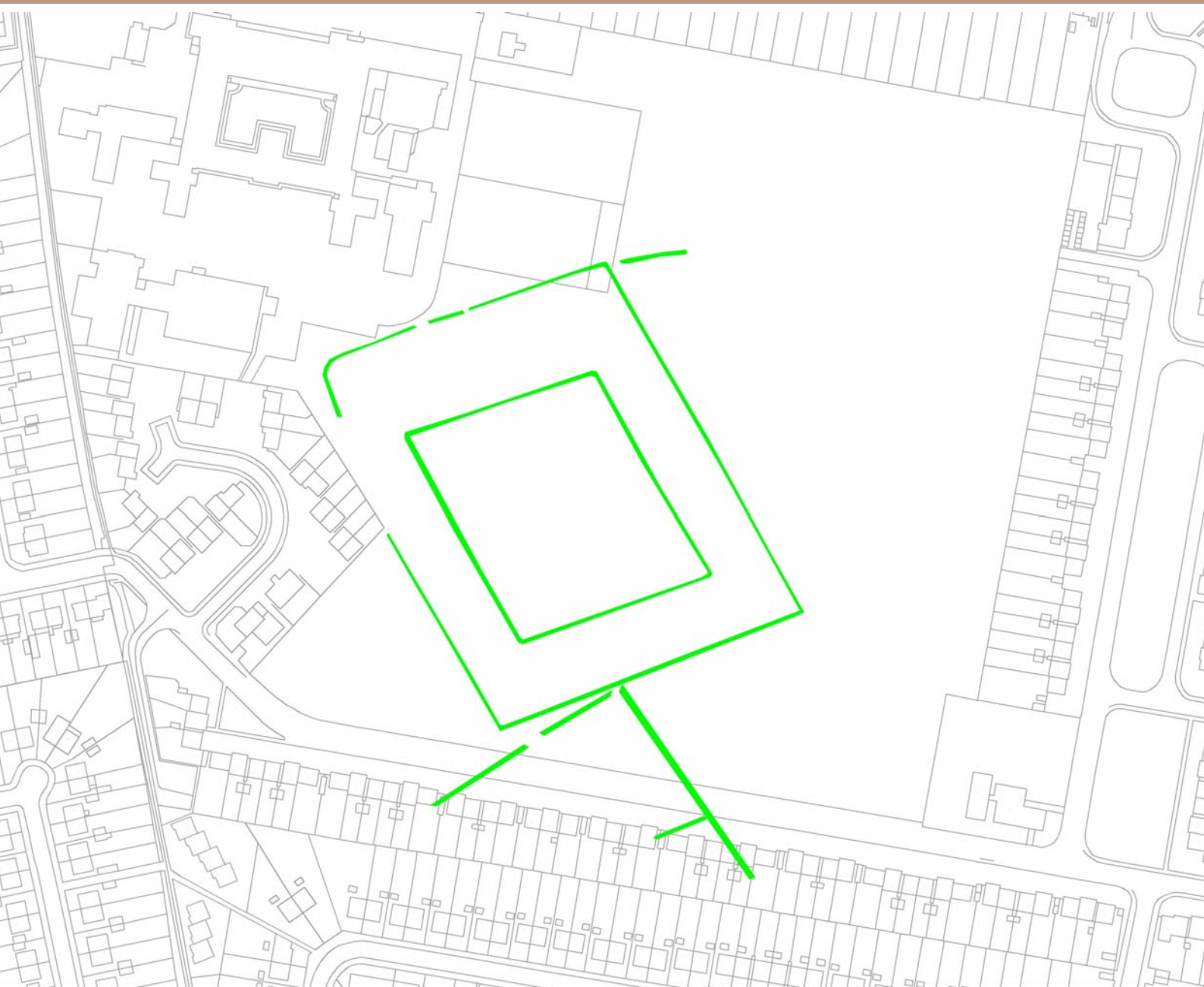


CAESAR'S CAMP, MATTHEW ARNOLD SCHOOL, STAINES, SURREY AERIAL PHOTOGRAPH INTERPRETATION AND MAPPING

ARCHAEOLOGICAL REPORT

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**Caesar's Camp,
Matthew Arnold School, Staines, Surrey**

**Aerial Photograph Interpretation and Mapping
Helen Winton**

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SUMMARY

The aerial photograph interpretation and mapping described in this report ascertained the form and extent of the cropmarks of the supposed Roman camp in the playing fields of the Matthew Arnold School, Staines, Surrey. This scheduled monument was first identified as 'Caesars Camp' by William Stukeley who saw two concentric earthwork enclosures in 1723. Doubt was cast on the Roman interpretation by O G S Crawford who rediscovered the site in the 1930s. Major G W G Allen was the first to record the site as cropmarks when he photographed it from the air in 1933. The site was partially excavated in 1989-1990 and although the dating is inconclusive, it is suggested that the enclosures are of medieval date.

CONTRIBUTORS

Helen Winton, Aerial Survey and Investigation, English Heritage, carried out the aerial photograph assessment and transcription. Pete Horne commented on the report.

ACKNOWLEDGEMENTS

Thanks to the Ashmolean Museum for permission to include the Allen photograph. Thanks also to Richard Massey for supplying information on the site.

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DATE OF SURVEY

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INTRODUCTION

Richard Massey, English Heritage Inspector of Ancient Monuments, requested the aerial photograph interpretation and mapping described in this report. The aim was to ascertain the form and extent of the cropmarks of the supposed Roman camp in the playing fields of the Matthew Arnold School, Staines, Surrey. The monument is scheduled (SAM SU 146).

Hayman and Jones excavated the site as part of evaluations in advance of a proposed housing development and although the dating is inconclusive, they suggested that the enclosures are of medieval date (Hayman and Jones 2008).

Aerial photographs taken on two separate occasions in 1933 illustrate some of the progress of construction of the new housing in the immediate vicinity of the survey area. These photographs also show the cropmarks of the supposed Roman enclosure. Subsequent aerial photographs, taken at regular intervals from the late 1940s, to present also record cropmarks of the enclosure.

PROJECT AREA

The project area is to the south east of Staines in what are now the playing fields of Matthew Arnold School (Figure 1). The site is situated at 13-15m above OD on a Flood-Plain Gravel river terrace just over a kilometre to the north-east of the River Thames (Geological Survey of Great Britain, Windsor Sheet 269, Solid and Drift edition, 1:50000 Series I981).



Figure 1 Project area, marked by a red star, on the current Ordnance Survey 1:25000 scale map. © Crown Copyright. All rights reserved. English Heritage 100019088. 2010

John Norden's 1623 map of the area is annotated 'Greene Feilde' and in 1776 Stukeley refers to it as Greenfield Common (Hayman and Jones 2008, Figures 2-3). The area is depicted as agricultural land on the 1872 25" Ordnance Survey (OS) first edition map (Middlesex) with a few buildings scattered along the track from Knowle Green to Ford, now the Kingston Road (Figure 2). Staines and Ashford gradually expanded until much of the area to the south and east of Knowle Green was covered with housing. Matthew

Arnold School was built some time in the late 1930s. Other changes to the surrounding area, established by the time of the 1935 OS 25" map, included an aqueduct, across Sherwood Common, for the New River and Grand Junction Waterworks Companies to supply Kempton Park Waterworks, and the establishment of the West London District School (latterly a hospital but now demolished) between the railway and the aqueduct. There has been extensive gravel extraction in the area and Queen Mary Reservoir was created on what had been Astlham and Littleton Commons.

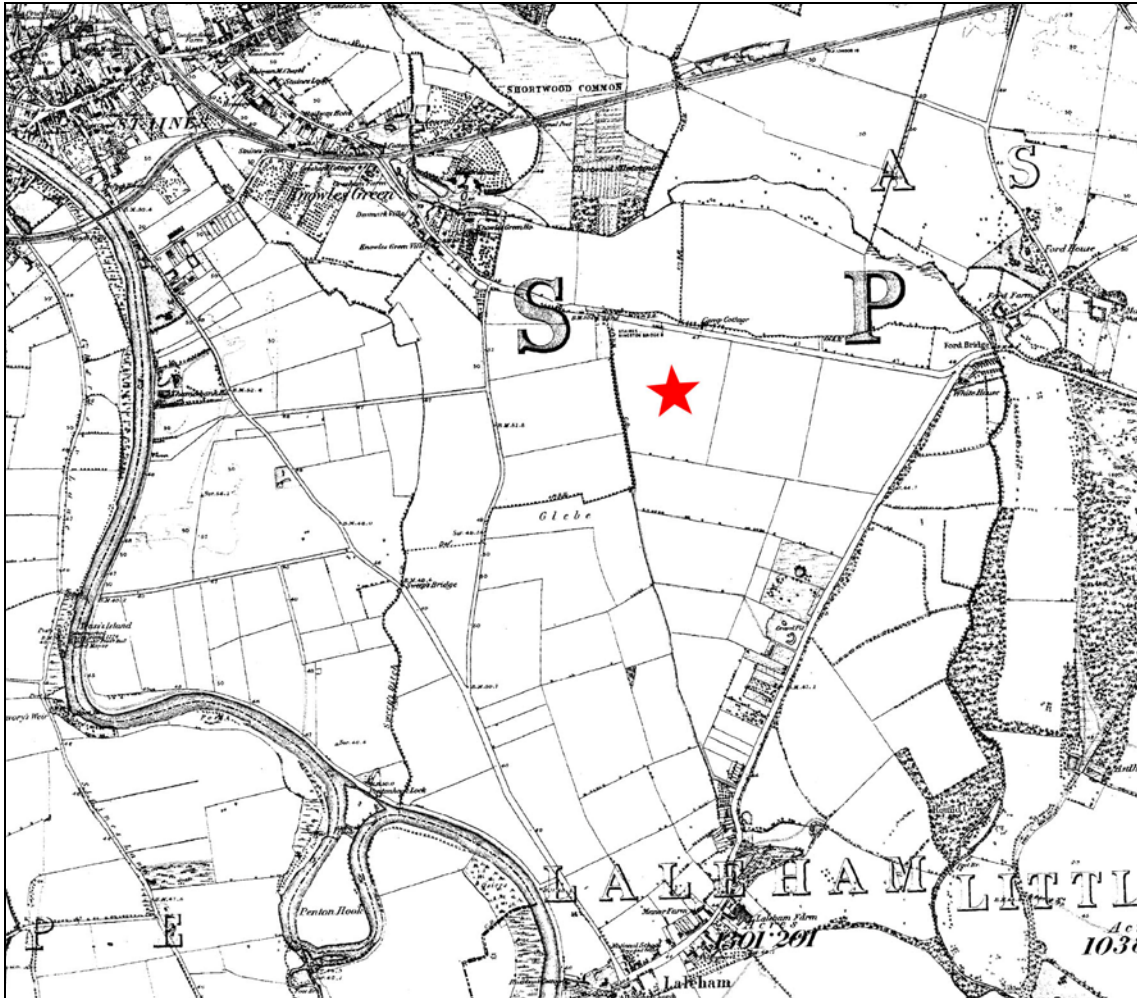


Figure 2 Project area, marked by a red star, on the 1872 Ordnance Survey 25" scale map

ARCHAEOLOGICAL BACKGROUND

William Stukeley visited the site on October 23rd 1723. He produced a plan of the earthworks, by pacing out the site, and included this in his 1776 publication *Itinerarium Curiosum* describing it as 'Caesars Camp on Greenfield Common'. His plan shows a regular playing card shaped double ditched enclosure with an entrance in the west side and a large enclosure attached to the east side. The Reverend Daniel Lysons refers to 'two camps; the fosses being very discernible' in his volume on the parishes of Middlesex published in 1800.

O G S Crawford visited the area on 31st May 1925 to try to locate the site and his Ordnance Survey Archaeology Division notes described the field to the south of the aqueduct as 'under corn which appears decidedly streaky, though rather in patches than in lines. The rest of the area under peas and mustard (very thin), or bare. Decided signs of banks, although very low in the south-east part of field' (Information from EH NMR Monument Record 394723). In a later publication, Crawford described how he could not positively identify any earthworks corresponding to the antiquarian descriptions (Crawford 1933, 291). However, he was able to fly over the site, on 23rd June 1930, and saw cropmarks of the 'the two "boxes", one inside the other, just as they were portrayed by Stukeley' but he was not able to take photographs (Crawford 1933, 291). The position of the site is incorrect on the 1935 OS map but Crawford subsequently corrected it (Figure 6).

In what seems to be one of his earliest flights, Major G W G Allen, a pioneer of archaeological aerial photography, took three aerial photographs of the site (Crawford 1933, Plate I). A fourth photograph was taken later the same year. Allen recorded, in his notebooks, flights to Staines on 15th April and 27th August 1933 (www.ashmolean.org).

Dr Nichols, A H Hogg, and possibly Mr Parkin, excavated the site in 1935 on behalf of the British Archaeological Association but their results are sketchy (OS Archaeology Division notes at the EH NMR, Hayman and Jones 2008, 3-5). The school was built some time in the late 1930s but no archaeological interventions appear to have taken place at the time.

The Ordnance Survey Archaeology Division (Alan Phillips) visited the site in 1960 and recorded there were no visible remains of earthworks in the playing fields of the school.

Surrey County Council instigated geophysical survey and excavations of parts of the site in response to a proposed housing development. These were carried out by the Surrey Council Archaeology Unit (SCAU) in 1988-90 (Hayman and Jones 2008). The excavations suggested a medieval date for the enclosures (SCAU 1990a, 1990b, 1991, 1995).

AERIAL PHOTOGRAPHS

All available aerial photographs held at the English Heritage National Monument Record were consulted. The online aerial photograph providers BING (Microsoft) and Google Earth were also used. The Cambridge University Collection of Air Photographs (CUCAP) curated by the Unit for Landscape Modelling has no photographs listed in their online catalogue for this location. The NMR photographs are listed in Appendix A.

The key photographs used for the transcription were those taken by Allen in 1933 and supplementary information was derived from the vertical photograph HAS/UK/49/217 frame 37 (1949).



Figure 3 Major Allen's aerial photograph of the site taken in 1933 © Ashmolean Museum, University of Oxford Allen Air 63 (Neg. 1102) Staines, 15/04/33

Allen's photographs show two concentric trapezoid enclosures visible as cropmarks. These appear to be the only oblique aerial photographs of the site taken for archaeological purposes until an English Heritage flight in 2009. The area was photographed for non-archaeological purposes repeatedly from 1944 to the present.

Therefore, in the post WWII period, parts of the enclosures were inadvertently recorded at regular intervals on commercial and military vertical aerial photographs (see Appendix A). On some of the earliest vertical photographs (1949), the enclosures show in part as cropmarks in arable, and from the mid-1950's they show as cropmarks in the grass of the

school playing fields. The 1949 frames show what appear to be a line of impact craters, presumably from Wartime bombing, crossing the east side of the enclosures (Figure 4). These photographs also record allotment gardens in the southwestern parts of the survey area.



Figure 4 RAF vertical aerial photograph taken in 1949. RAF HASUK49217 Frame 37 24th June 1949
English Heritage (NMR) RAF Photography

The most recent vertical photographs consulted as part of this survey were those on the Microsoft website local.live.com and these undated, but probably 2000 or later, colour photographs show good positive cropmarks where the grass is more lush (i.e. appearing greener) over parts of the ditches of the enclosures.

Oblique aerial photographs taken in 2009 (Figure 5) record cropmarks in grass showing the enclosures and most of the backfilled trial trenches as described in the report on the 1989-1990 excavations (Hayman and Jones 2008, Figure 1). The annotations on Figure 5 match the letters used in Hayman and Jones' 1980 trench plan published in 2008.

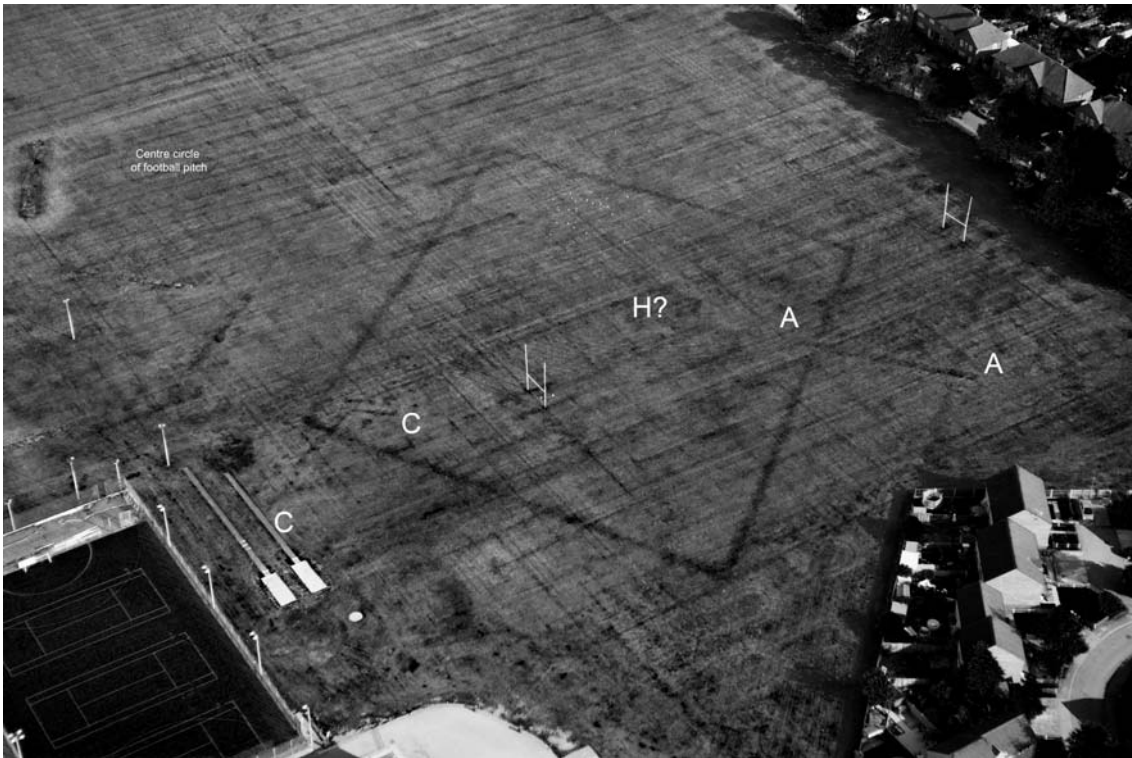


Figure 5 Marks in the grass playing fields indicate the site of archaeological features and the location of trenches from the 1989 and 1990 excavations. Colour image converted to B&W and yellows decreased
NMR 26547/22 19-AUG-2009 © English Heritage. (NMR)

AERIAL PHOTOGRAPH INTERPRETATION AND MAPPING

The aerial photograph transcription was carried out using the University of Bradford Aerial 5 photo rectification program. Control information was taken from digital copies of current OS 1:2500 maps and a raster scan of the OS 1935 edition 25" map. The transcription was produced in AutoCAD by tracing the archaeology from the transformed and georeferenced images. The Ordnance Survey advise that their 1:2,500 scale map data has an accuracy of ± 0.4 metres for rural towns, and ± 1.1 metres in all other rural areas. Therefore the archaeological features transcribed will on average be accurate to within two to three metres of true ground position.

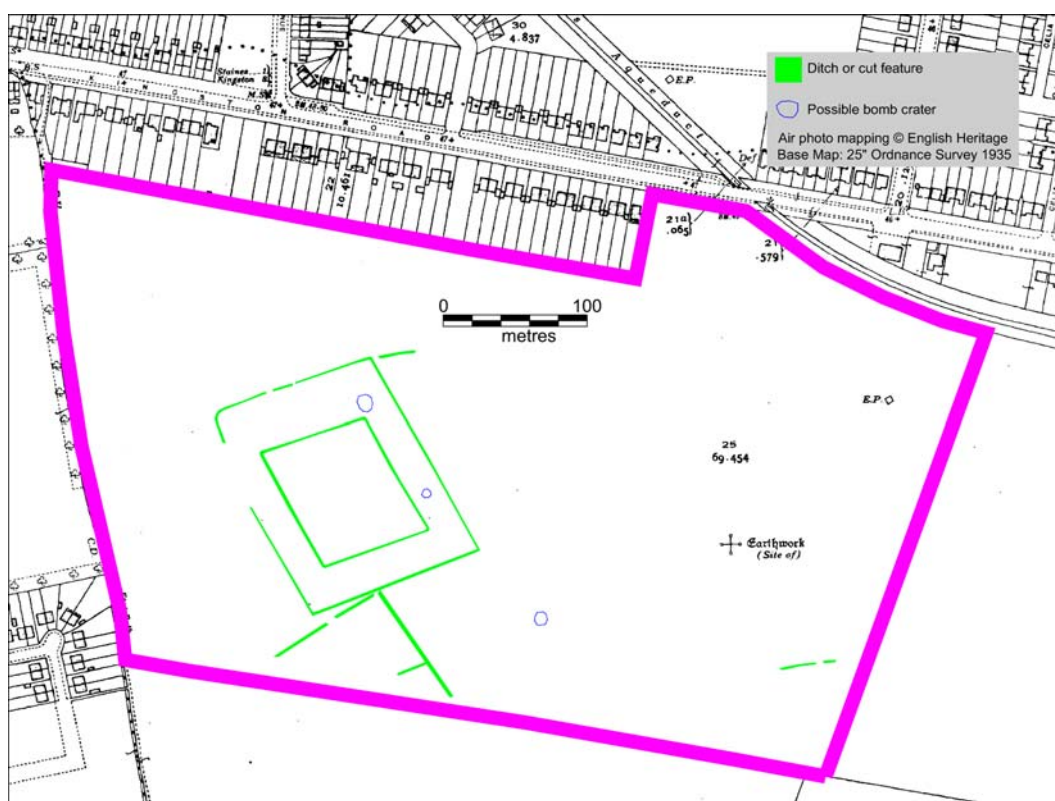


Figure 6 Transcription of cropmarks of enclosures with 1935 25" OS map. Note the incorrect position of the site. Crawford later corrected this.

The inner enclosure measures 75m by 89m and the outer measures 122m by 152m. The breaks in the circuit on the east and northern side are probably due to lack of cropmark formation rather than the presence of entrances. There are hints on the aerial photographs that the outer enclosure is complete but there is insufficient evidence to plot the entirety of the circuit. Hints of a possible extension to the outer enclosure are visible at its NE corner. Suggestions of a third possible enclosure are situated to the south of the outer enclosure. Hints of further ditches are situated 190m to the southeast of the enclosure.

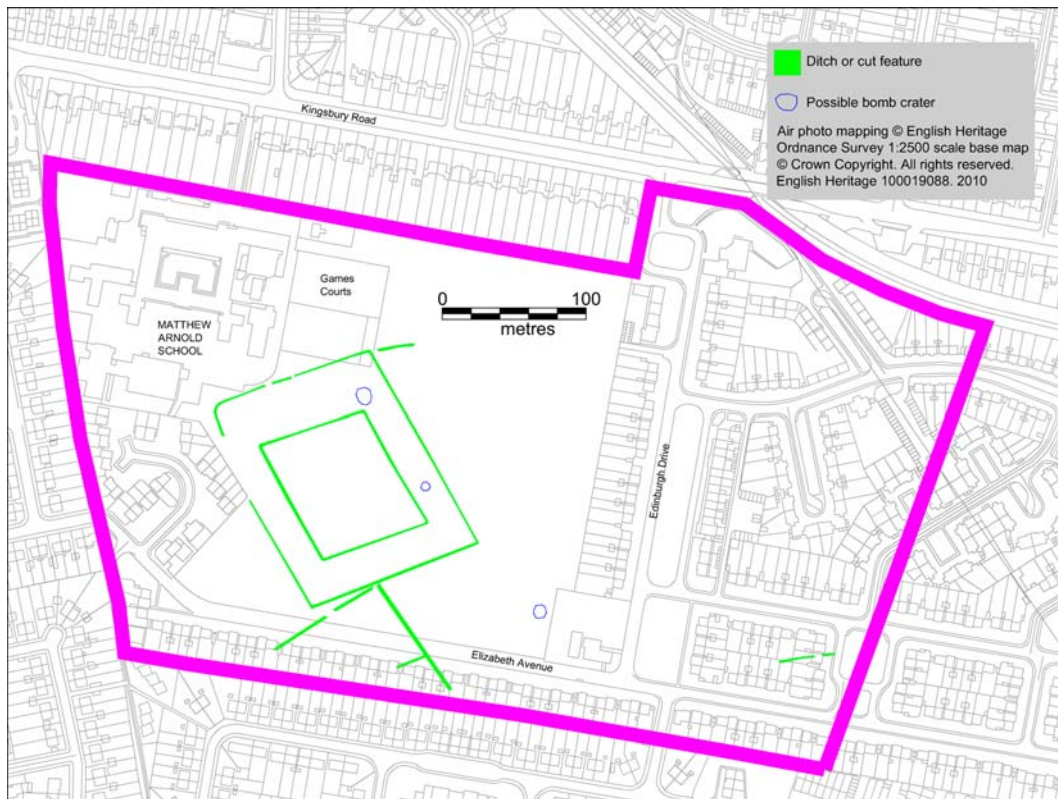


Figure 7 Transcription of cropmarks of enclosures with current 1:2500 scale OS map.

The sub-surface remains showing as cropmarks clearly indicate the same site as the earthworks visited by Stukeley in 1723. Stukeley's plan shows a large enclosure attached to the east side of the concentric enclosures. There are suggestions, on aerial photographs, of boundaries at the northeastern corner of the concentric enclosures and to the south, now partly under Elizabeth Avenue. However, nothing directly comparable to Stukeley's eastern extension was seen on the aerial photographs or from the geophysical survey and excavations. Hayman and Jones suggest that Stukeley may have misinterpreted relict plough furrows or field boundaries on the common (Hayman and Jones 2008, 18). No evidence of field boundaries or ridge and furrow were seen on the available aerial photographs.

Stukeley's interpretation of the site as a Roman military camp has already been discussed in published literature (Crawford 1933, 290-292, Hayman and Jones 2008, 3-7). The enclosures do not exhibit the usual shape associated with Roman forts or camps and the gap between the inner and outer ditches is unusually wide. Crawford and J K St Joseph noted this and suggested some comparable sites but conceded that dating is a problem (Crawford 1933, 292, Plate II, St Joseph 1967, 312-3, Plate XLV).

Double ditched enclosures with superficially similar morphological characteristics are recorded as cropmarks in southern England. For example, large double ditched enclosures

are found associated with late Iron Age settlements or Roman villas e.g. Frere and St Joseph Figures 113 and 121, or Hingley's discussion of 'Compounds' 1989. They are also sometimes associated with Iron Age or Roman funerary and religious sites (e.g. Frere and St Joseph 219, Figure 136). However, the size, form and archaeological context of these sites are highly variable and it is not clear if they are parallels, in terms of date and function, to the enclosures at Matthew Arnold School.

The evidence from the excavations is inconclusive but suggests a medieval date, or at least use of the enclosures in the 12th to 15th centuries (SCAU 1995, Hayman and Jones 2008, 18-19). Hayman and Jones note the location of the site in an area annotated as 'Green Feilde' on a map of 1623 and referred to by Stukeley as Greenfield Common a century later (Ibid Figure 3, 5-7). The common was enclosed by the time of the tithe map in 1844 with a field pattern that partly survives in the current layout of boundaries and roads (Figures 1 and 2).

The form, and the location of the enclosures on Greenfield Common, suggests a number of possible functions in the medieval or post medieval period. The inner enclosure has morphological similarities to stock enclosures, or the enclosures found around some hunting or warren lodges (e.g. Smith 1999 Figures 14 and 25). The enclosures also have similarities to the fodder plots found on some rabbit warrens although none of these appears to have concentric ditched enclosures (e.g. Williamson Figure 32). There is also a superficial similarity to another scheduled enclosure (SAM SU69) on Laleham Burway (TQ 0466 6835) just over 2km to the south across the Thames near the Medieval religious houses at Laleham and Chertsey. This enclosure was also once considered Roman but is now accepted as more likely to be medieval in date (OS Archaeology Division Notes at NMR, English Heritage Scheduled Monument Description).

The numerous photographs of the cropmarks, including those taken in 2009, show that the sub-surface remains of Stukeley's 'camp' survive under the playing fields at Mathew Arnold School. The geophysics and trial trenches carried out by SCAU in 1988-1990 confirmed this. Although there is still uncertainty over the date and function of the enclosure, it remains a unique and important monument in this area.

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APPENDIX I LIST OF KEY AERIAL PHOTOGRAPHS

Reference Number/Sortie	Frame(s)	Date	Key features
TQ0570/1	NMR ACA 7081/1102	15-04-33	Most of cropmark enclosures visible. School yet to be built, housing along north side of fields. All fields in arable, Photo annotated on front with 'Staines I 15.4.33'. Ashmolean Museum, Allen Air 63 (Neg. 1102)
TQ0570/2	NMR ACA 7093/1103	15-04-33	Apparently taken at the same time as the photo above.
TQ0570/3	NMR ACA 7093/1104	15-04-33	Longer shadows, and other small details, indicate this was taken at a different time to those above, possibly later the same day (Allen went to Leeds Castle the same day so may have returned via Staines).
TQ0570/4	NMR ACA 7093/1105	27-08-33	The enclosures appear as a soil mark after the harvest.
RAF/106G/UK/687	4081	23-08-45	Parts of faint cropmark enclosures. Main school buildings visible. Allotment gardens on western and southern parts of the site. Housing to west.
RAF/106G/UK/687	4154	23-08-45	Parts of faint cropmark enclosures.
HAS/UK/49/217	37	24-06-49	Good illustration of cropmark enclosures. New housing to south of site. Allotments.
RAF/HLA/691	37	24-10-49	Parts of cropmark enclosures.
RAF/58/1099	418-9	23-04-53	Poor quality image.
RAF/58/1099	431-2	23-04-53	Poor quality image.
MAL/53071	7302-3	29-06-53	Northern half of enclosure visible as cropmarks (rest out of frame).
RAF/82/1006	137-8	31-08-54	Part of enclosures shows as faint cropmark.

Reference Number/Sortie	Frame(s)	Date	Key features
RAF/58/1671 F22	180	03-03-55	Poor quality image.
RAF/58/1671 F21	180	03-03-55	Poor quality image.
RAF/82/1190	251-2	11-05-55	Part of enclosures shows as faint cropmark.
RAF/58/1687	137-8	17-03-55	Part of enclosures shows as faint cropmark.
RAF/58/2330	5-6	16-12-57	Nothing showing.
RAF/543/1059	177-8	13-09-60	Part of enclosures shows as faint cropmark.
RAF/58/4626	108-9	16-08-61	Part of enclosures shows as faint cropmark.
RAF/58/4646	402-3	28-08-61	Enclosures showing as cropmarks.
OS/64005	86-87	11-03-64	Only southern half of playing fields visible.
MAL/69008	203	10-02-69	Final small area of allotments on western side of site absorbed into playing fields.
MAL/69045	71	13-05-69	Part of enclosures shows as faint cropmark.
OS 95/059	33-34	03-04-95	Shows excavation? Trench in advance of further house construction on SW corner of site.
NMR 26457	1-23	19-08-09	Good quality specialist obliques showing main parts of the enclosures as cropmarks in grass. Excavation trenches also show as cropmarks.



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