mm | SP 574243 |
| SP 5725 / 1 | NMR 23077 | / 01 | | 23 APR 2003 | Black& white | 70mm,120,220 | SP 578258 |
| SP 5725 / 2 | NMR 23077 | / 02 | | 23 APR 2003 | Black& white | 70mm,120,220 | SP 578259 |
| SP 5725 / 3 | NMR 23077 | / 03 | | 23 APR 2003 | Black& white | 70mm,120,220 | SP 578258 |
| SP 5725 / 4 | NMR 23077 | / 04 | | 23 APR 2003 | Black& white | 70mm,120,220 | SP 578258 |
| SP 5725 / 5 | NMR 23058 | / 01 | | 23 APR 2003 | Colour neg | 35 mm | SP 578259 |
| SP 5725 / 6 | NMR 23058 | / 02 | | 23 APR 2003 | Colour neg | 35 mm | SP 578259 |
| SP 5725 / 7 | NMR 23058 | / 03 | | 23 APR 2003 | Colour neg | 35 mm | SP 579257 |
| SP 5725 / 8 | NMR 23058 | / 04 | | 23 APR 2003 | Colour neg | 35 mm | SP 579257 |
| SP 5824 / 2 | NMR 18074 | / 30 | | 27 JUL 1998 | Colour slide | 35 mm | SP 580242 |
| SP 5824 / 4 | NMR 18955 | / 02 | | 04 OCT 2000 | Black& white | 70mm,120,220 | SP 586245 |
| SP 5825 / 4 | NMR 18835 | / 34 | | 04 OCT 2000 | Colour slide | 35 mm | SP 585252 |

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|-----------------|----------------|-----------------|--------------|------|--------------|-----|-------------|----------------|----------|--------------------------|----------------------------|
| RAF/106G/UK/620 | 1 | RP | 3098 | P | SP 558 221 | 1 | 10 AUG 1945 | A | 9000 | 20 | Black and White 8.25 x 7.5 |
| RAF/106G/UK/620 | 1 | RP | 3099 | P | SP 556 225 | 1 | 10 AUG 1945 | A | 9000 | 20 | Black and White 8.25 x 7.5 |
| RAF/106G/UK/620 | 1 | RP | 3151 | P | SP 567 228 | 4 | 10 AUG 1945 | A | 9000 | 20 | Black and White 8.25 x 7.5 |
| RAF/106G/UK/620 | 1 | RS | 4097 | P | SP 567 225 | 5 | 10 AUG 1945 | A | 9000 | 20 | Black and White 8.25 x 7.5 |
| RAF/106G/UK/620 | 1 | RS | 4098 | P | SP 567 230 | 5 | 10 AUG 1945 | A | 9000 | 20 | Black and White 8.25 x 7.5 |
| RAF/106G/UK/620 | 1 | RS | 4099 | P | SP 567 234 | 5 | 10 AUG 1945 | A | 9000 | 20 | Black and White 8.25 x 7.5 |
| RAF/CPE/UK/1897 | 562 | RP | 3150 | P | SP 549 255 | 4 | 12 DEC 1946 | AB | 9800 | 20 | Black and White 8.25 x 7.5 |
| RAF/CPE/UK/1897 | 562 | RP | 3151 | P | SP 557 256 | 4 | 12 DEC 1946 | AB | 9800 | 20 | Black and White 8.25 x 7.5 |
| RAF/CPE/UK/1897 | 562 | RP | 3152 | P | SP 566 257 | 4 | 12 DEC 1946 | AB | 9800 | 20 | Black and White 8.25 x 7.5 |
| RAF/CPE/UK/1897 | 562 | RP | 3153 | P | SP 574 258 | 4 | 12 DEC 1946 | AB | 9800 | 20 | Black and White 8.25 x 7.5 |

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|-----------------|-------|----|-------|---|------------|----|-------------|----|------|----|----------------------------|
| RAF/CPE/UK/1897 | 562 | RP | 3154 | P | SP 583 259 | 4 | 12 DEC 1946 | AB | 9800 | 20 | Black and White 8.25 x 7.5 |
| RAF/CPE/UK/1897 | 562 | RP | 3313 | P | SP 579 224 | 6 | 12 DEC 1946 | AB | 9800 | 20 | Black and White 8.25 x 7.5 |
| RAF/CPE/UK/1897 | 562 | RP | 3314 | P | SP 573 223 | 6 | 12 DEC 1946 | AB | 9800 | 20 | Black and White 8.25 x 7.5 |
| RAF/CPE/UK/1897 | 562 | RP | 3315 | P | SP 567 223 | 6 | 12 DEC 1946 | AB | 9800 | 20 | Black and White 8.25 x 7.5 |
| RAF/CPE/UK/1897 | 562 | RP | 3316 | P | SP 561 223 | 6 | 12 DEC 1946 | AB | 9800 | 20 | Black and White 8.25 x 7.5 |
| RAF/CPE/UK/1897 | 562 | RP | 3317 | P | SP 556 223 | 6 | 12 DEC 1946 | AB | 9800 | 20 | Black and White 8.25 x 7.5 |
| RAF/CPE/UK/1897 | 562 | RP | 3318 | P | SP 550 222 | 6 | 12 DEC 1946 | AB | 9800 | 20 | Black and White 8.25 x 7.5 |
| RAF/CPE/UK/1897 | 562 | RP | 3319 | P | SP 544 222 | 6 | 12 DEC 1946 | AB | 9800 | 20 | Black and White 8.25 x 7.5 |
| RAF/CPE/UK/1897 | 562 | RS | 4149 | P | SP 545 239 | 10 | 12 DEC 1946 | AB | 9800 | 20 | Black and White 8.25 x 7.5 |
| RAF/CPE/UK/1897 | 562 | RS | 4150 | P | SP 553 240 | 10 | 12 DEC 1946 | AB | 9800 | 20 | Black and White 8.25 x 7.5 |
| RAF/CPE/UK/1897 | 562 | RS | 4151 | P | SP 561 241 | 10 | 12 DEC 1946 | AB | 9800 | 20 | Black and White 8.25 x 7.5 |
| RAF/CPE/UK/1897 | 562 | RS | 4152 | P | SP 570 242 | 10 | 12 DEC 1946 | AB | 9800 | 20 | Black and White 8.25 x 7.5 |
| RAF/CPE/UK/1897 | 562 | RS | 4153 | P | SP 578 243 | 10 | 12 DEC 1946 | AB | 9800 | 20 | Black and White 8.25 x 7.5 |
| RAF/CPE/UK/1897 | 562 | RS | 4319 | P | SP 581 241 | 12 | 12 DEC 1946 | AB | 9800 | 20 | Black and White 8.25 x 7.5 |
| RAF/CPE/UK/1897 | 562 | RS | 4320 | P | SP 575 240 | 12 | 12 DEC 1946 | AB | 9800 | 20 | Black and White 8.25 x 7.5 |
| RAF/CPE/UK/1897 | 562 | RS | 4321 | P | SP 569 240 | 12 | 12 DEC 1946 | AB | 9800 | 20 | Black and White 8.25 x 7.5 |
| RAF/CPE/UK/1897 | 562 | RS | 4322 | P | SP 564 240 | 12 | 12 DEC 1946 | AB | 9800 | 20 | Black and White 8.25 x 7.5 |
| RAF/CPE/UK/1897 | 562 | RS | 4323 | P | SP 558 239 | 12 | 12 DEC 1946 | AB | 9800 | 20 | Black and White 8.25 x 7.5 |
| RAF/CPE/UK/1897 | 562 | RS | 4324 | P | SP 553 239 | 12 | 12 DEC 1946 | AB | 9800 | 20 | Black and White 8.25 x 7.5 |
| RAF/CPE/UK/1897 | 562 | RS | 4325 | P | SP 547 239 | 12 | 12 DEC 1946 | AB | 9800 | 20 | Black and White 8.25 x 7.5 |
| FSL/6125 | 1118A | V | 12107 | P | SP 548 224 | 43 | 1961 | A | 8000 | 6 | Black and White 9 x 9 |
| FSL/6125 | 1118A | V | 12108 | P | SP 555 224 | 43 | 1961 | A | 8000 | 6 | Black and White 9 x 9 |
| FSL/6125 | 1118A | V | 12109 | P | SP 562 224 | 43 | 1961 | A | 8000 | 6 | Black and White 9 x 9 |
| FSL/6125 | 1118A | V | 12110 | P | SP 569 224 | 43 | 1961 | A | 8000 | 6 | Black and White 9 x 9 |
| FSL/6125 | 1118A | V | 12111 | P | SP 577 224 | 43 | 1961 | A | 8000 | 6 | Black and White 9 x 9 |
| FSL/6125 | 1118A | V | 13020 | P | SP 576 239 | 45 | 1961 | A | 8000 | 6 | Black and White 9 x 9 |
| FSL/6125 | 1118A | V | 13021 | P | SP 569 239 | 45 | 1961 | A | 8000 | 6 | Black and White 9 x 9 |
| FSL/6125 | 1118A | V | 13022 | P | SP 562 239 | 45 | 1961 | A | 8000 | 6 | Black and White 9 x 9 |

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|--------------|-------|-----|-------|---|------------|----|-------------|----|-------|----|----------------------------|
| FSL/6125 | 1118A | V | 13023 | P | SP 554 239 | 45 | 1961 | A | 8000 | 6 | Black and White 9 x 9 |
| FSL/6125 | 1118A | V | 13024 | P | SP 547 239 | 45 | 1961 | A | 8000 | 6 | Black and White 9 x 9 |
| FSL/6125 | 1118A | V | 13112 | P | SP 552 251 | 46 | 1961 | A | 8000 | 6 | Black and White 9 x 9 |
| FSL/6125 | 1118A | V | 13113 | P | SP 559 251 | 46 | 1961 | A | 8000 | 6 | Black and White 9 x 9 |
| FSL/6125 | 1118A | V | 13114 | P | SP 567 251 | 46 | 1961 | A | 8000 | 6 | Black and White 9 x 9 |
| FSL/6125 | 1118A | V | 13115 | P | SP 574 251 | 46 | 1961 | A | 8000 | 6 | Black and White 9 x 9 |
| FSL/6125 | 1118A | V | 13116 | P | SP 581 251 | 46 | 1961 | A | 8000 | 6 | Black and White 9 x 9 |
| RAF/58/716 | 1189 | RP | 3110 | P | SP 563 237 | 10 | 04 JUN 1951 | A | 5000 | 20 | Black and White 8.25 x 7.5 |
| RAF/58/716 | 1189 | RP | 3111 | P | SP 567 237 | 10 | 04 JUN 1951 | A | 5000 | 20 | Black and White 8.25 x 7.5 |
| RAF/58/716 | 1189 | RP | 3112 | P | SP 570 236 | 10 | 04 JUN 1951 | A | 5000 | 20 | Black and White 8.25 x 7.5 |
| RAF/58/716 | 1189 | RP | 3113 | P | SP 574 236 | 10 | 04 JUN 1951 | A | 5000 | 20 | Black and White 8.25 x 7.5 |
| RAF/82/1006 | 1520 | F61 | 292 | P | SP 553 241 | 56 | 31 AUG 1954 | AB | 15000 | 36 | Black and White 8.25 x 7.5 |
| RAF/82/1006 | 1520 | F61 | 293 | P | SP 555 230 | 56 | 31 AUG 1954 | AB | 15000 | 36 | Black and White 8.25 x 7.5 |
| RAF/540/1400 | 1563 | F21 | 163 | P | SP 565 222 | 7 | 01 SEP 1954 | AB | 10300 | 20 | Black and White 8.25 x 7.5 |
| RAF/540/1400 | 1563 | F21 | 164 | P | SP 558 222 | 7 | 01 SEP 1954 | AB | 10300 | 20 | Black and White 8.25 x 7.5 |
| RAF/540/1400 | 1563 | F21 | 165 | P | SP 552 222 | 7 | 01 SEP 1954 | AB | 10300 | 20 | Black and White 8.25 x 7.5 |
| RAF/540/1400 | 1563 | F22 | 161 | P | SP 577 237 | 15 | 01 SEP 1954 | AB | 10300 | 20 | Black and White 8.25 x 7.5 |
| RAF/540/1400 | 1563 | F22 | 162 | P | SP 571 238 | 15 | 01 SEP 1954 | AB | 10300 | 20 | Black and White 8.25 x 7.5 |
| RAF/540/1400 | 1563 | F22 | 163 | P | SP 564 238 | 15 | 01 SEP 1954 | AB | 10300 | 20 | Black and White 8.25 x 7.5 |
| RAF/540/1400 | 1563 | F22 | 164 | P | SP 558 238 | 15 | 01 SEP 1954 | AB | 10300 | 20 | Black and White 8.25 x 7.5 |
| RAF/540/1400 | 1563 | F22 | 165 | P | SP 551 238 | 15 | 01 SEP 1954 | AB | 10300 | 20 | Black and White 8.25 x 7.5 |
| RAF/543/673 | 2114 | F41 | 12 | P | SP 562 229 | 9 | 24 AUG 1959 | AB | 11000 | 36 | Black and White 8.25 x 7.5 |
| RAF/543/673 | 2114 | F41 | 13 | P | SP 571 233 | 9 | 24 AUG 1959 | AB | 11000 | 36 | Black and White 8.25 x 7.5 |
| RAF/543/673 | 2114 | F41 | 14 | P | SP 580 236 | 9 | 24 AUG 1959 | AB | 11000 | 36 | Black and White 8.25 x 7.5 |
| RAF/543/673 | 2114 | F41 | 15 | P | SP 589 240 | 9 | 24 AUG 1959 | AB | 11000 | 36 | Black and White 8.25 x 7.5 |
| RAF/58/4627 | 2195 | F43 | 384 | N | SP 582 243 | 13 | 16 AUG 1961 | AB | 11000 | 24 | Black and White 9 x 9 |
| RAF/58/4627 | 2195 | F43 | 385 | N | SP 574 243 | 13 | 16 AUG 1961 | AB | 11000 | 24 | Black and White 9 x 9 |
| RAF/542/1 | 2577 | F21 | 5 | P | SP 547 222 | 1 | 04 AUG 1954 | A | 10000 | 36 | Black and White 8.25 x 7.5 |



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| RAF/542/1 | 2577 | F21 | 6 | P | SP 545 235 | 1 | 04 AUG 1954 | A | 10000 | 36 | Black and White 8.25 x 7.5 |
| RAF/542/1 | 2577 | F21 | 7 | P | SP 544 248 | 1 | 04 AUG 1954 | A | 10000 | 36 | Black and White 8.25 x 7.5 |
| RAF/542/1 | 2577 | F22 | 5 | P | SP 568 224 | 2 | 04 AUG 1954 | A | 10000 | 36 | Black and White 8.25 x 7.5 |
| RAF/542/1 | 2577 | F22 | 6 | P | SP 566 237 | 2 | 04 AUG 1954 | A | 10000 | 36 | Black and White 8.25 x 7.5 |
| RAF/542/1 | 2577 | F22 | 7 | P | SP 565 250 | 2 | 04 AUG 1954 | A | 10000 | 36 | Black and White 8.25 x 7.5 |
| RAF/541/340 | 2661 | RP | 3131 | P | SP 567 237 | 4 | 26 JUL 1949 | AB | 10000 | 36 | Black and White 8.25 x 7.5 |
| RAF/541/340 | 2661 | RP | 3132 | P | SP 574 237 | 4 | 26 JUL 1949 | AB | 10000 | 36 | Black and White 8.25 x 7.5 |
| RAF/541/340 | 2661 | RP | 3133 | P | SP 582 237 | 4 | 26 JUL 1949 | AB | 10000 | 36 | Black and White 8.25 x 7.5 |
| RAF/16/AC638 | 6510 | V | 5024 | P | SP 555 225 | 6 | 07 NOV 1943 | A | 10800 | 20 | Black and White 8.25 x 7.5 |
| RAF/16/AC638 | 6510 | V | 5025 | P | SP 552 232 | 6 | 07 NOV 1943 | A | 10800 | 20 | Black and White 8.25 x 7.5 |
| RAF/16/AC638 | 6510 | V | 5026 | P | SP 553 239 | 6 | 07 NOV 1943 | A | 10800 | 20 | Black and White 8.25 x 7.5 |
| OS/73251 | 10418 | V | 157 | N | SP 581 235 | 4 | 06 JUN 1973 | A | 7700 | 12 | Black and White 9 x 9 |
| OS/73251 | 10418 | V | 158 | P | SP 574 235 | 4 | 06 JUN 1973 | A | 7700 | 12 | Black and White 9 x 9 |
| OS/73251 | 10418 | V | 159 | P | SP 567 235 | 4 | 06 JUN 1973 | A | 7700 | 12 | Black and White 9 x 9 |
| OS/73251 | 10418 | V | 160 | P | SP 562 234 | 4 | 06 JUN 1973 | A | 7700 | 12 | Black and White 9 x 9 |
| OS/73251 | 10418 | V | 161 | P | SP 556 234 | 4 | 06 JUN 1973 | A | 7700 | 12 | Black and White 9 x 9 |
| OS/73251 | 10418 | V | 162 | P | SP 551 234 | 4 | 06 JUN 1973 | A | 7700 | 12 | Black and White 9 x 9 |
| OS/73252 | 10419 | V | 74 | P | SP 556 248 | 1 | 06 JUN 1973 | A | 7700 | 12 | Black and White 9 x 9 |
| OS/73252 | 10419 | V | 75 | P | SP 563 248 | 1 | 06 JUN 1973 | A | 7700 | 12 | Black and White 9 x 9 |
| OS/73252 | 10419 | V | 76 | P | SP 569 249 | 1 | 06 JUN 1973 | A | 7700 | 12 | Black and White 9 x 9 |
| OS/73252 | 10419 | V | 77 | P | SP 576 249 | 1 | 06 JUN 1973 | A | 7700 | 12 | Black and White 9 x 9 |
| OS/73252 | 10419 | V | 78 | P | SP 583 249 | 1 | 06 JUN 1973 | A | 7700 | 12 | Black and White 9 x 9 |
| OS/73274 | 10420 | V | 50 | P | SP 581 263 | 1 | 06 JUN 1973 | A | 7700 | 12 | Black and White 9 x 9 |
| OS/73274 | 10420 | V | 51 | P | SP 574 263 | 1 | 06 JUN 1973 | A | 7700 | 12 | Black and White 9 x 9 |
| OS/73274 | 10420 | V | 52 | P | SP 567 263 | 1 | 06 JUN 1973 | A | 7700 | 12 | Black and White 9 x 9 |
| OS/70023 | 10537 | V | 7 | N | SP 586 244 | 2 | 23 MAR 1970 | A | 5000 | 12 | Black and White 9 x 9 |
| OS/70023 | 10537 | V | 8 | N | SP 587 241 | 2 | 23 MAR 1970 | A | 5000 | 12 | Black and White 9 x 9 |
| OS/70023 | 10537 | V | 16 | N | SP 583 247 | 3 | 23 MAR 1970 | A | 5000 | 12 | Black and White 9 x 9 |

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| OS/70023 | 10537 | V | 17 | N | SP 584 242 | 3 | 23 MAR 1970 | A | 5000 | 12 | Black and White 9 x 9 |
| OS/70023 | 10537 | V | 26 | P | SP 571 246 | 4 | 23 MAR 1970 | A | 5000 | 12 | Black and White 9 x 9 |
| OS/70023 | 10537 | V | 27 | P | SP 571 242 | 4 | 23 MAR 1970 | A | 5000 | 12 | Black and White 9 x 9 |
| OS/70023 | 10537 | V | 28 | P | SP 572 238 | 4 | 23 MAR 1970 | A | 5000 | 12 | Black and White 9 x 9 |
| OS/70023 | 10537 | V | 29 | P | SP 573 233 | 4 | 23 MAR 1970 | A | 5000 | 12 | Black and White 9 x 9 |
| OS/66042 | 11626 | V | 5 | P | SP 553 240 | 4 | 29 APR 1966 | A | 7500 | 12 | Black and White 9 x 9 |
| OS/66042 | 11626 | V | 6 | P | SP 561 241 | 4 | 29 APR 1966 | A | 7500 | 12 | Black and White 9 x 9 |
| OS/66042 | 11626 | V | 7 | P | SP 568 241 | 4 | 29 APR 1966 | A | 7500 | 12 | Black and White 9 x 9 |
| OS/66042 | 11626 | V | 8 | P | SP 574 241 | 4 | 29 APR 1966 | A | 7500 | 12 | Black and White 9 x 9 |
| OS/66042 | 11626 | V | 9 | P | SP 580 241 | 4 | 29 APR 1966 | A | 7500 | 12 | Black and White 9 x 9 |
| OS/66042 | 11626 | V | 24 | P | SP 575 240 | 1 | 29 APR 1966 | A | 7500 | 12 | Black and White 9 x 9 |
| OS/66042 | 11626 | V | 25 | P | SP 569 240 | 1 | 29 APR 1966 | A | 7500 | 12 | Black and White 9 x 9 |
| OS/66042 | 11626 | V | 26 | P | SP 562 239 | 1 | 29 APR 1966 | A | 7500 | 12 | Black and White 9 x 9 |
| OS/66042 | 11626 | V | 27 | P | SP 554 239 | 1 | 29 APR 1966 | A | 7500 | 12 | Black and White 9 x 9 |
| OS/66042 | 11626 | V | 33 | P | SP 553 252 | 5 | 29 APR 1966 | A | 7500 | 12 | Black and White 9 x 9 |
| OS/66042 | 11626 | V | 34 | P | SP 561 252 | 5 | 29 APR 1966 | A | 7500 | 12 | Black and White 9 x 9 |
| OS/66042 | 11626 | V | 35 | P | SP 565 252 | 5 | 29 APR 1966 | A | 7500 | 12 | Black and White 9 x 9 |
| OS/66042 | 11626 | V | 36 | P | SP 574 251 | 5 | 29 APR 1966 | A | 7500 | 12 | Black and White 9 x 9 |
| OS/66042 | 11626 | V | 37 | P | SP 579 252 | 5 | 29 APR 1966 | A | 7500 | 12 | Black and White 9 x 9 |
| OS/66042 | 11626 | V | 55 | P | SP 579 227 | 6 | 29 APR 1966 | A | 7500 | 12 | Black and White 9 x 9 |
| OS/66042 | 11626 | V | 56 | P | SP 573 227 | 6 | 29 APR 1966 | A | 7500 | 12 | Black and White 9 x 9 |
| OS/66042 | 11626 | V | 57 | P | SP 567 227 | 6 | 29 APR 1966 | A | 7500 | 12 | Black and White 9 x 9 |
| OS/66042 | 11626 | V | 58 | P | SP 560 227 | 6 | 29 APR 1966 | A | 7500 | 12 | Black and White 9 x 9 |
| OS/66042 | 11626 | V | 59 | P | SP 554 227 | 6 | 29 APR 1966 | A | 7500 | 12 | Black and White 9 x 9 |
| OS/66042 | 11626 | V | 60 | P | SP 548 227 | 6 | 29 APR 1966 | A | 7500 | 12 | Black and White 9 x 9 |
| OS/68252 | 11632 | V | 5 | P | SP 581 243 | 1 | 05 JUL 1968 | A | 6400 | 6 | Black and White 9 x 9 |
| OS/68252 | 11632 | V | 15 | P | SP 565 253 | 2 | 05 JUL 1968 | A | 6400 | 6 | Black and White 9 x 9 |
| OS/68252 | 11632 | V | 16 | P | SP 568 250 | 2 | 05 JUL 1968 | A | 6400 | 6 | Black and White 9 x 9 |

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| OS/68252 | 11632 | V | 17 | P | SP 572 247 | 2 | 05 JUL 1968 | A | 6400 | 6 | Black and White 9 x 9 |
| OS/68252 | 11632 | V | 18 | P | SP 576 243 | 2 | 05 JUL 1968 | A | 6400 | 6 | Black and White 9 x 9 |
| OS/68252 | 11632 | V | 19 | P | SP 580 239 | 2 | 05 JUL 1968 | A | 6400 | 6 | Black and White 9 x 9 |
| OS/75312 | 12174 | V | 31 | P | SP 576 243 | 1 | 05 JUL 1975 | A | 10600 | 6 | Black and White 9 x 9 |
| OS/75312 | 12174 | V | 71 | P | SP 580 226 | 2 | 05 JUL 1975 | A | 10600 | 6 | Black and White 9 x 9 |
| OS/75312 | 12174 | V | 72 | P | SP 572 226 | 2 | 05 JUL 1975 | A | 10600 | 6 | Black and White 9 x 9 |
| OS/84243 | 12669 | V | 1004 | P | SP 558 259 | 4 | 26 NOV 1984 | A | 10000 | 6 | Black and White 9 x 9 |
| OS/84243 | 12669 | V | 1005 | P | SP 558 250 | 4 | 26 NOV 1984 | A | 10000 | 6 | Black and White 9 x 9 |
| OS/84243 | 12669 | V | 1006 | P | SP 558 240 | 4 | 26 NOV 1984 | A | 10000 | 6 | Black and White 9 x 9 |
| OS/84243 | 12669 | V | 1007 | P | SP 557 231 | 4 | 26 NOV 1984 | A | 10000 | 6 | Black and White 9 x 9 |
| OS/84243 | 12669 | V | 1022 | P | SP 575 232 | 5 | 26 NOV 1984 | A | 10000 | 6 | Black and White 9 x 9 |
| OS/84243 | 12669 | V | 1023 | P | SP 575 241 | 5 | 26 NOV 1984 | A | 10000 | 6 | Black and White 9 x 9 |
| OS/84243 | 12669 | V | 1024 | P | SP 575 249 | 5 | 26 NOV 1984 | A | 10000 | 6 | Black and White 9 x 9 |
| OS/84243 | 12669 | V | 1025 | P | SP 575 258 | 5 | 26 NOV 1984 | A | 10000 | 6 | Black and White 9 x 9 |
| OS/89440 | 13628 | V | 9 | P | SP 584 241 | 1 | 23 SEP 1989 | A | 8100 | 12 | Black and White 9 x 9 |
| OS/89440 | 13628 | V | 10 | P | SP 583 248 | 1 | 23 SEP 1989 | A | 8100 | 12 | Black and White 9 x 9 |
| OS/89440 | 13628 | V | 11 | P | SP 584 255 | 1 | 23 SEP 1989 | A | 8100 | 12 | Black and White 9 x 9 |
| OS/91021 | 13794 | V | 125 | P | SP 547 243 | 5 | 10 APR 1991 | A | 10400 | 6 | Black and White 9 x 9 |
| OS/91021 | 13794 | V | 126 | P | SP 547 235 | 5 | 10 APR 1991 | A | 10400 | 6 | Black and White 9 x 9 |
| OS/91021 | 13794 | V | 127 | P | SP 549 228 | 5 | 10 APR 1991 | A | 10400 | 6 | Black and White 9 x 9 |
| OS/91258 | 13884 | V | 12 | P | SP 581 238 | 1 | 19 SEP 1991 | A | 8600 | 6 | Black and White 9 x 9 |
| OS/91258 | 13884 | V | 13 | P | SP 575 238 | 1 | 19 SEP 1991 | A | 8600 | 6 | Black and White 9 x 9 |
| OS/91258 | 13884 | V | 14 | P | SP 569 238 | 1 | 19 SEP 1991 | A | 8600 | 6 | Black and White 9 x 9 |
| OS/91258 | 13884 | V | 15 | P | SP 563 238 | 1 | 19 SEP 1991 | A | 8600 | 6 | Black and White 9 x 9 |
| OS/91258 | 13884 | V | 16 | P | SP 557 238 | 1 | 19 SEP 1991 | A | 8600 | 6 | Black and White 9 x 9 |
| OS/94214 | 14692 | V | 5 | P | SP 570 256 | 1 | 28 JUN 1994 | A | 6500 | 12 | Black and White 9 x 9 |
| OS/94214 | 14692 | V | 6 | P | SP 570 250 | 1 | 28 JUN 1994 | A | 6500 | 12 | Black and White 9 x 9 |
| OS/94214 | 14692 | V | 7 | P | SP 570 245 | 1 | 28 JUN 1994 | A | 6500 | 12 | Black and White 9 x 9 |

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| OS/94214 | 14692 | V | 8 | P | SP 570 240 | 1 | 28 JUN 1994 | A | 6500 | 12 | Black and White 9 x 9 |
| OS/94214 | 14692 | V | 9 | P | SP 569 235 | 1 | 28 JUN 1994 | A | 6500 | 12 | Black and White 9 x 9 |
| OS/94214 | 14692 | V | 26 | P | SP 579 236 | 2 | 28 JUN 1994 | A | 6500 | 12 | Black and White 9 x 9 |
| OS/94214 | 14692 | V | 27 | P | SP 579 241 | 2 | 28 JUN 1994 | A | 6500 | 12 | Black and White 9 x 9 |
| OS/94214 | 14692 | V | 28 | P | SP 579 247 | 2 | 28 JUN 1994 | A | 6500 | 12 | Black and White 9 x 9 |
| OS/94214 | 14692 | V | 29 | P | SP 579 252 | 2 | 28 JUN 1994 | A | 6500 | 12 | Black and White 9 x 9 |
| OS/94214 | 14692 | V | 30 | P | SP 579 258 | 2 | 28 JUN 1994 | A | 6500 | 12 | Black and White 9 x 9 |
| OS/96633 | 15201 | V | 74 | N | SP 555 255 | 2 | 15 JUN 1996 | A | 7900 | 12 | Black and White 9 x 9 |
| OS/96633 | 15201 | V | 75 | N | SP 560 255 | 2 | 15 JUN 1996 | A | 7900 | 12 | Black and White 9 x 9 |
| OS/96633 | 15201 | V | 76 | P | SP 565 255 | 2 | 15 JUN 1996 | A | 7900 | 12 | Black and White 9 x 9 |
| OS/96633 | 15201 | V | 77 | P | SP 570 255 | 2 | 15 JUN 1996 | A | 7900 | 12 | Black and White 9 x 9 |
| OS/96633 | 15201 | V | 78 | P | SP 575 255 | 2 | 15 JUN 1996 | A | 7900 | 12 | Black and White 9 x 9 |
| OS/96633 | 15201 | V | 79 | P | SP 580 255 | 2 | 15 JUN 1996 | A | 7900 | 12 | Black and White 9 x 9 |
| OS/96633 | 15201 | V | 170 | P | SP 579 225 | 5 | 15 JUN 1996 | A | 7900 | 12 | Black and White 9 x 9 |
| OS/96633 | 15201 | V | 171 | P | SP 574 225 | 5 | 15 JUN 1996 | A | 7900 | 12 | Black and White 9 x 9 |
| OS/96633 | 15201 | V | 172 | P | SP 569 225 | 5 | 15 JUN 1996 | A | 7900 | 12 | Black and White 9 x 9 |
| OS/96633 | 15201 | V | 173 | P | SP 564 225 | 5 | 15 JUN 1996 | A | 7900 | 12 | Black and White 9 x 9 |
| OS/96633 | 15201 | V | 174 | P | SP 559 225 | 5 | 15 JUN 1996 | A | 7900 | 12 | Black and White 9 x 9 |
| OS/96633 | 15201 | V | 175 | P | SP 554 225 | 5 | 15 JUN 1996 | A | 7900 | 12 | Black and White 9 x 9 |
| OS/96633 | 15201 | V | 252 | P | SP 580 235 | 7 | 15 JUN 1996 | A | 7900 | 12 | Black and White 9 x 9 |
| OS/96633 | 15201 | V | 253 | P | SP 575 235 | 7 | 15 JUN 1996 | A | 7900 | 12 | Black and White 9 x 9 |
| OS/96633 | 15201 | V | 254 | P | SP 570 235 | 7 | 15 JUN 1996 | A | 7900 | 12 | Black and White 9 x 9 |
| OS/96633 | 15201 | V | 255 | P | SP 565 235 | 7 | 15 JUN 1996 | A | 7900 | 12 | Black and White 9 x 9 |
| OS/96633 | 15201 | V | 256 | P | SP 560 235 | 7 | 15 JUN 1996 | A | 7900 | 12 | Black and White 9 x 9 |
| OS/96633 | 15201 | V | 257 | P | SP 555 235 | 7 | 15 JUN 1996 | A | 7900 | 12 | Black and White 9 x 9 |
| OS/96634 | 15202 | V | 49 | P | SP 584 245 | 2 | 15 JUN 1996 | A | 7900 | 12 | Black and White 9 x 9 |
| OS/96634 | 15202 | V | 50 | P | SP 579 245 | 2 | 15 JUN 1996 | A | 7900 | 12 | Black and White 9 x 9 |
| OS/96634 | 15202 | V | 51 | P | SP 574 245 | 2 | 15 JUN 1996 | A | 7900 | 12 | Black and White 9 x 9 |



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|----------|-------|---|----|---|------------|---|-------------|---|------|----|-----------------------|
| OS/96634 | 15202 | V | 52 | P | SP 569 245 | 2 | 15 JUN 1996 | A | 7900 | 12 | Black and White 9 x 9 |
| OS/96634 | 15202 | V | 53 | P | SP 564 245 | 2 | 15 JUN 1996 | A | 7900 | 12 | Black and White 9 x 9 |
| OS/96634 | 15202 | V | 54 | P | SP 559 244 | 2 | 15 JUN 1996 | A | 7900 | 12 | Black and White 9 x 9 |
| OS/96634 | 15202 | V | 55 | P | SP 554 244 | 2 | 15 JUN 1996 | A | 7900 | 12 | Black and White 9 x 9 |
| OS/96634 | 15202 | V | 56 | P | SP 549 244 | 2 | 15 JUN 1996 | A | 7900 | 12 | Black and White 9 x 9 |

| | |
|---------------|-----|
| Total sorties | 25 |
| Total images | 183 |

PLANS

Plan 1 Bicester Eco Town PART 1: The Entire Site
Location of the Study Area

0802/01 October 2010 CC

Plan 2 Bicester Eco Town PART 1: The Entire Site
Location of sites identified from aerial photographs in the southwest Sector

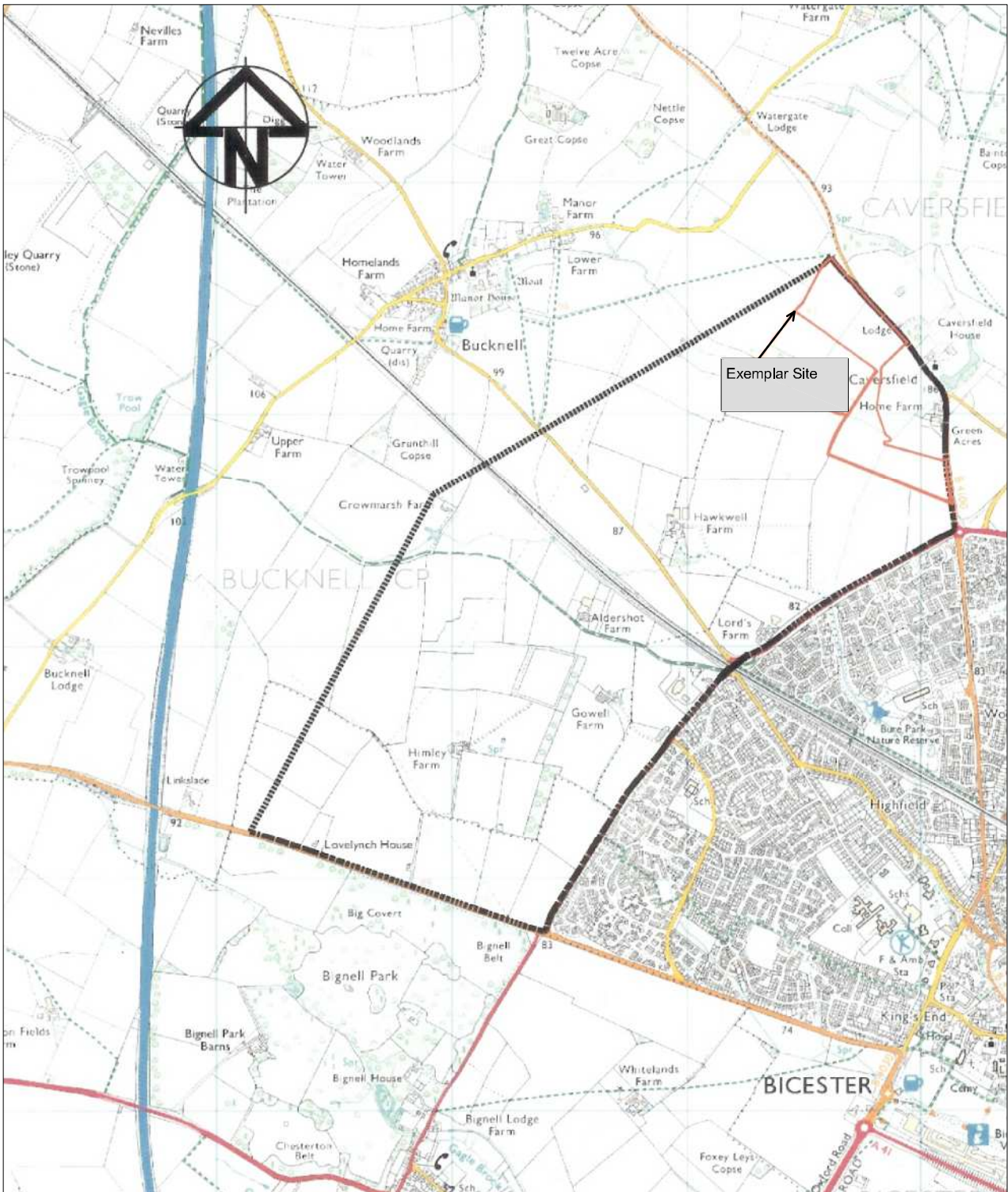
0802/02 October 2010 CC

Plan 3 Bicester Eco Town PART 1: The Entire Site
Location of sites identified from aerial photographs in the northwest Sector

0802/03 October 2010 CC

Plan 4 Bicester Eco Town PART 1: The Entire Site
Overview of all sites identified from aerial photographs

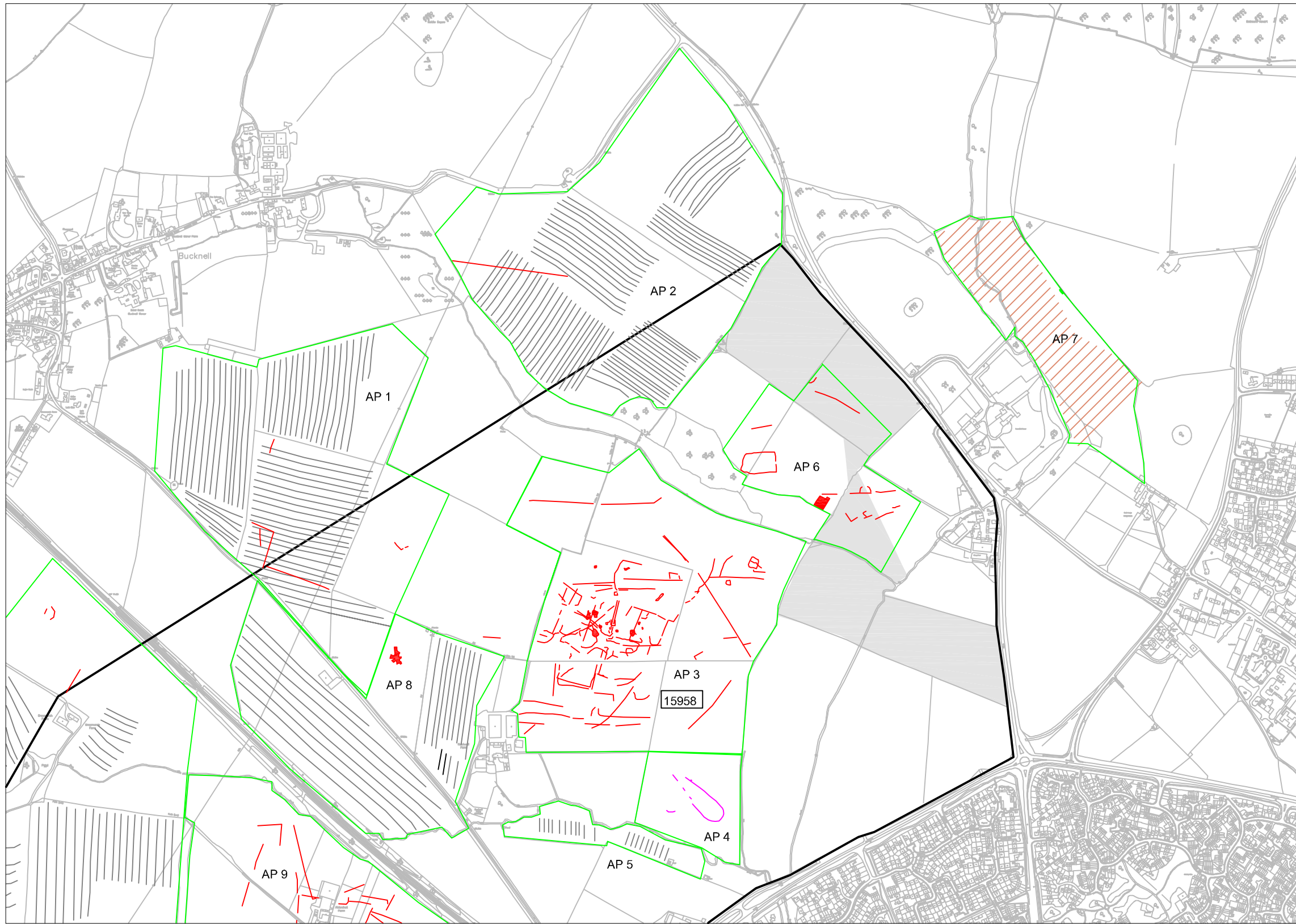
0802/06 October 2010 CC



Drawing Title | PLAN 1 Bicester Eco Town PART 1: The Entire Site
Location of the Study Area

Client | Hyder Consulting (UK) Ltd
 Project | Bicester Eco Town
 Plan no | 0802/01
 Scale | NA
 Date | 10 2010 cc

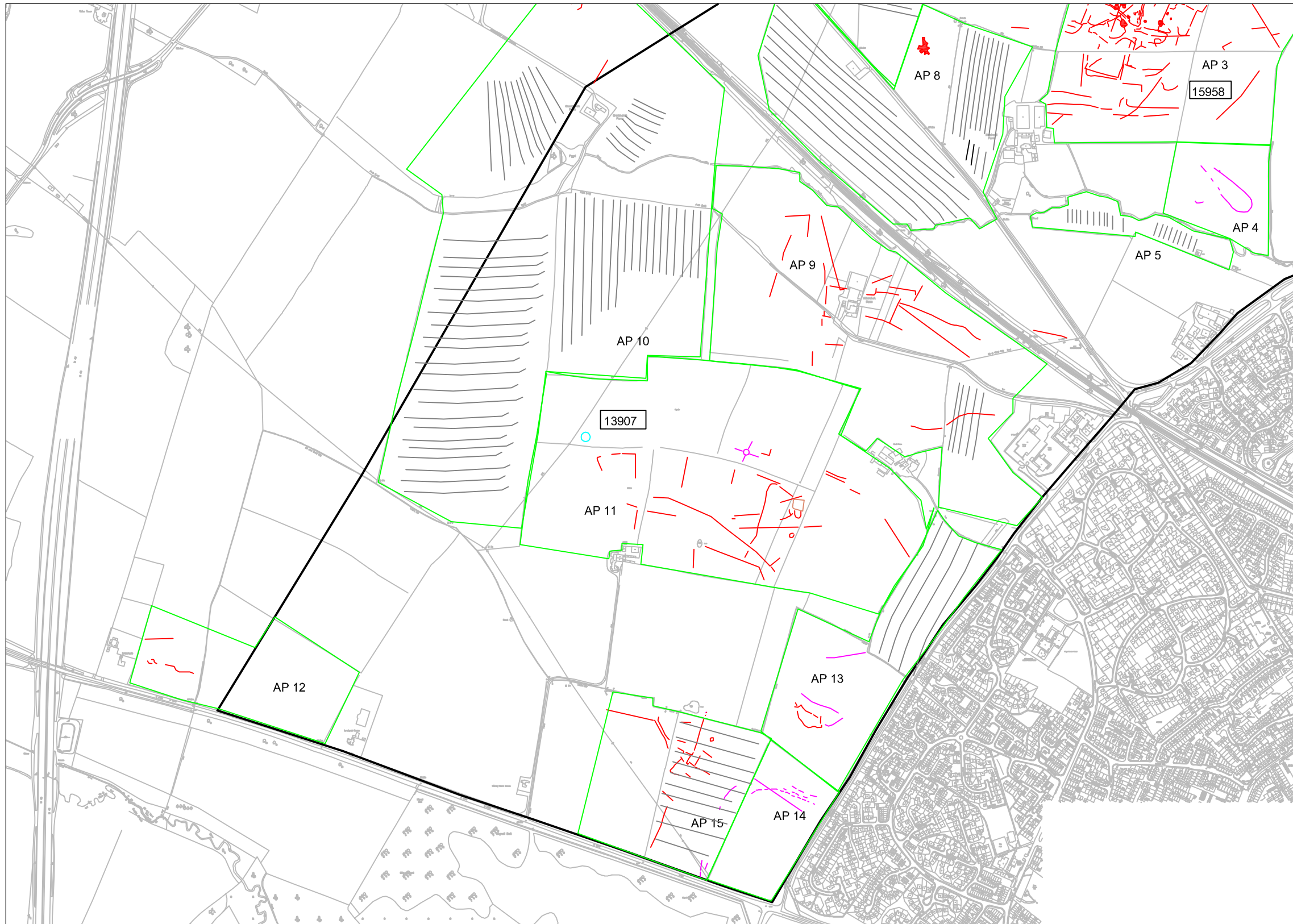
Air Photo Services Ltd www.airphotoservices.co.uk



Drawing Title | PLAN 2 Bicester Eco Town PART 1: The Entire Site
 Sites identified from aerial photographs in the north west sector

Client | Hyder Consulting (UK) Ltd
 Project | Bicester Eco Town PART 1
 Plan no | 0802/02
 Scale | Printed to fit A3, use GIS file for accurate scaling
 Date | 10 2010 cc

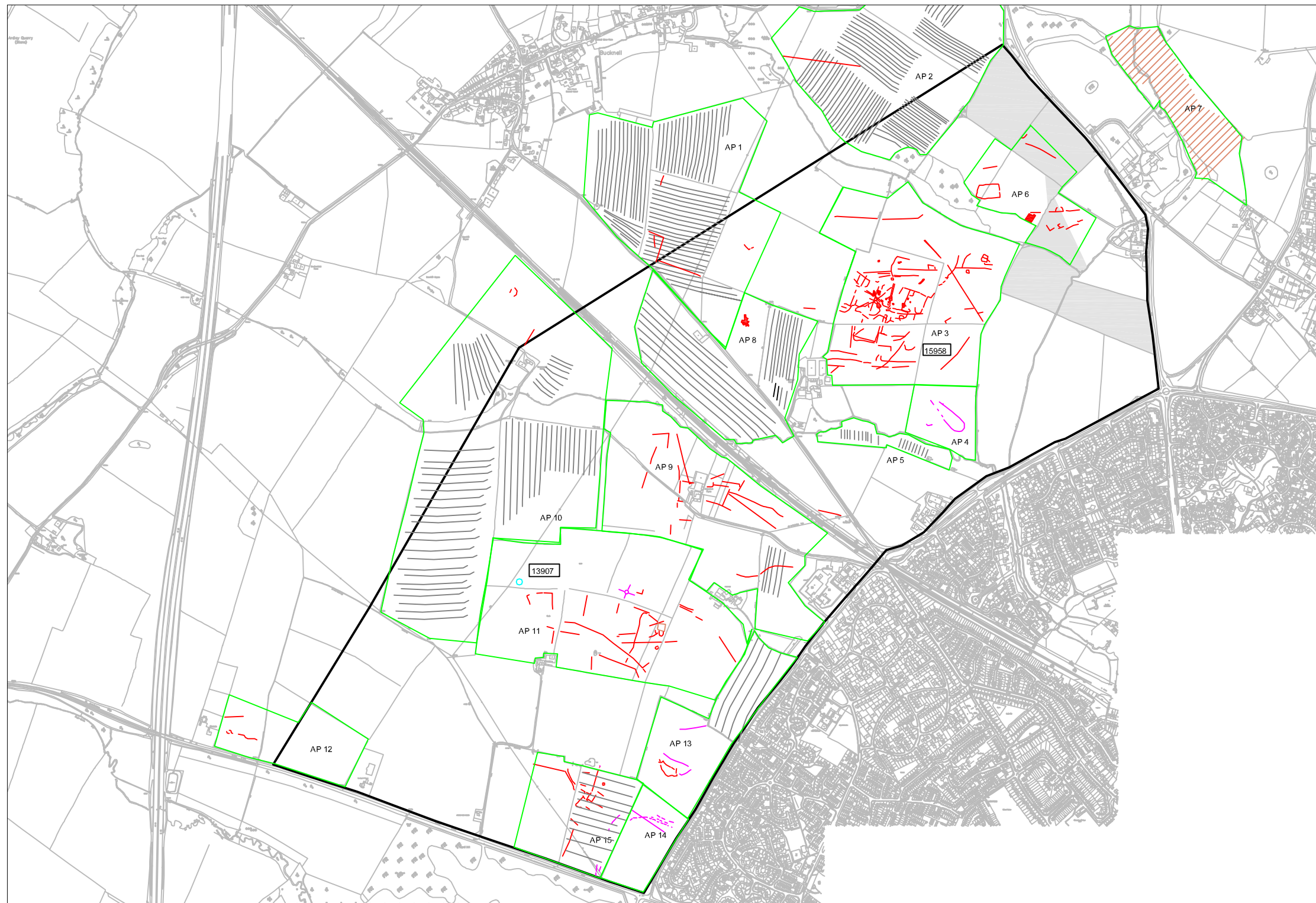
- The site boundary
- The Exemplar Site
- AP site polygons
- AP 5 Sites recorded from aerial photographs
- Buried features which show as marks in crops
- Possible archaeological features which show as marks in crops
- Areas of Medieval ploughing (ridge and furrow)
- ▨ Deserted Medieval Village (DMV) at Caversfield
- 15958 OHER numbers



Drawing Title PLAN 3 Bicester Eco Town PART 1: The Entire Site
Sites identified from aerial photographs in the south west sector

Client Hyder Consulting (UK) Ltd
Project Bicester Eco Town PART 1
Plan no 0802/03
Scale Printed to fit A3, use GIS file for accurate scaling
Date 10 2010 cc

- The site boundary
- AP site polygons
- AP 15 Sites recorded from aerial photographs
- - Buried features which show as marks in crops
- - Possible archaeological features which show as marks in crops
- Areas of Medieval ploughing (ridge and furrow)
- Position of ring ditch recorded on OHER, photographs unavailable
- 13907 OHER numbers



Drawing Title | PLAN 4 Bicester Eco Town PART 1: The Entire Site
Overview of all sites identified from aerial photographs

Client | Hyder Consulting (UK) Ltd
 Project | Bicester Eco Town PART 1
 Plan no | 0802/06
 Scale | Printed to fit A3, use GIS file for accurate scaling
 Date | 10 2010 cc

- The site boundary
- The Exemplar Site
- AP site polygons
- AP 2** Sites recorded from aerial photographs
- - Buried features which show as marks in crops
- - Possible archaeological features which show as marks in crops
- ▨ Areas of Medieval ploughing (ridge and furrow)
- Position of ring ditch recorded on OHER, photographs unavailable
- 13907 OHER numbers