

WOOLWICH COMMON,  
WOOLWICH,  
GREATER LONDON  
AN ASSESSMENT OF THE HISTORIC ENVIRONMENT  
OF WOOLWICH COMMON AND ITS ENVIRONS  
SURVEY REPORT

Sarah Newsome and Andrew Williams



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**WOOLWICH COMMON  
WOOLWICH  
GREATER LONDON**

**An Assessment of the Historic Environment of  
Woolwich Common and its Environs**

Sarah Newsome and Andrew Williams

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## **SUMMARY**

A rapid analytical earthwork survey of Woolwich Common was undertaken in May 2008 by English Heritage's Archaeological Survey and Investigation team as part of the background research for the Survey of London's forthcoming volume on the parish of Woolwich. The research also involved examination of readily accessible documentary and cartographic sources, an examination of aerial photographs for the area and a rapid walk-over survey of other open spaces immediately adjacent to the common and the Royal Military Academy, including the site of the 19<sup>th</sup>-century practice battery located to the south of the academy.

The research has revealed the extent to which the common and the surrounding open spaces played a major role in training, recreation and celebration, for both the military and the civilian inhabitants of Woolwich, and the sometimes conflicting nature of these activities. The common and the adjacent open spaces also assumed many practical functions in times of military conflict. The research has demonstrated that the long and complex history of the common's use has lessened the chance of evidence of early uses of the common of surviving in earthwork form, a large zigzag trench at the northern end of the common being the main exception, and that the presence of the Royal Artillery barracks, Royal Military Academy and Royal Horse Artillery adjacent to the common has had a fundamental impact on its character.

## **CONTRIBUTORS**

Sarah Newsome (English Heritage Archaeological Survey and Investigation – Cambridge) and Andrew Williams (English Heritage Architectural Investigation – Cambridge) undertook the fieldwork, background research and wrote the report. Photography of the former AWRE Woolwich Common site was undertaken by Derek Kendall (Imaging, Graphics and Survey – London).

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## **ARCHIVE LOCATION**

The project archive is located in the National Monuments Record, Swindon.

## **DATE OF SURVEY**

The survey was undertaken during May 2008.

## **CONTACT DETAILS**

English Heritage, Brooklands, 24 Brooklands Avenue, Cambridge, CB2 8BU  
Sarah Newsome Tel: 01223 582771. Email: [sarah.newsome@english-heritage.org.uk](mailto:sarah.newsome@english-heritage.org.uk)



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## INTRODUCTION

In May 2008 English Heritage's Archaeological Survey and Investigation team carried out a rapid analytical survey of Woolwich Common. It was undertaken as part of a wider research for the Survey of London's forthcoming volume on the parish of Woolwich. The timing of the survey also allowed the results to influence plans to use the common for shooting events during in the 2012 Olympic Games and the schemes for redevelopment of military land proposed in the area.

Woolwich is located 10km south-east of central London, to the south of the River Thames (Figure 1). Woolwich is now within the modern administrative area of the Borough of Greenwich but the common is located at the southern edge of the historic parish of Woolwich, with a large portion located in the neighbouring historic parish of Charlton to the west. The common is bounded to the north and east by the Woolwich Barracks (former home of Royal Artillery) and the Royal Military Academy respectively, to the west by the Queen Elizabeth Hospital and to the south by the historic buildings of the Herbert Hospital, as well as modern housing. The common is a mixture of managed and unmanaged grassland, covers approximately 38 hectares and is in use for recreation. Other open spaces around the common include Barrack Field to the north (attached to the Woolwich Barracks) and small areas of land to the north and south of the Royal Military Academy (Figure 2).



Figure 1: Location Map

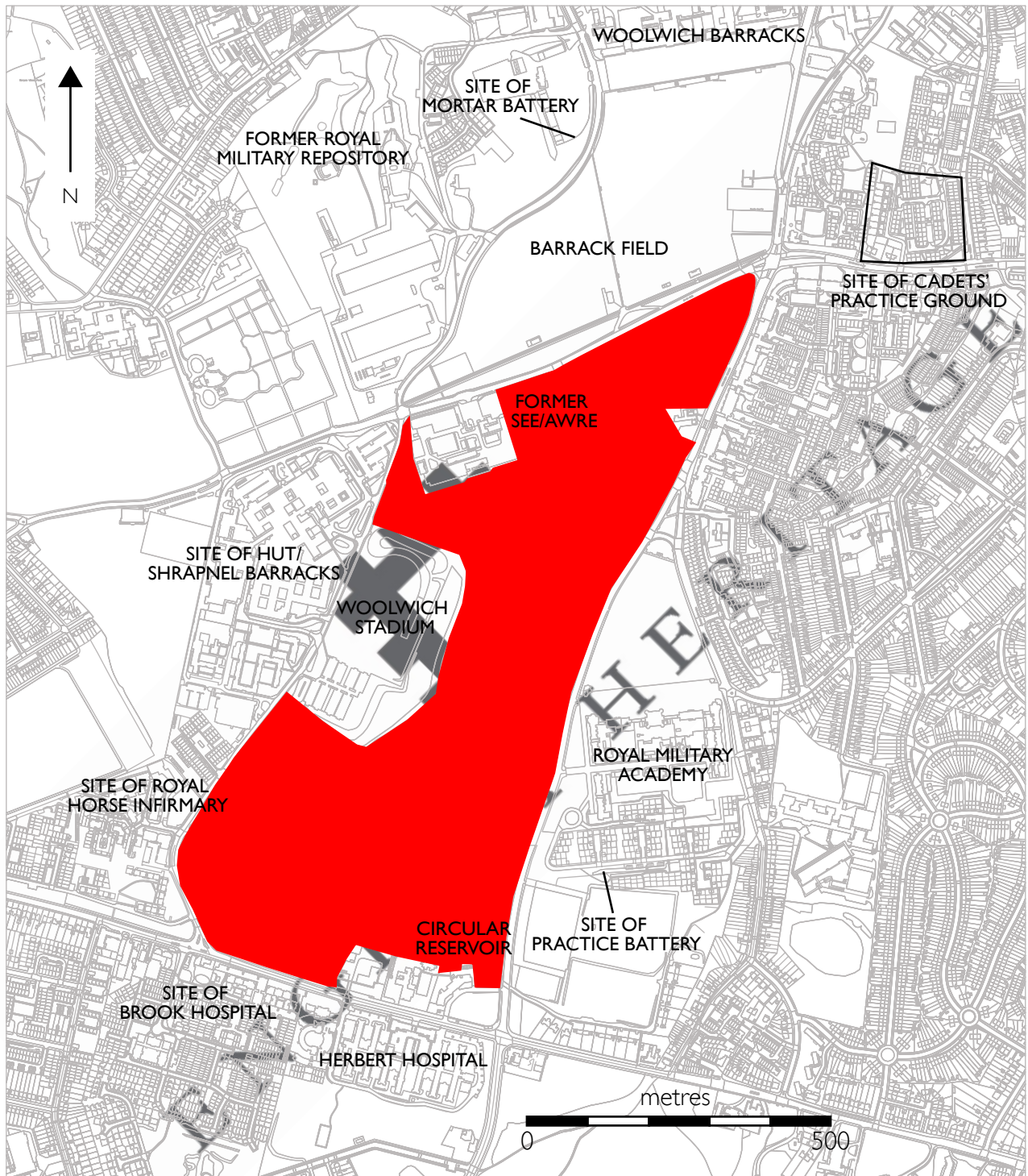


Figure 2: Woolwich Common and its environs with reference to locations mentioned in the text (1:10,000 scale) ©Crown Copyright and database right 2011. All rights reserved. Ordnance Survey Licence number 100019088.

The aim of the research was to locate and record evidence for the past use of the common, and its adjacent open spaces, that survives in earthwork or structural form and to examine the documentary evidence (mainly secondary, and readily available primary, sources) including aerial photographs, for any significant historic uses of these areas. As well as contributing to the Survey of London's research, the results will also be valuable for the future management of the common, particularly in light of the pressures from modern recreational uses, the potential impact of the 2012 Olympic Games shooting events and the ongoing redevelopment of the military estate. The project involved the rapid measured survey of earthwork and structural evidence of past activity on the Common at 1:2500 scale using electronic techniques (see Methodology). A rapid walkover and desk-top survey was undertaken on the higher, southern section of the common as the vegetation conditions were unsuitable for measured survey. A walk-over survey of Barrack Field has not been undertaken as it has clearly been levelled for recreational purposes in the past. The other open spaces around the common were examined via site visits, documentary and cartographic research, and by examination of the aerial photographs. The Survey of London team also visited the former Atomic Weapons Research Establishment site on Ha-Ha Road in February 2010 to undertake record photography.

At the time of the survey Woolwich Common was the responsibility of Greenwich Borough Council, whilst Barrack Field and the fields to the north of the Royal Military Academy were the property of the Ministry of Defence.

## TOPOGRAPHY AND GEOLOGY

The survey area slopes gently down towards the River Thames, from 70 metres above ordnance datum in the south to 50 metres above ordnance datum in the north. The underlying geology of the area is formed from ancient Thames river terraces and consists of London Clay in the south and the sandy Blackheath Pebble Beds to the north (Oxford Archaeology 2006, 6). The Common itself has been subject to substantial terracing and landscaping.



*Figure 3: An aerial view of Woolwich Common, from the south-east, demonstrating its gentle topography and its location south of the Thames. The Royal Military Academy is visible in the foreground and in the distance the Queen Elizabeth Hospital is visible to the left, the Rotunda is in the centre and the former Royal Artillery Barracks are to the right. NMR TQ 4377/40 (24470/02) 06-SEP-2006 © English Heritage.NMR*

## PREVIOUS RESEARCH

Woolwich Common is surrounded by numerous Listed Buildings, including the Royal Military Academy (Listed Building 200184 – main block), the Royal Artillery Barracks (Listed Building 200504) and the ha-ha south of Barrack Field (Listed Building 200402), though none are actually situated within the modern bounds of the common. There are also no Scheduled Monuments within the bounds of the common and no records of previous archaeological research or finds, though numerous historical accounts mention the common and the activities for which it was used.

Since 2000 a number of archaeological evaluation trenches have been excavated in locations where military establishments were built on land which was originally part of the common, specifically within the Royal Military Academy (GLSMR ELO8004) and also at the former location of the Royal Horse Infirmary / Remount Depot (GLSMR ELO463). None of these evaluations recorded any evidence for activity prior to the arrival of the military but both highlighted the potential for buried remains relating directly to the military use of these particular areas. The planned redevelopment of parts of the military estate in the area around the common is likely to result in further archaeological evaluations in the near future.

# WOOLWICH COMMON

## Documentary Evidence for the History of the Site

### Origins and Ownership

In a manner typical of many urban commons, the origins of the 'rights of common' for the parcel of land now known as Woolwich Common are difficult to establish, but in many cases these types of rights date to before the Norman Conquest (Bowden et al 2009, 18) and there is no reason to suggest that Woolwich Common should be any different. The origins of Woolwich Common as a geographically-defined area of land are also difficult to establish as, though Hasted (1797, 446-451) details the ownership of the manors of which the common was undoubtedly a part, references to the ownership of the common specifically, based on the secondary sources at least, only really appear in the beginning of the 19<sup>th</sup> century, after the Royal Artillery had arrived and when the area was finally sold to the Board of Ordnance via a series of Acts of Parliament beginning in 1802 (Vincent 1888, 391-2). It is possible that the land that now forms the common was agriculturally poor, as it appears to have been heathland (Parliamentary Archives FCP/2/327), and that any associated rights evolved due to its possible status as waste.

Patterns of ownership and use of common rights in urban areas can be extremely complex and vary between commons. Documentary sources examined during the research give a partial picture of the way in which Woolwich Common was exploited. Parish records from 1723 detail a right of 'estovers', which in Woolwich's case entailed the right to cut furze (or gorse) for the use of the poor, presumably for firewood (LMA P97/MRY/049). Other references from the mid-18<sup>th</sup> century also highlight concerns that encroachments on the common were having a negative effect on rights of 'pasture' (LMA P97/MRY/049). References dating to the early 19<sup>th</sup> century mention the rights to 'herbage' (presumably pasture) and 'turbarry' (turf-cutting) relating to Woolwich Common (LMA P97/MRY/050).

The purchase of the common by the Board of Ordnance may have occurred in stages with the area that was to become Barrack Field probably being acquired in 1773 from the Bowater family (P Guillery, pers comm). In 1803 the Board of Ordnance purchased the main part of Woolwich Common, which at that time was held under lease from the Crown by Sir John Shaw as part of the Manor of Eltham (Vincent 1888, 392; LMA P97/MRY/050). The Shaw family had been leasing the manor of Woolwich from the Crown since the 1660s (Hasted 1797, 446). The Board also purchased Charlton Common from Lady and Sir Thomas Maryon Wilson a year later, the reference also mentioning a watercourse that crossed the common and fed Charlton Park (Vincent 1888, 392) and which, it has been suggested, flows in brick culverts six feet below the surface (Anon 1956a, 3). Vincent also suggests that in reality the commons were not actually acquired until at least 1806. The fact that the common was part of the manor of Eltham at this time may reflect a decree made in 1702 that the "royal manor of Eltham extended over all and every part of the manor of Woolwich" (Hasted 1797, 449), though whether historically the common was part of Woolwich, Eltham or the Manor of Southall (also suggested to be in Woolwich) is unclear. It is clear, however, that the purchase of



Woolwich Common by the Board of Ordnance was not without its difficulties. The parishioners met to discuss encroachments on to the common in 1802, including one potential encroachment by the Board of Ordnance which wanted to extend Barrack Field (LMA P97/MRY/050), possibly to straighten the route of the ha-ha. In 1804 the parish of Woolwich went to court over its rights of common and was awarded £3000 in compensation, despite the Board of Ordnance trying to deny that the parish had rights to 'herbage' and 'turbury' earlier in the year (LMA P97/MRY/050).

Maps from the second half of the 18th century show the extent of Woolwich Common at this time (Figure 4; Hasted 1797, 338). The common stretched from the approximate location of Barrack Field in the north to the London to Canterbury road (originally Watling Street Roman road – NMR 1043145 / LINEAR349) in the south, the apparent small extension beyond this line being Eltham Common. To the east it included the area where the Royal Military Academy was later to be built and to the west it became Charlton Common and stretched over the modern Hornfair area. At this date a number of buildings can also be seen encroaching on to the common.



Figure 4: An extract from Andrews, Dury and Herbert's 1769 map of Kent showing the extent of Woolwich and Charlton Commons prior to the arrival of the Royal Artillery in the 1770s. (Bexley Local Studies and Archive Centre)

### **Military training**

Woolwich Common would have been an important training ground for troops from the earliest days of the military presence in the area. It seems that mortars, being developed at the Royal Arsenal, were tested on the common as early as 1728 (TNA:PRO SP 36/9).

There is evidence that the common (specifically named as Charlton Common, though it may not have been differentiated at that time) was being used for artillery practice before the Royal Artillery barracks were built to the north, with instructions being given in 1772 to plant and repair hedges and the range to be grubbed up and cleared, ploughed and planted with grass seed (Gilman 2000, 3).

It is not clear exactly whereabouts this activity occurred, or whether it happened on the portion of the common that survives today, but it gives an indication of how the activities of the military may have significantly altered the topography of the common over the duration of its use. A 1777 reference to cattle on the common (Gilman 2000, 16) may also demonstrate the conflicting interests of the military and the land owners or commoners in the period before the military took firmer control of the area at the start of the 19<sup>th</sup> century.

The earliest reference to a firing range (assumed to be the mortar range) identified during the research dates to 1772 and appears to refer to a range that was located wholly on the common itself (Gilman 2000, 3). However in 1777 the Board of Ordnance requested a survey “for extending the Range as near the Barracks as was first proposed and to see what opening will be necessary by making a ha-ha in the Front Hedge to open into the old range” (Gilman 2000, 17). Further references later that year suggest the hedges were taken down and also that there was a cornfield between the barracks and the ‘old range’ (Gilman 2000, 17). The location of the cornfield mentioned is ambiguous but it indicates that the northern end of Woolwich Common may have been under cultivation at this time.

Whether the extension of the range led to the construction of the ha-ha between Barrack Field and the common is unclear but it would certainly have necessitated the removal of part of the hedge which divided the commons of Woolwich and Charlton along the parish boundary: a hedge appears to have been deleted from an 1804 plan showing the Ordnance Ground at Woolwich (Figure 5). This boundary apparently followed a watercourse (Burne 1935, 237).

By 1804 the Royal Military Academy was under construction on the eastern side of Woolwich Common (TNA:PRO MPH 1/244/1) and to the west parts of the common have been enclosed and the Veterinary Establishment (later the Royal Horse Infirmary) has been established. Clarke (2005, 16) states that the common was used as a practice area until 1859 (Skedd and Cole (2009a, 135) state 1855) when training was moved to Shoeburyness and by 1871 field artillery riding training had moved to Larkhill where there was more room to manoeuvre. This is backed up by a comment from Browell (2008, 148) who described the difficulties of training in Woolwich in the 1950s, stating that “The Common was very restrictive”. It should be noted however that some aspects of the RMA cadets’ training, such as sketching, continued into the 20<sup>th</sup> century unaffected by the restrictions of the common (Guggisberg 1900, 190).

A large hutted camp was established on the western side of the common, where the modern hospital is located, sometime prior to 1869 as it is depicted on the Ordnance Survey 1<sup>st</sup> edition 25 inch map of that date.





Figure 5: A map of 1804 showing the 'Ordnance Ground at Woolwich', including the mortar range and the hedged parish boundary between Woolwich and Charlton commons that would have needed to have been removed to extent the range over to the Barracks (The National Archives:PRO MPH 1/244/1). The Veterinary Establishment is also depicted along with the ha-ha before it was altered a few years later to follow a straighter course at its eastern end.

It was apparently used as cavalry barracks for most of the 19th century and shared stabling facilities with the Royal Artillery barracks (Timbers 2008, 77). The location of the cavalry barracks and the Royal Horse Artillery at Woolwich would have meant that horses were regularly trained and exercised on the common when the mortar range was not in operation. This continued well into the 20th century as horses were trained on the common for the coronation of King George VI in 1936 (Jefferson 1970, 306).

The 1869 map (Ordnance Survey 25 inch 1<sup>st</sup> edition) also shows the Royal Horse Infirmary to the south of the hutted camp, the Remount Stables to the south of the horse infirmary and what appear to be stables on the southern edge of the common next to the main road (Figure 6). Subsequently a Remount Depot was established in 1887 to the north of the hutted barracks and "its task was to acquire the necessary replacements (horses) and to train them for the task of drawing guns" (Clarke 2008, 38). This is shown on the Ordnance Survey 2<sup>nd</sup> edition 25 inch map published 1896 in the position where the soldiers' cottages had been demolished (see below). The barracks are marked as 'Hut Barracks' and the stables to the very south of the common have adjacent 'maneges'[sic] confirming their interpretation as stables. On the Ordnance Survey 3<sup>rd</sup> edition 25 inch map published 1916 the hutted camp is somewhat altered and

has been renamed the Shrapnel Barracks, the Remount Depot number two is located where the Royal Horse Infirmary was located and the Station Veterinary Hospital is located where the Remount Depot was originally established to the north. The Shrapnel Barracks were also used by the Artillery and the Women's Royal Army Corps (Greenwich Heritage Centre Woolwich Cuttings – Feb 1968) before being demolished in the 1960s.

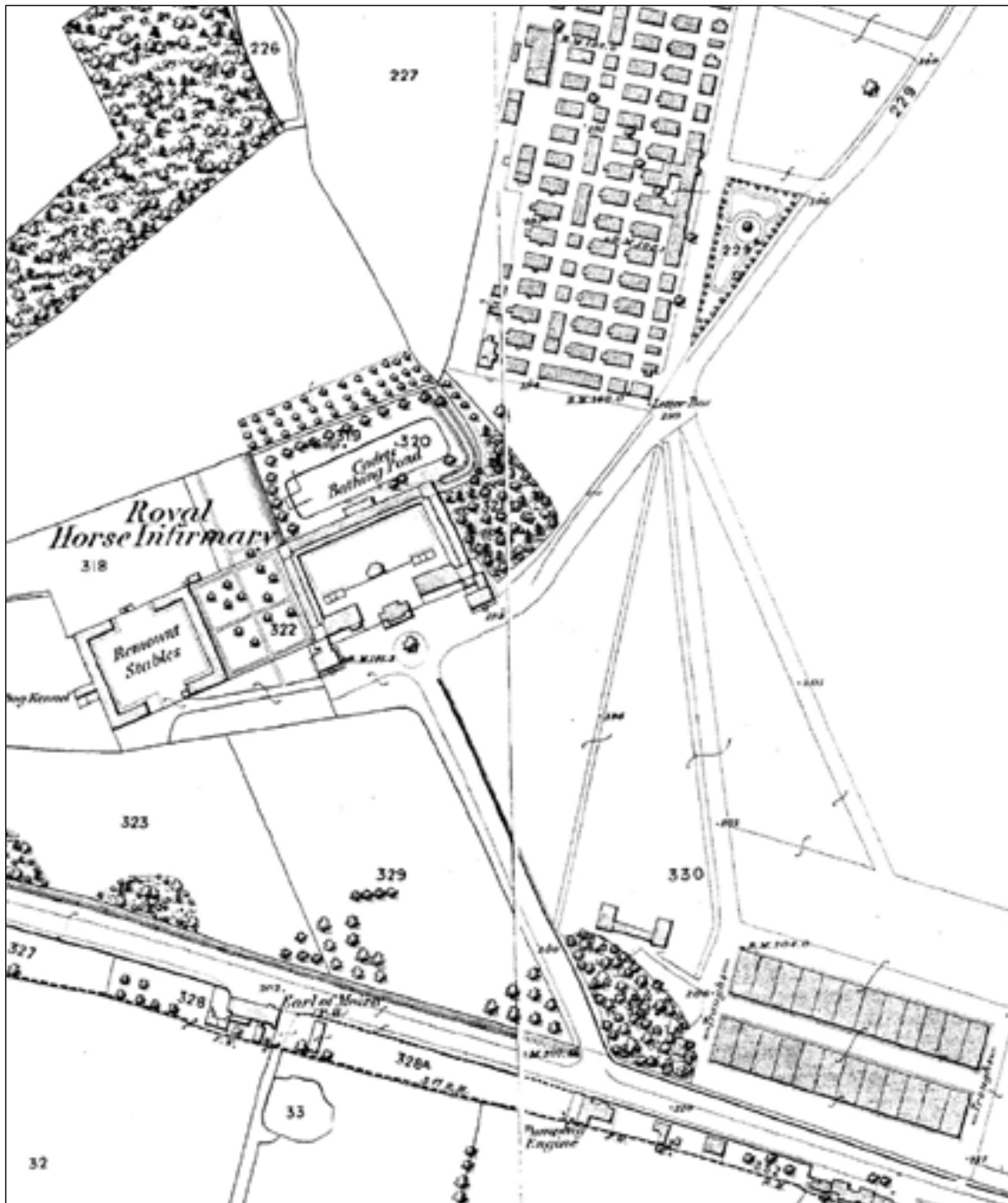


Figure 6: An extract from the Ordnance Survey 1<sup>st</sup> edition 25 inch map published in 1869 showing the Royal Horse Infirmary, hut barracks and stables at the western and southern sides of the common. The road which crosses the bottom of the map is the modern Shooters Hill Road.

The continued presence of the military at Woolwich into the 20th century led to the continued military use of the common. The common, for example, was the location for naval kite trials by SF Cody on the 12th and 13th March 1903 which involved flying an eight-foot black silk kite and a seventeen-foot calico man-lifter kite watched by representatives of the Admiralty (<http://www.sfcody.org.uk/kites.html> 25 Aug 2010). These kites were intended to be used for military observation and wireless telegraphy and, as the activities on Woolwich Common were not traditionally related to the work of the Royal Navy, it can only be assumed that Captain Reginald Tupper (Assistant Director of Naval Ordnance), who reported on the display, was based at the Royal Arsenal. As was the case during the Napoleonic wars, the common was often put to practical use at times of conflict. At the start of the First World War in 1914, two service Batteries were encamped in a provisional depot on the common before they were sent to Cambridge Barracks (TNA:PRO WO 95/5457). It is tempting to speculate that, if it was in fact dug for practice purposes, the large trench visible today as an earthwork on the common (see below) may be a result of this encampment of troops. These batteries of troops may be what Jefferson (1970, 80) describes as “the great host of volunteer army camped on the common” in the same period and an artillery train is captured on a 1915 photograph of the common (RAHT AL 445). It is possible that the huts visible to the west of the common shown on an aerial photograph of 1917 in the area where the Woolwich Stadium was later built (Figure 16) may have housed these troops.

### **Signals Experimental Establishment**

In 1916 the Signals Experimental Establishment (SEE) was relocated to the northern end of the common, adjacent to Ha-ha Road. The establishment originated in 1914 “when the Army set up an Experimental Wireless Telegraphy Section of the Royal Engineers” (Bud and Gummatt 1999, 19). The SEE worked closely with the Inspectorate of Royal Engineers Stores located at the Woolwich Dockyard and, from the end of 1914, tests on radio devices known as ‘Spark Transmitting Equipment’ where undertaken in a mobile van known as a ‘Star Car’ which was ‘permanently parked on Woolwich Common’, the location of the van probably playing a part in the permanent relocation of the SEE to the edge of the Common in the spring of 1916 (Franey 1964a, 25). The establishment appears to have initially been housed in a ‘hatted camp’ built on the edge of Woolwich Common (TNA:PRO WO 32/3658).

During the First World War the staff of the SEE at Woolwich Common were involved in the development of inter-aircraft communications. Franey (1964a, 44) states that the first successful system for communication between aircraft (the Wireless Telephone Mark II) was developed at the Woolwich Common site and was used in France by the Royal Flying Corps. The SEE were also working to improve ground communications in the field and the final designs for a new field telephone allowing communication by speech and by buzzer were developed at Woolwich Common in late 1916 and were followed by the development of the ‘Fullerphone’, a secure field telephone which was still in use in the Second World War (Franey 1964a, 44).

After the First World War, some of the staff left to work in industry or fulfil an academic career, whilst one member of staff, PP Eckersley, was eventually appointed the first Chief

Engineer at the BBC (Franey 1964b, 22). However work continued at the SEE including the development of sound location as a way of detecting approaching aircraft, which would eventually be replaced by Radar. The work on sound location was almost certainly carried out under the auspices of the Acoustics Branch of Air Defence which was located on the site between 1919 and 1925 (TNA:PRO WO 32/3658). The research was conducted under the direction of Major WS Tucker and involved the construction of a 'concrete disc 20ft in diameter with a sound-proof underground shelter alongside' at the Woolwich Common site (Franey 1964b, 22). This disc was probably constructed in late 1919 as it was under test in January and February 1920. It was the first experimental version of an 'acoustic disc', which were intended to be laid on the ground horizontally and designed to track the movement of aircraft overland via a microphone in the centre of the dish. Work on these systems appears to have been rapidly relocated to Biggin Hill (Dobinson 2000a, 13-14) and the disc itself was demolished in 1934 (Franey 1964b, 23).

Other SEE work in this period included continuing research into wireless telegraphy and crystal oscillators for radio sets (Franey 1964b, 23). By 1926 the SEE was working on the No1 radio set which used 'radio telephony and wireless telegraphy' and was 'the first to be designed to work on the move'. Staff were also working on early echo location systems and, in 1931, submitted a report on what was to eventually become Coastal Defence Radar, to be told they could only work on it 'after hours' (Franey 1964b, 38). The establishment had a staff of around 100 in the early 1930s (TNA:PRO WO 32/3658) and at that date it undertook work on radio communications between different parts of the army as well as,

"internal and external communication of tanks; the special communications required by Artillery; Direction Finding and Intercept apparatus; secret wireless and cryptograph machines; apparatus to eliminate Morse; facsimile transmission; jam-proof wireless" (TNA:PRO WO 32/3658).

A decision was taken to close the Woolwich Common site in 1931, though this was reversed due to problems with alternative sites (Franey 1964b, 38). Subsequently, in the early 1930s, the rebuilding of the site was extensively discussed (TNA:PRO WO 32/3658). Proposals at this time included the expansion and repositioning of the establishment closer to the western edge of the common, though these suggestions seem to have been dropped after concerns were raised about the loss of both the open space and the military training area provided on the common (TNA:PRO WO 32/3658). Finally the War Department appear to have taken the unilateral decision to rebuild on the existing site in 1934 (TNA:PRO WO 32/3659). A plan of 1934 marks the buildings that are to be retained (TNA:PRO WO 32/3659) and most of these buildings can be seen on aerial photographs from 1944 and 1945 (RAF I06G/UK/916 6050 11-OCT-1945; see Figure 7). A photograph album of the Woolwich Common site from 1956 (held at AWE Aldermaston) gives some clues to the nature of the material used to construct some of the pre-1934 buildings. Most of the buildings to be retained appear to have been located in the south-western corner of the site and include: Building E, the then Drawing Office, which was brick-built with a north-light roof and weather-board panels; Building F, a garage that was constructed of brick piers with weather-board panels but which had a curved-profile roof; Building G which was then the main workshop, brick-built with three north-lit bays and wooden panels and Building H, which had a curved

roof and was made of concrete panels or breeze-block (AWE Aldermaston Woolwich Common Album; Franey 1964c, 27).

The Woolwich Common photograph album also shows details of some of the building built in 1934. The buildings known as A, B and C were completed in 1934, as well as a garage where radio sets for tanks were installed and tested (Franey 1964b, 38). Building A had a distinctive elongated plan with a central block and two angled or 'canted' wings at either end (see Figures 7 and 8). The central block had a second storey and a central entrance porch as well as two stair towers at either end of the second storey. It was brick-built in a 1930s modernist style with a flat roof, crittal windows and concrete lintels and sills and was by far the most striking building within the compound. Buildings B (see Figure 18) and C were also brick-built in a similar modernist style with flat-roofs and large crittal windows. Building C also had decorative brick 'quoining' and band above the windows. The boiler-house (Building V) was also brick-built but with a pitched roof and a chimney. Building I appears to have been a large corrugated-metal shed with a pitched metal sheet roof, side windows and sky-lights (AWE Aldermaston Woolwich Common Album; Franey 1964c, 27). The garage mentioned above was probably the most northerly two bays of the four-bay north-light building which survived on site at the time of writing this report and which was subsequently known as Building N based on Franey's (1964b, 38) description.



*Figure 7: The former Signals Experimental Establishment on Woolwich Common in 1945. North is to the top of the photograph. Ha-ha Road is visible running from left to right at the top of the frame. Buildings dating from the 1934 rebuild, as well as earlier and later buildings, can be seen. The unusual elongated plan of Building A is clearly visible, as is what appears to be a protective blast wall around Building B, suggesting delicate instrumentation was stored within. (RAF 106GIUK/1916 6050 11-OCT-1945) English Heritage (NMR) RAF Photography.*

There was some contraction in activity at the SEE until the outbreak of the Second World War (Peters 2005, 9), caused in part by the transfer of staff to work on experimental radar at Bawdsey and Orford Ness, Suffolk in 1938 (Franey 1964c, 26). By 1940 the staff at Woolwich had begun new work developing walkie-talkie sets and mobile radio stations. Other activities based at Woolwich Common during the Second World War included Enemy and Allied Equipment which translated 'foreign technical data' (Franey 1964c, 26). However frequent air raids were disruptive to the work of the establishment and on 3rd March 1941 most of the staff at Woolwich were transferred to Warnham Court, Horsham, Surrey. Franey (1964c, 26) notes a series of incidents following the departure of these staff including incendiary bombs destroying the Welding and Carpenter's shops on the 20th March 1941, an officer being killed by a bomb outside the police lodge a month later and a lucky escape from a 1000lb delayed action bomb which was defused by bomb disposal engineers.

Eventually, in May 1943, most of the staff from SEE were moved from Woolwich (and Warnham) to Somerford near Christchurch in Hampshire and the SEE was renamed the Signals Research and Development Establishment (SRDE). The Woolwich Common site was taken over by a new group, the Radio Production Unit (RPU), which was tasked with undertaking 'urgent first off production runs' for the SDRE and the Air Defence Research and Development Establishment (Franey 1964c, 26). Franey (1964c, 26) suggests the site had 350 personnel at this time and was involved with the production of crystal oscillators and the development of 'echo boxes' and the Radio Fuse. A small robust walkie-talkie was also produced which was 'parachuted into Norway for use by the resistance movement' (Franey 1964, 27). Perhaps more unusual was the work of the unit on a device to plot the course of flying bombs to locate their launch sites which, Franey stated in 1964 (27), had an extremely large plotting table using the 'biggest sheet of Perspex ever produced in this country'.

Finally, towards the end of the war, the RPU was involved with work relating to the German V2 rocket and staff members from the group were sent to Germany as part of Operation Backfire to research the electrical control system from the rocket, as no complete rocket had fallen into British hands. The staff from the RPU then transported a full mobile rocket station back to Woolwich Common where it was thoroughly examined (Franey 1964c 27, 28). Despite this important work the Radio Production Unit was closed a few months later on 31st July 1945. The Royal Electrical and Mechanical Engineers used the site as a vehicle workshop for two years but it was then left empty (Franey 1964c, 28).

### **Atomic Weapons Research Establishment**

In 1949 the organisation that would become Atomic Weapons Research Establishment (AWRE) Woolwich Common took over the site (TNA:PRO ES 1/1420). The purpose of AWRE Woolwich Common was to provide engineering facilities "to assist in the development and production of electronic, electro-mechanical and light mechanical assemblies associated with weapon design and home and overseas trials instrumentation" for the British nuclear weapons programme (TNA:PRO ES 1/1420), which could no longer be accommodated at Fort Halstead, Kent (Franey 1964c, 28). This included the

early development phases of Britain's first atomic bomb, Blue Danube, the establishment carrying out vital work on the fuses and firing circuits for nuclear bomb trials. The facilities were particularly important because production of electronic components for nuclear weapons could not always be carried out rapidly or securely by industry (or the components needed were too specialised and too limited in number). Therefore the Woolwich Common site was set up as the AWRE's "production" capacity (TNA:PRO ES 1/691). It was considered a particularly suitable location due to the quantity of "skilled and semi-skilled female electronic assembly labour" in the area (TNA:PRO ES 1/691), perhaps in part related to the Siemens factory which was also located at Woolwich. Recruitment was also made easier due to redundancies at the Royal Arsenal and the re-employment of staff who had formerly worked for the RPU (Franey 1964c, 28). The nature of the existing facilities may also have been appealing. The establishment was formally opened on 2nd January 1950 (Franey 1964c, 28) and on the 1st December of that year the staff complement was 155 (TNA:PRO ES 1/246). Nuclear weapons-related research was also being carried out at this time by the High Explosives Research team's Research Department, based at the Royal Arsenal East site.

Facilities at AWRE Woolwich Common included a machine shop, sheet metal shop, electronic assembly, woodwork shop and plastics shop for the production of plugs and sockets for high voltage circuits (see Figure 8). It also possessed extensive testing facilities, for temperature, pressure and vibration, high voltage DC and AC circuits, and an X ray machine. A small number of staff from the Explosives Inspection Department (EID), known as PI0 (W), also worked on the site and were solely responsible for the inspection of electronics components associated with the atomic work (TNA:PRO ES 1/1420).

In 1953 a series of new buildings and extensions were undertaken, amounting to £150,000 worth of modifications, such as redecorating of the old sheet metal shop to ensure that it was clean enough for electronics assembly, (TNA:PRO ES 1/691; TNA:PRO ES 1/272) building new mould and sheet metal shops, a boiler-house and an extension to the machine shop. The 1953 works were felt to be necessary in order that the development and production of 'numerous small parts' and 'precision items of novel design' could continue 'unhampered by the delays and restrictions necessitated by secret contracts' (TNA:PRO ES 1/272) and they appear to have been regarded as urgent; 'an important series of trials must start next year, and these trials require not only of the existing Woolwich Common facilities...but of the new facilities as well' (TNA:PRO ES 1/272 1st December 1952).

A photograph album from 1956, held at AWE Aldermaston, shows that by that date the site consisted of a variety of architectural styles, including those which relate to the 1934 rebuild of the SEE (TNA:PRO WO 32/3659), the 1949-50 arrival of the AWRE (TNA:PRO ES 1/691); and mid-1950s extensions of the facilities (Figure 8). However a series of pre-fabricated concrete panel Orlit-type huts (K – Interoperation Piecepart and Completed Detail Storage; L - Preselection Store; M – General Storage) were probably erected during the Second World War (Francis 1996, 220). The buildings constructed by the AWRE included a number of double height steel-framed, corrugated asbestos cement sheet sheds with pitched roofs and large windows (Building O –

Security Assembly Area, Functional Testing; P – Radar; Echo Box Testing Site; Q – Sheet Metal Shop; X – Mould Shop). These were known as Marston sheds and documentary evidence shows that at least some of these buildings (Buildings O, Q, XI) were erected in 1953 (TNA:PRO ES 1/272). Other buildings that were built by AWRE in 1953 (TNA:PRO ES 1/272) included J (Oil and Paint Store) and the western extension to N (Machine Shop and Tool Room), both of which had distinctive decorative protruding brick patterns on their facades. There were also a number of single storey brick buildings built in this period including T (Vibration Testing; IEME), W (Toilet Block), possibly R (Police Lodge) and S (Canteen) which had two bays with pitched roofs and a central water tower. French windows opened on to a terrace (AWE Aldermaston Woolwich Common Album; TNA:PRO ES 1/691; Figures 8 and 19) .

It is clear from the 1956 photograph album and other documentary evidence (AWE Aldermaston Woolwich Common Album; TNA:PRO ES 1/691) that the site was continuing to adapt and expand in the mid-1950s, also greatly expanding its staff numbers to employ 487 people (TNA:PRO ES 1/1420). The photographs show that new buildings are being constructed in this period and some buildings, such as the Steam Boiler House (Y) are being extended. Documentary evidence, including a map dating to 1957 shows different stages of building works for the site, demonstrates that there was considerable investment intended for the site at this time, including a proposal to extend its manufacturing capacity and expand the workforce to around 1450 (TNA:PRO ES 1/691). It is also possible that many of the earlier buildings were reaching the end of their useful lives; a cartoon depicting a flooded Machine Shop on a 'Stormy Day in August' in the October 1958 edition of AWRE News seems to suggest that the now 4-bay north-light shed (Building N) may not have been entirely watertight (Anon 1958, 39).

Though further details of the work being undertaken by AWRE Woolwich Common are not available, numerous editions of AWRE News provide an insight into the social aspects of the establishment. The newsletters contain numerous references to football, cricket, tennis and angling, the latter of which was undertaken at the Repository Lakes (Anon 1963, 23) which still hosted an angling club at the time of writing this report. Despite the proximity of the open ground on the common, it was felt that "Space is limited...for outside activities and the wicket for the midday cricket is usually the machine shop wall" (Anon 1956, 5). The management appear to have taken the provision of leisure facilities seriously however and the staff were later provided with hard tennis courts on site and cricket practice nets to the rear of 'A' building (Anon 1956, 5; Anon 1957, 6).

Despite the programme of expansion in the mid-1950s (TNA:PRO ES 1/691), by 1963 the facility was considered uneconomic, probably in part because the need for small quantities of electronic components for weapons was expected to be reduced with the ratification of the Partial Test Ban Treaty later that year and a reduction in the United Kingdom's nuclear weapons programme (TNA:PRO AB 46/10) and partly due to the local planning restrictions on the common. By July 1963 the decision had been taken to close the site (TNA:PRO AB 46/10). It was suggested at this time that the site be demolished in order to restore this area of the common to 'its function as open space' (TNA:PRO AB 44/6) though this seems to have been considered a waste of the numerous permanent buildings that were located on the site and reuse by the Ministry



of Aviation, who were already located on part of the site, or by Royal Engineers and Mechanical Engineers was mooted (TNA:PRO AB 16/1890). The AWRE finally left the site in April 1964, marking the occasion with a 'Great Closing-Down Ball' (Anon 1964, 19).

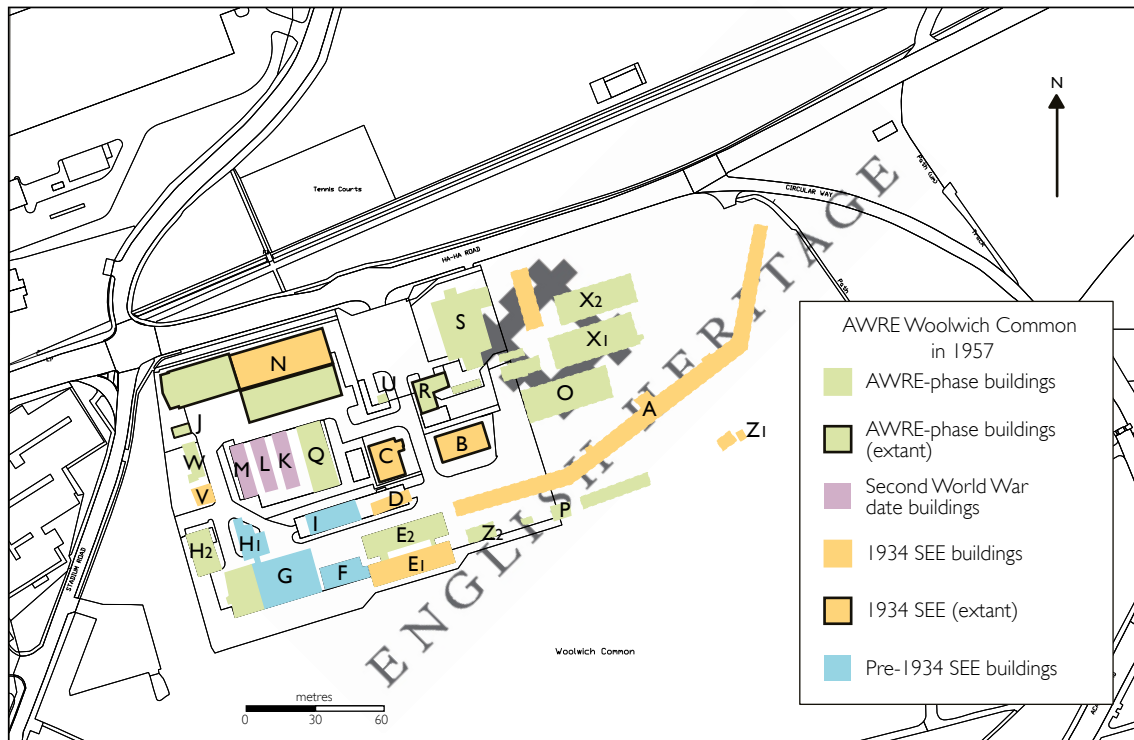


Figure 8: The AWRE Woolwich Common site in 1957. The diagram indicates, as far as possible, in which of the site's phases the buildings originated and which survived at the time the research was undertaken. In 1957 the functions of the buildings were listed as follows (TNA: PRO ESI/691): A - Senior Staff, Administration, Production Control, Drawing Office, Planning, Laboratories, IEME Staff; B - Surgery, Contracts Office, IEME Drawing Office; C - Goods. Receipt and Dispatch, Inspection; D - IEME Office and Storage (replaced by building 10/10 in 1960, see Figure 19); E - Raw Material Store; E2 - Electronic Components Store; F - Woodwork Shop; G - Electronic Assembly; H - Sheet Metal (Heavy Machines), H2 being a replacement for H1; I - Paint, Shot Blasting, Degreasing (replaced by building 10/10 in 1960, see Figure 19) ; J - Oil and Paint Store; K - Inter-Operation Piecepart and Completed Detail Storage; L - Preselection Store; M - General Storage; N - Machine Shop and Tool Room; O - Security Assembly Area, Functional Testing ; P - Radar, Echo Box Testing Site; Q - Sheet Metal Shop; R - Police Lodge; S - Canteen; T - Vibration Testing, IEME (not located on plan); U - Transformer House; V - Boiler House (Hot water); W - Toilets; X1 - Mould Shop; X2 - IEME Headquarters; Y - Steam Boiler House (not located on plan); Z1 - Site Maintenance Workshop; Z2 - Tool Shed. (©Crown Copyright and database right 2011. All rights reserved. Ordnance Survey Licence number 100019088)

In a similar manner to when the Royal Artillery began to use Woolwich Common in the late 18<sup>th</sup> century, the relations between the military and the local inhabitants in the 20<sup>th</sup> century regarding the use of the common remained complex. In 1928 a committee was formed to preserve Woolwich Common for the use of its citizens (Parliamentary Archives FCP/2/327) which aimed to facilitate use of the land by both the military and the local community. The committee noted that the space available on the common

had been halved due to the activities of the War Office since 1908 and it is possible that it is to this period that Jefferson (1970, 213) is referring when he comments on the restricted use of the common due to the military presence saying that “their hold over Woolwich Common remained as tight as ever. Footpaths were closed, buildings erected, the public were denied access to this and that part and, once a year, barriers guarded by Military Police were put up to remind all and sundry that the common was the private property of the War Department.” It is possible that some of these restrictions were in place when the Second World War anti-aircraft battery was in position on the site (see below). Jefferson goes on to state that “it is generally conceded that Woolwichers have no rights at all there as commoners” (Jefferson 1970, 213) and that policemen regularly stopped children playing on the common. A letter from the Woolwich Common Joint Committee to the War Office dated February 1930 (Parliamentary Archives FCP/2/327) notes that training and parades were still occurring at that time but that the southern end of the common preserved ‘original heathland flora’ and that it is ‘rarely used for drill and only occasionally for parades’.

### **Other uses of the Common**

A number of uses of the common, such as for turf and fire-wood cutting, have been noted above. Cartographic evidence exists for small-scale quarrying in the north-west and north-east corners of the common from the early 19th century, as well as in an area just to the north of the RMA (TNA: PRO MPH 1/189/1; TNA:PRO MPH 1/189/4; GLSMR MLO72874; Figure 9). Small-scale quarrying is likely to have been undertaken over a long period and over an extensive area. Often it is not clear if the commoners held the right of ‘common in the soil’ to extract sand or gravel or whether it was retained by the land owner or leasee (Bowden et al 2009, 34), though a reference to the removal of soil from the common in 1745, mentioning Lady Shaw’s (owner of the common at this date) ‘right to this soil’ (TNA:PRO ADM 106/1038/57), suggests that in the case of Woolwich Common the land owners retained some rights. By 1764 the Navy were removing clay from the common (TNA:PRO ADM 106/1137/231), possibly for brick-making. By 1803 the Board of Ordnance owned and exercised rights over the common and may have been extracting sand or gravel for their own purposes. The quarry in the north-western corner of the common is possibly marked as ‘to be filled’ on a map of 1811 (TNA:PRO MPH 1/32/1), though this does not seem to have occurred as the gravel pit is still marked on the Ordnance Survey 25 inch first edition map of 1869 and by the 3<sup>rd</sup> edition of 1916 what remains of the quarry is in use as a ‘miniature rifle range’.

Maps of 1808 (Figure 9) and 1810 (GHC) show a line of huts running north to south along the western side of the Common. These were mud huts built, with permission, by the soldiers themselves and housed artillerymen and their families as married quarters were not provided in the barracks (P Guillery, pers comm). However it was felt that the huts were obstructing the artillery exercises and two new rows of single room brick cottages were constructed by the military in 1812 to replace the mud huts, providing a total of 100 rooms. A map of 1811 (TNA:PRO MPH 1/32/1) also shows a line of proposed new huts parallel to what is now Ha-Ha Road.



Figure 9: A map dated 1808 showing the position of the original soldiers' huts built on the north-west corner of the common and the gravel pit which, in the early 20th century, was reused as a 'miniature rifle range' (The National Archives:PRO MPH 1/189/4)

By 1832 (TNA:PRO MPH 1/65/4) two lines of huts are shown in the extreme north-western corner of the common which are marked as 'Married Soldiers' Huts' and are described as 'cottages' on the 1851 map (TNA: PRO WO55/3034). These are almost certainly the huts described, erroneously, by Vincent (1888, 397) as rebuilt by Dowager Lady Wilson in brick and known as the "Duke of York's Cottages". The later brick cottages were apparently demolished in 1875 due to their unsanitary nature (Vincent 1888, 397; Ordnance Survey 25 inch 1<sup>st</sup> edition published 1869 and 3<sup>rd</sup> edition published 1896) though according to *The Builder* (18<sup>th</sup> March 1876) the cottages are still awaiting demolition in 1876 after they were vacated following an 'epidemic fever'. Despite this, and certainly by the start of 20<sup>th</sup> century, "The common was highly respectable" as a place to live, with desirable properties being located along the road at the eastern side (Jefferson 1970, 86) many of which were occupied by officers (P Guillery, pers comm). There are buildings shown on the eastern boundary of the Common on 18<sup>th</sup> century maps and through these map and documentary references it may be possible to identify areas with the potential for the survival of buried archaeological remains.

Immediately to the south of the common, at the other side of the London to Canterbury road, two hospitals were built in the 19<sup>th</sup> century. The first was the Royal Herbert Military Hospital built between 1859 and 1865 by Captain Douglas Galton RE (NMR 544110 / TQ 47 NW 146). The second was the Brook Fever Hospital (NMR 1354891 / TQ 47 NW 143) which opened in 1896 and was, possibly intentionally, located in a fairly isolated position close to the Common, as were many institutions of a similar nature (Bowden et al 2009, 62). The hospital was requisitioned during the First World War and became a general hospital in 1948 (NMR 1354891 / TQ 47 NW 143). The activities of the hospital seem to have encroached on to the common itself including new nurses' quarters opposite the Herbert Hospital built in 1928 (Jefferson 1970, 290) and the laundry opposite the Herbert Hospital (see Figure 10) shown on the Ordnance Survey 1<sup>st</sup> edition 25 inch map published 1869. The same map also shows the circular reservoir

which was built by the Kent Water Company in 1844 (TNA:PRO WORK 43/1314; Figure 14) to supply many of the institutions around the common and which is still extant. It is not clear whether this is the same reservoir alleged to have been excavated with convict labour in 1848 (Anon, 1956a, 3).



*Figure 10: The southern end of Woolwich Common in 2006. The Herbert Hospital is visible at the other side of Shooters Hill Road. To its right is the former site of the Brook Fever Hospital, now redeveloped for housing. NMR TQ4276/36 (24457107) 06-SEP-2006 © English Heritage. NMR*

*The Builder* (26<sup>th</sup> September 1863) notes that a drinking fountain is about to be erected on Woolwich Common and this certainly in place by 1869 when the Ordnance Survey 1st edition 25 inch was published. The drinking fountain, now Listed (LB 200403), survives at the junction of Ha-Ha Road and Woolwich Common road at the very north-east corner of the common and carries the inscription 'Robert John Little of Royal Marines, d.1861'. The story behind the inscription was not discovered during the research. In 1943, also in the northeast corner of Woolwich Common, a new nursery was opened to enable more mothers to go out to work (Jefferson 1970, 351). The site was still a nursery at the time of the survey and retains buildings typical of the Second World War period in which they were built. It was originally proposed that the nursery would accommodate 60 children and 18 staff (plans in Greenwich Heritage Centre).

Finally it is worth mentioning the scheme of Charles Blacker Vignoles which would have seen the route of his proposed London-Kent railway cut cross the northern end of the common, dramatically altering the landscape and the uses to which it could be put. The plan, which was developed between 1840 and 1847, never came to fruition due to the success of the competing South Eastern Railway scheme, but it is interesting to note that

Vignoles proposed placing the line in a shallow tunnel as it crossed the common so as to not interfere with the practice range (John Vignoles, pers comm; Dendy Marshall 1963).

### Events on the Common

The presence of the Royal Artillery in Woolwich has meant that the common has been the location for numerous reviews and manoeuvres over many years (Burne 1935, 236). Perhaps due to its proximity to London, it also became a favourite for Royal visits which appear to have started as early as the late 18<sup>th</sup> century when King George III ordered a parade on the common on 9<sup>th</sup> July 1788 (Timbers 2008, 95). Inevitably, as the presence of the military around the common intensified into the 19<sup>th</sup> century so did the Royal visits and reviews on the common itself, as Woolwich became a focus of royal and patriotic pride (Skedd and Cole 2009, 161). In the 1830s, King William IV inspected soldiers of the Royal Artillery and Royal Engineers on the common in 1830 and he reviewed nearly 3000 troops in 1835 (Bowden et al 2009, 45). Regarding the 1835 review at Woolwich, *The Times* described how “admirably adapted its extensive common is for the manoeuvres of large bodies of horse, foot and artillery; and also for affording comodious space to an immense assemblage of spectators” (*The Times*, 25th July 1835, 5). Vincent mentions a number of other royal reviews (1888, 420), including a Royal review on the accession of Queen Victoria on the 6<sup>th</sup> July 1838 where the “Artillery went through the manoeuvres of attack and defeat, and several rounds of cannon were fired” on the common (Vincent 1888, 422).



Figure 11: 'H.M. The King's Review at Woolwich, 1913' looking south-west – the Brook Fever Hospital water tower is visible on the horizon. Courtesy of the Royal Artillery Historical Trust AL 100/53

Woolwich was also a favoured place to show visiting royal dignitaries and the Prince of Orange, King of Prussia and Grand Duke Michael of Russia saw military displays on the common in 1836, 1842 and 1843 respectively (Skedd and Cole 2009, 162). Other reviews included a county review where “a sham fight took place on the Common and Barrack Field” (Vincent 1888, 427) and a Review of Kent Volunteers on Woolwich Common in 1864 (Vincent 1888, 428); this may be the same review that took place with the Royal Artillery and Marines and is shown in the *Illustrated London News* from 1866 (Bowden et al 2009, 44). It is pure speculation but ease of access on to the edge of the common for these type of events may have been the reason for the eventual insertion of



Circular Way into the north-eastern corner of the common at some time between 1869 and 1896 (publication dates of the Ordnance Survey 1st and 2nd edition 25 inch maps).

This tradition of Royal visits and reviews continued into the 20<sup>th</sup> century. In 1900 Queen Victoria visited Woolwich during the Boer War and “On the common the route was lined with veterans of former wars, boys from the Warspite and the naval schools at Greenwich and Mottingham, children from both the garrison and local schools” (Jefferson 1970, 32). On the 19<sup>th</sup> October 1904, the new monarch, King Edward VII “held a review of his troops on Woolwich Common and lunched at the RA Mess” (Jefferson 1970, 58) and in April 1913 King George V and Queen Mary undertook “a grand review of troops on the Common, with the RHA galloping about in traditional style, gentleman cadets at the Royal Academy performing gun drill at the double ..... On the common the king rode a charger in true kingly style” (Jefferson 1970, 121; Figure 11).

Other large gatherings also took place on the common without the presence of the monarch. Some of these were related to the major conflicts that were occurring at the time, such as the ‘special open-air services’ which were held on the common after the Versailles Peace Treaty was signed in 1919 (Jefferson 1970, 181). The memorial service for the fallen of the First World War that took place on the common in 1920 drew a crowd of 50,000 and was described as the “most inspiring site ever witnessed on the common” according to the local newspaper (Jefferson 1970, 182). Other events that occurred on the common included the lighting of beacons by the Scouts in 1935 to celebrate King George V’s Silver Jubilee (Jefferson 1970, 298) and a large Second World War civil defence exercise that was undertaken in January 1943 and which involved over a thousand participants (Jefferson 1970, 349). In more recent years, the common has been home to some of the Royal Artillery ‘At Home’ events for the public (Jefferson 1970, 290).

### **Sport on the Common**

Sports and recreation are typical uses of urban commons (Bowden et al 2009, 63-65) and Woolwich Common is no exception. The earliest reference to a sporting event held on the common noted during the research seems to relate to an Artillery cricket match that took place in 1765 (Salisbury 2008, 56). It is also clear that the common was used for horse racing in the 19<sup>th</sup> century. Vincent (1888, 417) notes that public races ended in 1827 and that polo matches also took place on the common (Vincent 1888, 465). However it is also noted that Regimental races, which were flat races, started again in 1841; apparently the course was “about a mile and a half round, with a hill in going out [presumably southwards], and a fair run in” (Burne 1935, 237) and the ‘judges’ post’ was the RMA (Marsh 1986, 108). No doubt the history of racing on Woolwich Common could be clarified with further documentary research.

In a letter to the Woolwich Gazette in May 1892 (Guildhall Library), it is recorded how the full extent of the common is available for public recreation, a situation that presumably was only possible after the abandonment of the mortar range for regular practice. This contrasts with the situation suggested by Jefferson (1970, 213) in the 20<sup>th</sup> century where access to the common is again restricted and the author of the letter in the Woolwich Gazette also notes that cricket and football are only allowed in an area

called Jacob's Corner (thought to be the area immediately south of the RMA) and how these activities are damaging the grass. Disputes over public access to the common appear to be a persistent theme in the common's history (P Guillery, pers comm). At the start of the 20<sup>th</sup> century, around 1905, Charlton Athletic football club were playing on Woolwich Common, an activity which apparently involved "carrying goal-posts a mile each way as part of the exercise" (Jefferson 1970, 123). This tradition of football matches continued when the Woolwich Stadium was built on the western edge of the common in about 1920 (Spurgeon 1996, 53). The Stadium, which housed 20,000 seated or 45,000 standing, was the brainchild of Major George Hamilton-Jones and was used for many sporting activities such as rugby, football, athletics, horse trials and show jumping (Timbers 2008, 94-94).

The stadium was most famous however for hosting the military tattoos (Peters 2005, 9). Jefferson (1970, 203) seems to suggest that the first tattoo was held around 1921 noting that it was attended by the then Prince of Wales and that it was "a good tattoo, very realistic with rockets, smoke, searchlight, tanks and guns". However it has also been stated that the first 'searchlight' tattoo (which may have differed from the earlier tattoos) was held in 1929 (Timbers 2008, 94). By the early 1930s "the military tattoo was still going strong, attracting crowds from near and far to the Stadium which was also used for football, sports meetings and other outdoor events" (Jefferson 1970, 290; Figure 12). The stadium suffered bomb damage during the Second World War (Timbers 2008, 94) though it continued to be used into the 1950s with Chelsea and Charlton football clubs playing "Metropolitan and mid-week league games on the football pitch through out the season" (Timbers 2008, 94-94). Many other adhoc events would have been staged on the common such as the modern circus is today.



*Figure 12: The 'Woolwich Garrison Searchlight Tattoo' around 1930. Courtesy of the Royal Artillery Historical Trust AL 418.*

## Aerial Photographic Evidence for the History of the Site

A Second World War Heavy Anti-aircraft Artillery battery (GLSMR MLO68283; NMR 1412604 / TQ47NW176), known as ZS8, is visible on 1944 aerial photographs centred on TQ 4277 7732 (RAF 106G/UK/LA30 4147 07-AUG-1944). Its associated domestic camp of Nissen-type huts, gun-laying radar and central command post are also visible.



Figure 13: The Second World War Heavy Anti-Aircraft Artillery battery on Woolwich Common in October 1945 (North is to the right of the photograph). The original octagonal, and two variations of later square, gun emplacements are visible as well as the hutted camp that supported the battery to the south-west (top-left) and the sub-circular mark left by the gun laying radar mat to the bottom (east). The oval outline of Woolwich stadium is also clearly visible at the top (west) of the photograph. (RAF 106G/UK/916 6087 11-OCT-1945) English Heritage (NMR) RAF Photography.



The battery appears to have originally consisted of four emplacements, which follow a design from March 1938 (Dobinson 1996, 117), and was, according to official documents, "armed with four 4.5-inch guns" (Dobinson 1996a, 402-405) which were first fired in anger on 23<sup>rd</sup> August 1940 (Peters 2005, 22). It was manned by 161 Battery of the 54th Royal Artillery Regiment in 1940, by 452 Battery of the 164th Royal Artillery Regiment in 1942, and by 579 Battery of the 155th (Mixed) Royal Artillery Regiment in 1943 (NMR 1412604 / TQ47NWI76). The battery was upgraded to eight gun emplacements in 1944, probably as part of Operation Diver to combat the V1 flying bombs. This appears to have occurred in two phases which are reflected in the differing forms of the new emplacements (RAF 106G/UK/916 Part II 6087 11-OCT-1945; Figure 13). A smaller gun emplacement is also visible on the north-eastern corner of the earthwork bank that surrounds the adjacent Woolwich Stadium. The site was retained as a Nucleus Force Headquarters Battery in 1946 by which point it had eight 3.7 inch guns (Dobinson 1996, 232). It has also been suggested that there was a battery of 40mm Bofors guns (Hamilton Jones 2008, 110). The whole site was completely levelled by 1955.

To the south of the battery a barrage balloon mooring site, with its ring of distinctive concrete mooring points, is visible at TQ 4267 7692, along with two associated huts which are located next to the circular reservoir (RAF 106G/UK/LA30 4147 07-AUG-1944). This is just one of a number of barrage balloon mooring sites in the immediate vicinity (see Barrack Field section). The site had been levelled by October 1945. Other features of note on and around the common include the remains of anti-glider ditches immediately to the north of the battery, which were probably established before, and became obsolete when, the battery was constructed (RAF 106G/UK/LA30 4148 07-AUG-1944; see Figure 13, immediately right (north) of the gun emplacements).

The historic aerial photographs show the Signals Experimental Establishment site on the northern edge of the common in great detail (Figure 7). As well as around 18 semi-sunken air raid shelters located within the grounds and a gun emplacement covering the entrance to the site (RAF 106G/UK/916 6050 11-OCT-1945) some of the buildings are also of note, particularly the central building with the outer concrete bund, probably protecting delicate or expensive equipment inside, and the long linear office building (A) on the eastern side of the site. The photographs show that some earlier buildings in the south-western corner of the site were retained as per the 1934 rebuilding plans (TNA:PRO WO 32/3659; see Figure 8). The zig-zag trench which survives today is also clearly visible (see below).

At the southern end of the common, between the heavy anti-aircraft battery and Shooters Hill Road, huge piles of soil are visible on the aerial photographs (RAF 106G/UK/916 6036-6037 11-OCT-45; Figure 14). The area has the appearance of a massive spoil heap with tracks across the area from trucks either dumping or removing material and represents, presumably, the "Thousands of tons of earth which, over the years, had been dumped on the Shooters Hill end of the Common" (Jefferson 1970, 391), apparently reused in the reconstruction of sea defences at Plumstead marshes after the devastating 1953 floods. This deposition of earth presumably commenced sometime after 1930 as it is not mentioned by the Woolwich Common Joint Committee in their letter to the War Office, despite the mention of the heathland vegetation in this part

of the common (Parliamentary Archives FCP/2/327). The area of deposition appears to respect the position of the gun battery, perhaps suggesting that the dumping of the majority of the material occurred during the Second World War, after the battery's construction.



*Figure 14: An aerial photograph taken in 1945 showing the south-east corner of the extensive heap of spoil which covered the southern end of Woolwich Common and the circular reservoir built in 1844 (RAF 106G/UK/916 6036 11-OCT-1945) English Heritage (NMR) RAF Photography*

The 1940s aerial photographs also show some interesting activity just beyond the western edge of the common in the grounds of the Shrapnel Barracks, including an extensive area of crenellated trenches which appear too fresh to be of First World War date and are therefore suggested to be emergency trench shelters (RAF 106G/LA/30 4146 7-AUG-1944). By October 1945, in the same area, eight rows of ten military bell tents are visible (RAF 106G/UK/916 6060 11-OCT-1945; partially visible on Figure 13). It also worth noting that despite the encroachment of the Signals Experimental Establishment, the heavy anti-aircraft artillery battery and the nursery on to the Common, even in the war years the north-eastern corner, close to the tennis courts, was cordoned off for cricket and football (RAF 106G/LA/30 4146 7-AUG-1944; RAF 106G/UK/916 6060 11-OCT-1945).

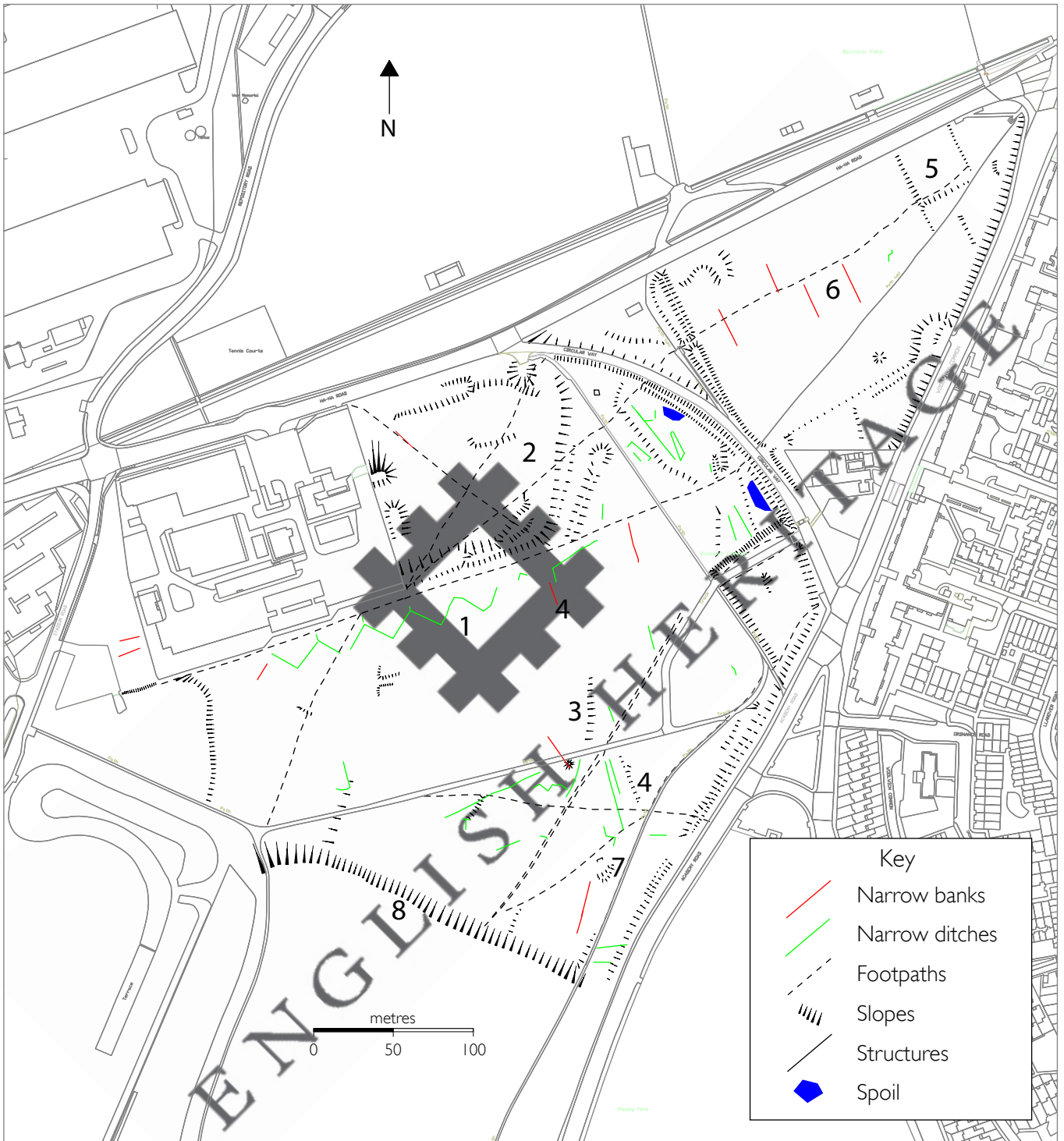


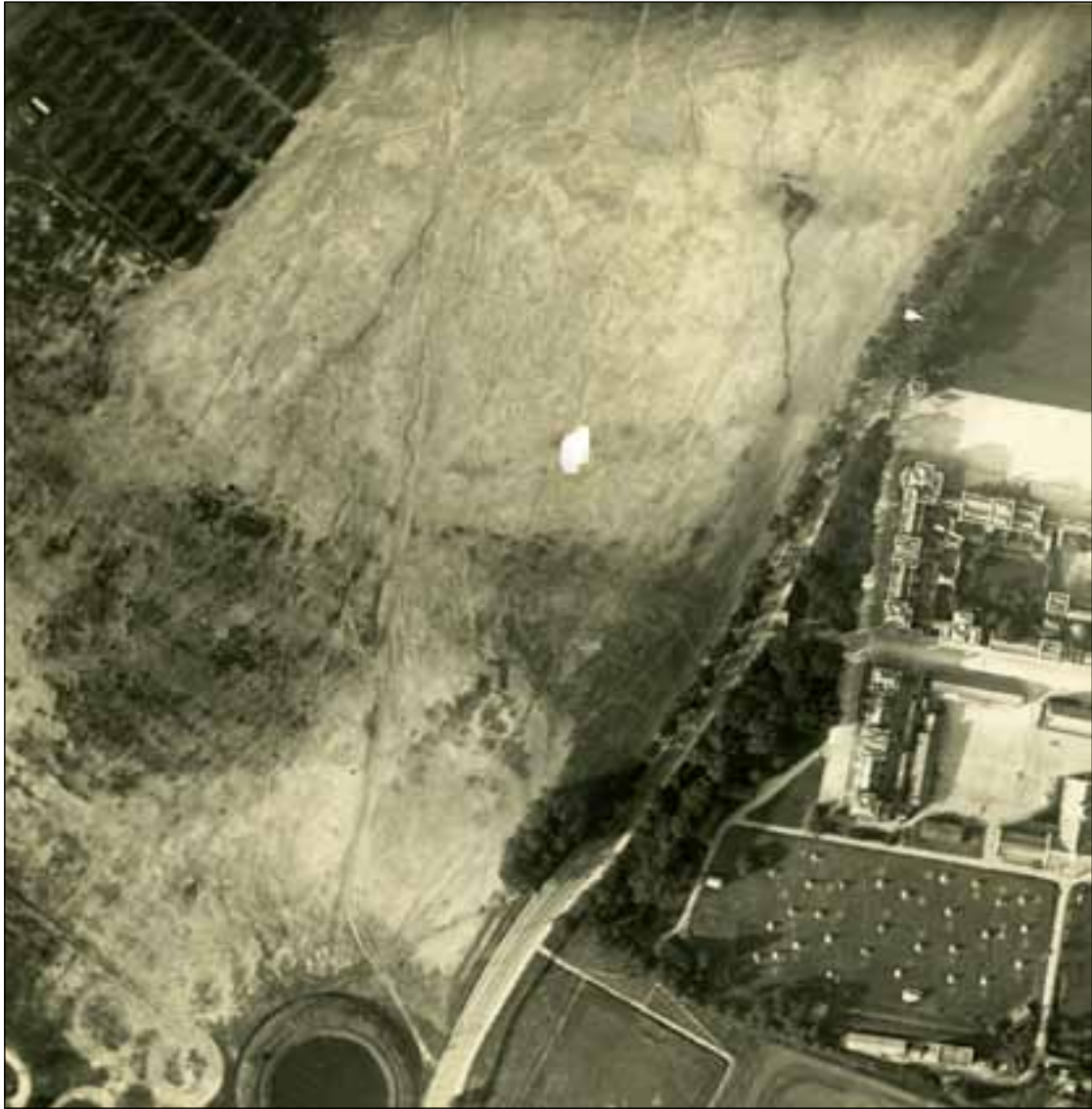
Figure 15: Earthwork remains of past activity on the northern section of Woolwich Common recorded during a rapid survey undertaken at 1:2500 scale (NB drawing not reproduced to scale). The numbers refer to features mentioned in the text. ©Crown Copyright and database right 2011. All rights reserved. Ordnance Survey Licence number 100019088.

## Description and Interpretation of the Remains

### Trench (Figure 15; I)

The most substantial historic feature recorded during the survey was a zigzag-shaped trench, centred on TQ 42857760, which runs for over 160m along the southern boundary of the former Signals Experimental Establishment/AWRE site (which remains, at the time of writing, in Ministry of Defence ownership) situated in the north-western corner of the common. The trench can be traced in the form of a grass mark and also as an earthwork in some places. It is on average 2m wide but 1944 aerial photographs (e.g. RAF 106G/UK/916 6050 11-OCT-1945) show that it was originally at least 3m wide. There are two possible interpretations for the trench. The first is that it is the remains of an emergency air raid shelter, built prior to the smaller semi-sunken shelters located within the complex (Figure 7), some of which survive (see below). It is worth noting that the 1939 code for industrial shelters recommended that trenches should be constructed in a zigzag plan to minimise casualties, in the process possibly reducing the spread of panic (Dobinson 2000, 70). The small extensions to the trench visible at the apex of some of the 'V' shaped bays may represent access routes into the trench. This interpretation appeared to be reinforced by the close relationship of the trench to the SEE site boundary and by a reference to troops filling in trenches they had dug on the common in the period of relaxation after the 1938 Munich Crisis and prior to the Second World War (Jefferson 1970, 321). It is possible however that the trenches being filled in were the 'anti-glider' ditches mentioned previously (see Figure 13), rather than the trench in question.

However, even in 1944, the trench has the appearance of having been dug many years previously (RAF 106G/UK/916 6050 11-OCT-1945). Therefore a second possible interpretation is that it is part of a First World War practice trench and its relationship to the SEE site boundary is either coincidental or reflects the prior existence of the compound (the SEE having been established in 1916) when the trench was dug. Sinuous linear patterns visible on aerial photograph of the common taken in 1917 (Figure 16) are reminiscent of fragmentary communication trenches and, when taken in combination with the zig-zag trench which survives an earthwork, are similar to patterns of First World War era trenches that have been recorded on Salisbury Plain (Brown and Field 2007, 173-177; McOmish et al 2002, 141). The appearance of the trench is typical as many trenches on commons are fragmentary; "only lines of what appear to be firing trenches have been discovered on most town commons, with few traces of communication trenches, shelter bays and other elements of a fully developed trench system" (Bowden et al 2005, 48). It is possible that troops camped on the common in the First World War were responsible for digging the trenches and it is not clear whether there were non-Royal Artillery troops, who may have been more likely to dig trenches, encamped at that time. However an original width of 3m as indicated on the aerial photographs seems very wide for a First World War trench and the trench shelter interpretation remains the most convincing.



*Figure 16: An aerial photograph taken in 1917 showing the common with the RMA to the east (right). The faint sinuous linear patterns visible to the north (top) are reminiscent of communications trenches, dating to around the First World War, recorded on Salisbury Plain. Temporary encampments, in the form of huts (north-west) and tents (south of the RMA) are also visible. (Courtesy of the Royal Artillery Historical Trust AL799 25-SEP-1917)*

### **Remains of Signals Experimental Establishment/AWRE site**

The eastern half of what was the Signals Experimental Establishment and later the AWRE site was demolished circa 1995 and is now visible as a series of earthworks, centred on TQ 42907770, close to the northern limit of the common (Figure 15; 2). These earthworks probably represent demolition rubble that was pushed towards the boundary of the site, though there may also be the potential for buried remains. Within the portion of the compound that remains there are at least two surviving semi-sunken air raid shelters, located on the southern boundary of the site, and the possibility of the buried remains of others (Figure 17).





Figure 17: The entrance to one of the surviving Second World War semi-sunken air raid shelters located on the southern boundary of the former SEE/AWRE site. Photograph: Derek Kendall 2010 DP093966 © English Heritage



Figure 18: Two surviving buildings which date to the 1934 rebuild of the former SEE/AWRE site. Though its original function is unknown, during the AWRE phase (1957) the building in photograph A (formerly Building B, latterly 10/17) was in use as a surgery, contracts office and drawing office (TNA:PRO ES 11691) . The two most northerly (background) bays of the north-light construction building in photograph B (formerly N, latterly 10/8), are thought to date to 1934, whilst the two southerly (foreground) bays probably date to the 1949/1950 arrival of the AWRE. The SEE used the building as a 'Tank Fitting Shop' and in the AWRE phase it initially housed 60 people involved in coil impregnating, polishing, moulding and winding (P Guillery, pers comm; LMA, GLC/AR/BR/26/WO/M/24/11-2: LBGPA). The main block was extended in the mid-1950s (P Guillery, pers comm; LMA, GLC/AR/BR/26/WO/M/24/11-2: LBGPA) when the building was in use as a machine shop and tool room (TNA:PRO ES 11691). Photographs by Derek Kendall DP093974 / DP093978 © English Heritage

The buildings that survived on site at the time of the research (the site is due to be cleared in order to create a 'ride out area' for the King's Troop when they arrive in 2011) fall into four broad phases: i) the 1934 rebuild of the SEE (TNA:PRO WO 32/3659), generally in yellow stock brick; ii) the circa 1949/1950 AWRE arrival (TNA:PRO ES 1/691); iii) another yellow stock brick phase, possibly relating to the AWRE mid 1950s expansion of the site; iv) modern prefabricated buildings, such as 'rover cabin' office blocks (Peter Guillery, pers comm; see Figure 8 for phasing of site as visible in 1957). Examples of the different types of construction can be seen in Figures 18 and 19.



Figure 19: Two buildings which date from the AWRE phase at the former SEE/AWRE site. The building in photograph (A), latterly known as Building 10/10, was built in 1960 under the auspices of G.W.Dixon, chief architect for the Atomic Energy Authority's Southern Works Organisation and also responsible for the 'pagoda' structures at Orford Ness amongst other buildings (Cocroft and Alexander 2009, 21). The building was used as offices. (P Guillery, pers comm; LMA, GLC/AR/BR/26/WO/M/24/1-2: LBGPA). Photograph (B) shows a small Oil and Paint Store (formerly Building J, latterly Building 10/6) built in 1953. Photographs by Derek Kendall DP093960 / DP093969 © English Heritage

### Other features on the common

The documentary and aerial photographic evidence demonstrates that the northern section of the common has been much disturbed and levelled for 20<sup>th</sup>-century recreational purposes and that the earlier impact of artillery (including horse artillery) training must have been substantial. The area is also criss-crossed with modern paths and narrow trenches, visible as earthworks or grass marks, which carry services across the common. Some of the slight linear banks and ditches may relate to earlier routes and boundaries on the common. One very slight bank, centred on TQ 4297 7755, may relate to the parish boundary between Woolwich and Charlton (Figure 15; 3) whilst another ditch, centred on TQ 4291 7750, may be the remains of one of the Second World War anti-aircraft ditches established on the common prior to the construction of the HAA battery (Figure 15, 4; RAF 106G/UK/LA30 4147 07-AUG-1944). Other linear

vegetation marks visible across the common appear to relate to drainage.

Rectilinear earthworks in the far north-eastern corner of the common (centred on TQ 43207788) are related to mid-20th century tennis courts (Figure 15; 5). These were probably built after 1916 when the Ordnance Survey 3rd edition 25 inch map was published, definitely before 1944 (RAF 106G/LA/30 4146 07-AUG-1944) and possibly prior to the early 1930s as they appear to be shown on a London County Council plan of that date (TNA:PRO WO32/3658). A series of very slight linear ridges, centred on TQ 43127781, in the very north-eastern corner of the common to the west of the tennis courts may relate to the levelling of this area for the football and cricket pitches, or possible cultivation, though this is unlikely (Figure 15; 6). A staple-shaped concrete feature, associated with a small crescent shaped earthwork, was recorded at TQ 42977746 (Figure 15; 7). Their function is unclear and, though they are not visible on 1940s historic aerial photographs, they could be related to the heavy anti-aircraft battery, or to later drainage or services on the common.

The more substantial scarps on the common, such as the one dividing the northern and southern sections, centred on TQ 42877743, appear to relate to relatively modern landscaping of 20th-century date (Figure 15; 8). The scarp dividing the two sections of common appears to have been created when the HAA battery was levelled in the early 1950s and was probably not a "crude 'stop-butt'" for the mortar battery as has been suggested (Timbers 2008, 47). A bank visible parallel to a path to the right (north) of the gun laying radar mat on a 1945 aerial photograph (Figure 13) is probably related to the levelling of the area to install the radar mat.

To the south of the substantial east-west scarp, the common was not surveyed due to the unsuitable vegetation conditions, though the extent of the earth dumping in the first half of the 20th century (see above) suggests that any archaeological remains that survive must be deeply buried. Dense vegetation meant it was difficult to assess whether the remains of any of the cavalry barracks stables, located at TQ 42467685, survive (see Ordnance Survey 1st edition 25 inch published 1869) though none were identified and aerial photographs show the buildings had been demolished by 1944. At least one of the stones marking the boundary between Woolwich and Charlton parishes in south-eastern corner of the Common remains in situ though it was not surveyed. Others may also survive but dense undergrowth made their location impossible. The earthwork bank of the circular reservoir, visible on the 1st edition Ordnance Survey map published 1869 (25 inch), is still extant, centred on TQ42787685.



## BARRACK FIELD

### Documentary Evidence for the History of the Site

#### Origins

Barrack Field is the open ground immediately to the south of Woolwich Barracks and for the purposes of this report will be taken to mean the area extending to Ha-Ha Road in the south, Repository Road to the west and Grand Depot Road to the east. Barrack Field, as it is so named on a map of 1803 (TNA:PRO MPH 1/180/003), was presumably created around the time that the first Royal Artillery barracks buildings were constructed to the north of the common proper, between 1775 and 1777 (Timbers 2008, 30-31) though its shape was clearly influenced by earlier enclosures. Barrack Field may have been one of the first pieces of common to be acquired by the Board of Ordnance and at least part of it appears to have been purchased from the Bowaters around 1773; their ownership of this area is shown on a survey of date probably associated with the sale (TNA:PRO MPH 1/562/001) which depicts a series of enclosed fields, though it is not noted whether these were in use as arable or pasture. The ha-ha dividing the common from Barrack Field was constructed before 1804 (TNA:PRO MPH 1/244/1) and, though references noted above (see 'Documentary Evidence' for Woolwich Common) suggest a ha-ha was built in the 1770s, this may not have been the brick-revetted structure that survives today. By 1808 the route of the ha-ha across Barrack Field had been altered to take the straight course it follows today (TNA:PRO MPH 1/189/4), possibly formally demarcating an area of the common that the Board of Ordnance had annexed in 1802 (LMA P97/MRY/050). A new hospital was built immediately to the east of the barracks in 1780 (Timbers 2008, 33).

#### Uses of Barrack Field

The area of Barrack Field has been levelled and therefore any earthwork evidence of earlier activity is likely to have been erased. When this levelling occurred is not clear but it does not seem to have been before 1791 when complaints were made about the unsuitability of the ridges when the regiment were on parade (Burne 1935, 234). It is possible that these ridges related to cultivation of the fields that existed here prior to the construction of the Barracks.

It is clear that the close proximity of Barrack Field to the Royal Artillery barracks led to regular use of the area in the many reviews and parades mentioned in the previous section of the report that focussed on the common itself (also see Burne 1935, 235) and it also seems that the open space that Barrack Field provided was brought into use in times of crisis, just like the common, as Jefferson (1970, 130) notes, during the First World War, "200 tents being pitched on the Barrack Field for the Royal Artillery alone".

Also in a similar manner to the common, Barrack Field was, and continues to be, used as sports fields. The Ordnance Survey 2<sup>nd</sup> edition 25 inch map published 1896 shows pavilions on the southern edge of Barrack Field and by the time the 3<sup>rd</sup> edition map was published in 1916, tennis courts are shown in the south-eastern corner of the field. This was apparently the officers' tennis club and was located on the site of the The Jolly

Shipwrights pub (Burne 1935, 236; TNA:PRO MPH I/562/001). These tennis courts were definitely in place by 1892 when they were described as 'well-kept' (Kentish Mail 3<sup>rd</sup> June 1892). Cricket has also been played on Barrack Field until modern times (Salisbury 2008, 56).

The historic Ordnance Survey maps show that, at least by the 1860s (Ordnance Survey 1st edition 25 inch published 1869), the open spaces around the common, and particularly Barrack Field, had been subject to some minor landscaping, with tree avenues and trees lining the edges of the open spaces, perhaps highlighting the emphasis placed on aesthetics in these areas despite their practical function, a feature particularly prominent in the landscaped grounds of the Royal Military Repository located to the north-west of the common (Newsome et al 2009, 32).

### Aerial Photographic Evidence for the History of the Site



*Figure 20: Barrack Field: The ditched route of a former road can be seen as parch marks on aerial photographs taken from the 1940s onwards, running from north to south across the western part of the field. Historic maps suggest that the road dates to the 18<sup>th</sup> century or earlier and was closed some time after Repository Road was constructed in the early 19<sup>th</sup> century. (RAF 58/26 I 5023 24-JUN-1949) English Heritage (NMR) RAF Photography*

A sinuous trackway, defined by ditches, can be seen as a parch mark running from north to south across the western side of Barrack Field on aerial photographs taken from the 1940s onwards, centred on TQ 43087802 (NMR TQ 4378/4 15157/14 02-SEP-

1994; Figure 20; 21, 1). A reference exists to one pre-barracks route-way, mentioned in Board of Ordnance minutes for 6<sup>th</sup> May 1777, being stopped to “permit the Front of the Barracks to be clear and open, for exercising the Men, and not to be cut by a road” (Gilman 2000, 16). However a number of roads were diverted or removed with the construction of the new barracks. It seems likely that the road mentioned in the Board of Ordnance minutes may be the ‘Road to Charlton’ marked on the pre-barracks map of 1773 (TNA:PRO MPH 1/562/001) running from east to west. The road visible on the aerial photographs as a parch mark appears to be that marked on a map of 1803 (TNA:PRO MPH 1/180/3) as ‘Road to be given up’. By 1808 Repository Road had been built to the west (TNA:PRO MPH 1/189/4) which eventually replaced the road. The ancient footpath from the parish church to the common, mentioned by Vincent (1888, 394), appears to be the footpath shown on the eastern side of what was to become Barrack Field marked as from “Woolwich Church to Cholick Lane” 1773 (TNA:PRO MPH 1/562/001).

A Second World War barrage balloon mooring site can be seen on aerial photographs in 1944 (RAF 106G/LA/30 4145 07-AUG-1944; Figure 21, 2), centred on TQ 4303 7812 on the western side of Barrack Field, and associated with four small huts. This is one of a number of barrage balloon sites visible in the local area (see section on Woolwich Common above).

Six discrete groups of open trenches are visible around the edges of Barrack Field in 1944 (RAF 106G/LA/30 4145 07-AUG-1944). Three are long trenches of crenellated or zigzag form (Figure 21; 3) and three appear to be clusters of slit trenches (Figure 21; 4). These are extremely clear and are therefore thought not to be First World War practice trenches as previously suggested, though it is possible that they were recut. The three long trenches may in fact have provided air raid shelter for the barracks, or more specifically, for people using the playing fields. Trenches of a similar form have been confidently identified at a naval training base in Suffolk (see Hegarty & Newsome 2007, 49), similar trenches are also visible at the edges of playing fields north of the Royal Military Academy (see below) and an open trench shelter is also one of the interpretations put forward for the trench earthwork on the common, immediately to the south of the SEE (see above). The trenches on Barrack Field may be those that were dug across the sports fields “anticipating the bombing” (Hamilton-Jones 2008, 111). The smaller groups of trenches may have been cut for practice purposes or as ‘make-work’. Parch marks of some of these trenches were photographed in 2006 (NMR TQ4378/51 24457/30 06-SEP-2006).

Aerial photographs from the 1940s also show a variety of types of sports pitches on Barrack Field including cricket and football pitches (RAF 106G/LA/30 4146 07-JUL-44; RAF 106G/UK/916 6110 11-OCT-45).

## **Description and Interpretation of the Remains**

Due to the levelling that has clearly taken place in the area of Barrack Field this area was not surveyed on the ground. However given that the use of the area has differed very little since the Second World War it is likely that the buried remains of the Second

World War trenches visible on the 1940s aerial photographs survive in some areas.

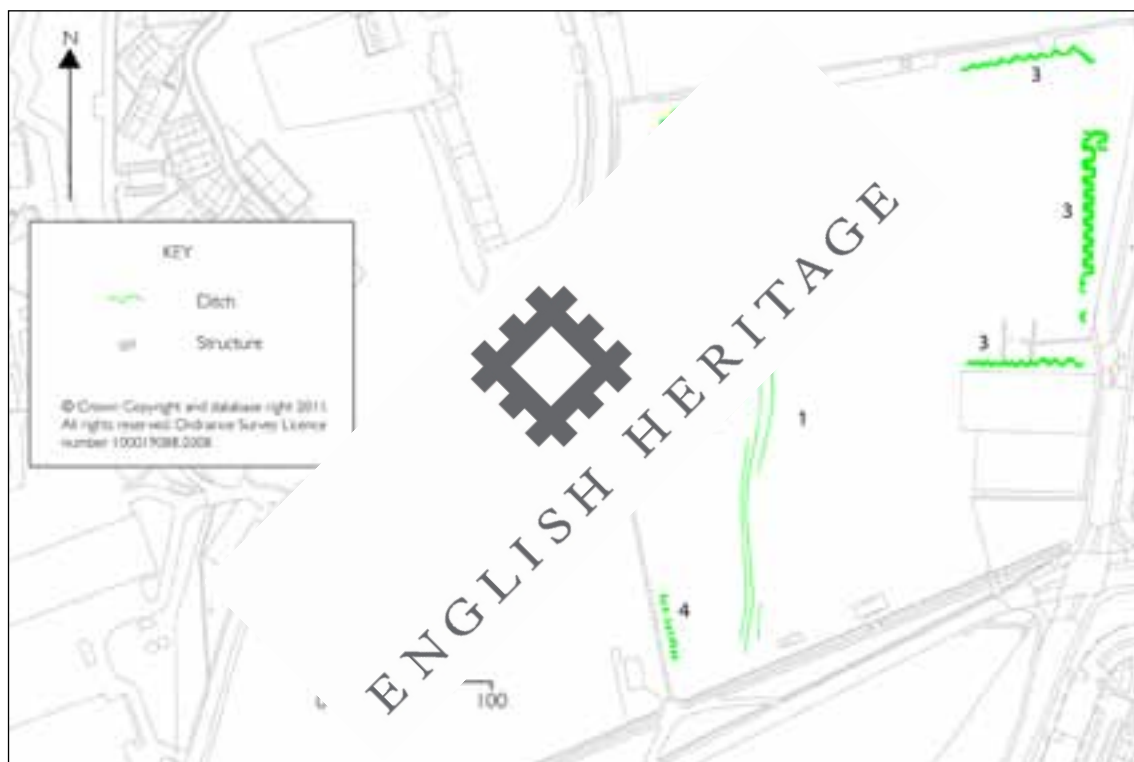


Figure 21: A Second World War barrage balloon and trenches visible on Barrack Field as transcribed from 1940s aerial photographs. NB Not to scale.

## MORTAR BATTERY

### Documentary Evidence for the History of the Site

The mortar battery, which was located just to the west of the Repository Road at TQ4292 7817 in the area known as the 'gun park', is first shown on a map of 1803 (TNA:PRO MPH 1/180/003), though the discussions of the extension of the 'range' noted above suggest that it may have been put in place in the 1770s, a move which necessitated the removal of the hedged boundaries in front of the barracks and/or on the common itself (Gilman 2000, 17). It has also been suggested that the road from Charlton to Woolwich via Little Heath and Hill Reach was laid out because the road from Charlton that ran across the common was often closed due to artillery practice (Spurgeon 1996, 11). Documents from 1803 (TNA:PRO WO 47/2574 21/2/1803) apparently "record the purchase of wood, to be made into gabions and fascines by the garrison for the purpose" (Burne 1935, 238) of constructing the battery and an earlier range may have been a temporary construction.



Figure 22: Extract from a plan of 'Observatory, Lobby Store & c, Woolwich' surveyed by Lieutenant Colonel Bayley of the Royal Engineers in 1866, showing the Drill Ground including the mortar and saluting battery. Courtesy of the Royal Artillery Historical Trust.

A map of 1808 (TNA:PRO 1/189/4) appears to show guns in front of, as well as inside, the battery. Maps from the mid-19<sup>th</sup> century depict the battery in some detail (Ordnance Survey 1<sup>st</sup> edition 25 inch published 1869; Timbers 2008, 47; Figure 22). The battery is surrounded by an earthwork traverse in the shape of a half-octagon. Within the battery seven small mortar positions are visible, with the six, slightly larger, positions of the Saluting Battery located to the south (another row of five platforms is also visible to the north-west). This arrangement may have allowed the guns of the Saluting Battery to remain permanently mounted and not interfere with gun practice at the mortar battery. The flagstaff depicted may have signalled imminent firing of the mortars.

A colour print dated 1840 shows the battery in action with six emplacements and spectators looking on (Timbers 2008, 47; Figure 23). On this drawing a firing-step is clearly shown on the traverse. This would have been unnecessary for a mortar battery but those constructing the battery may have been following the conventions of the time for these types of fortifications.



Figure 23: 'Practice, 1847' at the mortar battery on Woolwich Common. Courtesy of the Royal Artillery Historical Trust AL 100/19

The mortar range is marked on a number of maps, stretching to the southern edge of the common (e.g. NMR WORK 43/747), with the "target being a flagstaff, at a fixed spot and a known range, varying between 850 yards and 1250 yards" (Burne 1935, 238). Vincent (1888, 417) notes the dangers of firing shot on to the common and in 1935 Burne noted that "only a few years ago, when foundations were being dug for new buildings at the south end of the Common, a 3-cwt cannon ball was dug up" (Burne 1935, 237). It is not clear how the practicalities of using the mortar range were integrated with the common's other uses. In 1846 it is described as a mortar and howitzer battery "where, in the summer, practice may be seen going on every Monday, Wednesday and Friday, as early as half past nine in the morning. At eight hundred and fifty yards distance on the common, stands a flag-staff; this is the object aimed at, and such is the skill and proficiency of the men, and of the gentlemen cadets, who also practice here, that the flag-staff is often cut in two by the shot" (Erwood 1963, 12).

Vincent (1888, 417) suggests that the range was given up about 1860 and Skedd and Cole (2009a, 135) state mortar practice ended in 1873; it is certainly no longer depicted on the 2<sup>nd</sup> edition 25 inch Ordnance Survey map published in 1896. However by the



end of 19<sup>th</sup> century one of the batteries, most likely the Saluting Battery, appears to have still been in use though perhaps not for training. Jefferson (1970, 87) describes in detail “the firing of the 1 o’clock gun from Greenhill Battery” which occurred every day with another being fired every night at 9.30 pm when a blank charge was set off. A postcard held in the Royal Historical Trust Archives (RAHT AL644) also shows the ‘One o’clock gun’ although it is not dated and the position on the gun park cannot be determined.

It is also worth noting that the road between the gun park and the modern entrance to the Woolwich Barracks, south of the crossroads, is known locally as the location of a Second World War Spitfire aircraft crash.

### **Description and Interpretation of the Remains**

The six emplacements of the ‘Saluting’ battery which were located in front, or immediately to the south, of the mortar battery still survive (Figure 24) though the battery itself has been levelled and it is unclear as to whether there are buried remains.



*Figure 24: The surviving gun platforms from the ‘Saluting’ battery (Photo: Sarah Newsome)*



## THE RMA PRACTICE BATTERIES

The RMA practice batteries were located to the south of the RMA buildings, centred on TQ 4302 7695, to the south of Prince Imperial Road.

### Documentary Evidence for the History of the Site

Until 1855 practical instruction for cadets of the Royal Military Academy on aspects of military engineering and artillery took place on the green at the old academy in the Arsenal and then at the old Royal Engineers barracks in Woolwich (Guggisberg 1900, 31). However a series of letters from 1845 (held at Sandhurst), describing the construction of ground works to 'be executed to assist cadets with their study', suggests that practical training was taking place at the new academy before the eventual concentration of all cadet training on the site in 1863. On 14<sup>th</sup> October 1845 Captain S Williams RE wrote to Major General Sir G Whitmore RE, Lieutenant Governor of the RMA, to discuss progress on the new works at the rear of the academy, stating:

"The accompanying plan shows the description of Works proposed to be constructed. Battery No 1 is intended to contain 4 guns, a traverse, and a powder magazine in the epaulement, the interior slope to be revetted with gabions. No 2 is supposed to be traced for 4 guns and one mortar, to be revetted with fascines. No 3 and 4 are... batteries to be placed in the parallel" (correspondence held at Sandhurst – probably from WO/150)

The letter refers to four distinct works of fortifications, all of them fieldworks rather than brick-built permanent works. Fieldworks are earthworks thrown up or dug by an army on the field of battle and the simplest of these would be a 'parallel', a technical term for a siege trench. The location of batteries 3 and 4 in these trenches was a standard technique in the construction of siege works. It would appear that Battery No 1 was also an earthwork structure as it involved the use of gabions - wicker baskets full of earth - as part of its construction; the intention to place the magazine in the epaulment (a technical term for an earthwork at the side of a battery) further confirms this. The intention to revett Battery No 2 with fascines - bunches of brushwood - suggests that this too was an earthwork battery.

A letter dated 10<sup>th</sup> December 1845 from the Commandant of the Royal Engineers at Woolwich (TNA:PRO WO55/187), estimating that the works would take two years and cost £400, suggests that it was the intention to begin work on them. However none of these works appear on the plans of the academy made in the 1867 (Figure 25) or the larger scale maps published 1869 (e.g. Ordnance Survey (London) 25 inch 1<sup>st</sup> edition) which show permanent batteries. The mention in the October 1845 letter of the works being placed at a distance of 600 feet from the nearest building of the academy in 'a bank', possibly the hedge and bank that marked the south boundary of the original RMA grounds, suggests that if they were built, they were destroyed along with the racquet courts, two houses and the boundary wall when the academy was extended in the late 1850s (Guggisberg 1900, 90).

The exact construction date for the permanent practice battery which was later constructed at the rear of the RMA has not yet come to light. A former cadet, reminiscing in Captain Guggisberg's *History of the RMA* published in 1900, noted that the 'battery at the back of the Shop used for artillery exercises' (Guggisberg 1900, 95) was built 'around 1855' and this date fits well with the radical changes in the RMA (the consolidation of all the cadets and their instruction on the one site and the resulting building campaign) which may have led to the demolition of the earlier earthwork batteries presuming they were built.

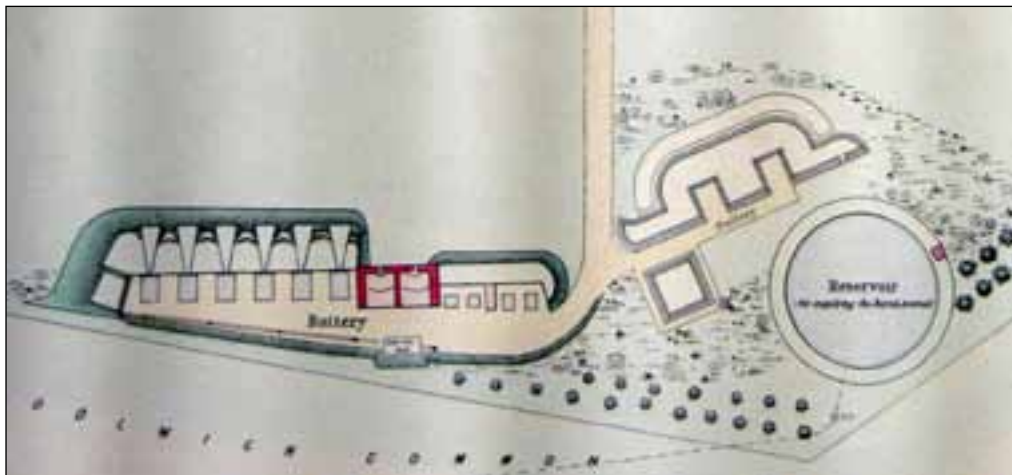


Figure 25: The practice batteries in 1867 (The National Archives: Public Record Office WO 78/3104)

The permanent practice battery is the subject of a clear and precise survey on detailed 1:500 plans of the RMA and its environs undertaken in 1867 (Figure 25; TNA:PRO WO78/3104); an almost identical survey was undertaken in 1866 but it does not show the detached battery to the east (RAHT). The plan appended to the 1851 Return of Lands and Buildings for Woolwich (TNA:PRO WO55/3034) does not show the battery or any fieldworks at the rear of the RMA. The 25 inch Ordnance Survey map of London (1<sup>st</sup> edition Sheet 71) surveyed in 1864-66 shows the battery in its completed form.

It is immediately apparent from the 1867 and 1869 surveys (TNA:PRO WO78/3104; Ordnance Survey 25 inch 1<sup>st</sup> edition published 1869) that the battery is a practice rather than conventional battery. Its position to the south and approximately 100m from the rear of the RMA buildings, with the gun embrasures facing nearly due north, would have placed the RMA and the town of Woolwich in the direct line of fire if the battery had ever been used for live firing; the mortar battery located on the common that had been used for this activity had faced south towards Shooters Hill. The practice battery was placed close to the boundary of the RMA, the scarp at its rear running along the line of a boundary hedge mentioned in a description of the academy from 1845 (Guggisberg 1900, 50), sections of which can be seen on either side of the battery on the 1867 plan (Figure 25; TNA:PRO WO78/3104). To the north of the practice battery were the gymnasium and racquet courts, added as part of the 1859-1862 building campaign (Coventry, unpub.), and a wide roadway running north – south connecting the forecourt in front of these buildings to the practice battery. At the rear of the emplacements was a

broad terreplein with a ramp at its east end which curved to join onto the north - south roadway leading to the rear of the RMA. This roadway provided a level route between the practice battery and the gun sheds on the north side of the forecourt; the broad terreplein, the ramping, wide curve and the roadway to the gun sheds allowing guns on wheeled carriages (field guns) to be easily manoeuvred.

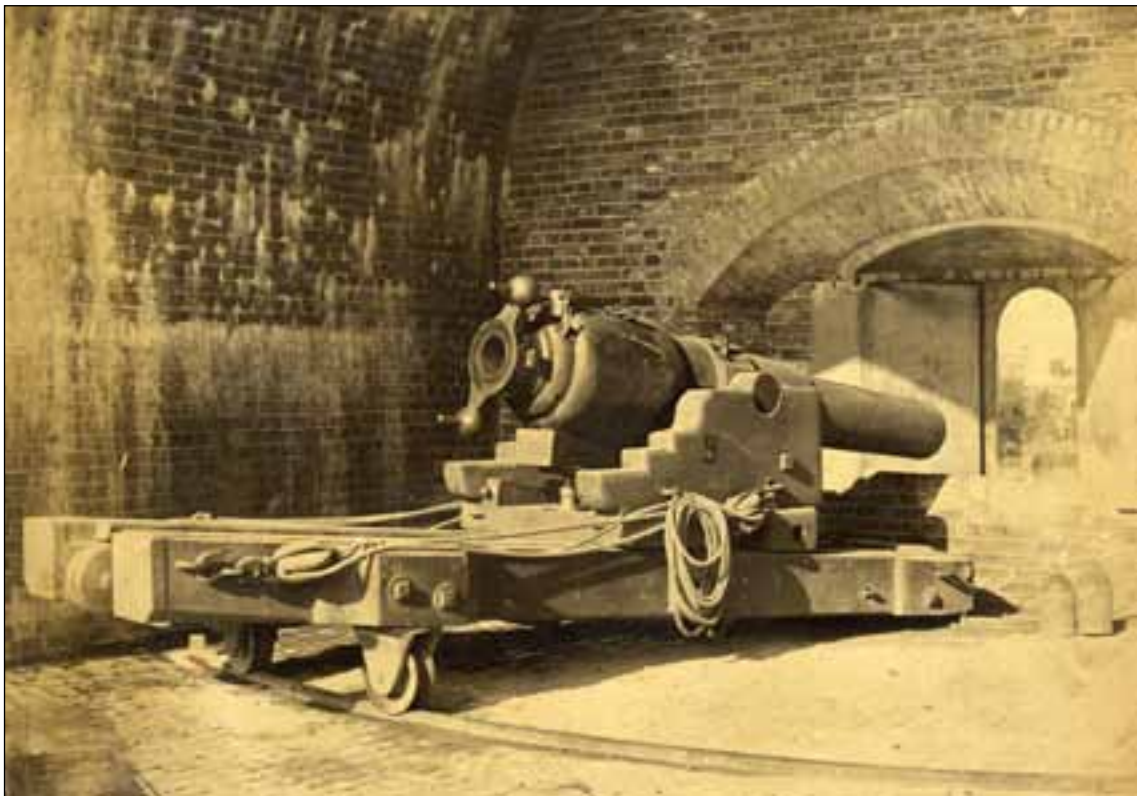
Not surprisingly for a training position, it encompassed the principal types of contemporary gun emplacement likely to be encountered by a graduate of the RMA. At the west end was an open battery with six emplacements. A photograph taken in 1868 (Figure 26; RAHT Collection AL366/4) shows the open battery along with the west-facing wall of the casemates, with a variety of artillery pieces ranging from a muzzle-loading 12 pounder on a timber carriage, which is what would be expected in this position, to breech and muzzle-loading 64 pounder Armstrong guns on 1845 field carriages. The photograph shows the battery to be of conventional construction for the 1850s or earlier with timber firing-platforms on a gravel surface and a brick-built parapet wall pierced by open-top embrasures. The scarping of the open battery (TNA:PRO WO78/3104 1867) was an innovation of the 1860s although this does not provide a definitive date as scarping was under consideration in the 1850s (Saunders 1989, 156) and the instructors of the RMA would have been aware of the technique and its recent employment in the Crimea. Certainly the scarping depicted on the 1867 plan is not as extensive as that employed in later works, suggesting an early date, but the batteries' purpose and location would have restricted the range of earthworks that would have been practical.



*Figure 26: The practice battery in 1868, looking east towards the casemates (Courtesy of the Royal Artillery Historical Trust Collection AL366/4)*

Immediately to the east of the open battery were two small casemates, open to the rear, each a near replica of the casemates found in contemporary fortifications. An

1868 photograph (Figure 27; RAHT Collection AL2/1/21) shows the interior of one of the casemates armed with a 7 inch Rifled Breech Loader (RBL) gun on a timber sliding-carriage, traversing on racer rails set in the casemate floor. As racers are shown in both casemates on the 1867 plan (Figure 25; TNA:PRO WO78/3104) it is probable that both casemates had identical armament. The 1868 photograph (Figure 26) shows that the west wall of the casemates is constructed of English-bond brickwork with a cordon, possibly of stone, marking a transition to an embattled top with regularly-placed slits. The crenellations must have been purely decorative, perhaps mirroring similar features on the RMA main buildings, as this type of feature was long obsolete by 1860 in fortification terms. The photograph of the casemate interior (Figure 27) shows that it too is of conventional construction for the period; brick-built and vaulted with the embrasure formed of a brick-built arch of two orders with jambs of a pronounced chamfer to allow for the gun's traverse and elevation. The embrasure is fitted with an iron mantlet shield and shutters and what may be the suspension bar for a rope mantlet, all recent innovations for the period (Saunders 1989, 167).



*Figure 27 : The interior of one of the casemates in 1868, with 7 inch Rifled Breech Loader gun (Courtesy of the Royal Artillery Historical Trust Collection AL2/1/21)*

Attached to the east end of the battery was an earthwork barbette (a battery position where the parapet is low enough to fire over without the need for embrasures) with four platforms, two either side of a central revetment. The absence of embrasures, the revetment and the position of the platforms suggests that this was a mortar battery. The battery closely resembles the example at the siege of Sebastopol illustrated by William Simpson in 1855 (Ponting 2004, 168). His drawing and a contemporary photograph show a curved earthwork barbette with the mortars in pairs, separated from each other

by traverses; a very similar arrangement, allowing for the proximity to the casemates, to that shown on the 1867 plan (Figure 25; TNA:PRO WO78/3104). Mortars were definitely used for drill by the gentlemen cadets as an anecdote of the 1870s (Guggisberg 1900, 150) illustrates: 'reposing peacefully behind the parapet of the battery this ancient warrior [a 13pdr mortar] was enjoying the rest earned by years of violent exertion his upmost [sic] work now confined to a little drill with the artillery classes'. The anecdote describes how two junior cadets wagered that it was possible to sit on the parapet of the battery and catch a bomb fired from the elderly mortar. Their first attempt failed due to an insufficient charge so on the second they used a bigger charge, the bomb cleared the battery, narrowly missed a second eleven cricket match and landed a glancing blow on the corner of the racquet courts. Both cadets were placed under close arrest for 96 hours, reprimanded and told to retake their artillery instruction for failing to charge the mortar correctly in the first place.

To the east of the practice battery, and shown on the 1867 plan but not the plan of the previous year (Figure 25; RAHT 1866 plan), was a further detached two-gun battery. The main earthwork of this battery is on a different alignment, orientated northeast-southwest and the emplaced guns would point to the north-north-west. An open barbette, it is composed of a large and sharply-scarped earthwork with two revetted, north-west facing firing-platforms separated from each other by a large scarped traverse. The firing platforms share a narrow terreplein which is connected to the north-south roadway. At the front of the battery, and following its curved trace, is either a shallow ditch or a section of roadway. Immediately to the rear of the battery, and effectively an extension of the terreplein on the west side, is a square raised platform with scarped sides. The extensive earthworks and the two-gun size suggest that the battery and the associated firing platform were constructed to demonstrate fieldwork batteries and complement the permanent works of the practice battery. The layout, with deep earthwork scarps and traverses, has a certain similarity with illustrations of the siege batteries from the Crimean war (Ponting 2004, 168). It is not shown on subsequent Ordnance Survey maps or the 1900 plan of the Royal Military Academy in Guggisberg's (1900) book, the area being depicted as heavily wooded. Another earthwork perhaps intended to provide instruction in the operation of fieldworks rather than permanent batteries was located to the west of the permanent practice battery (see Figure 40). The arrow-shaped bastion was built after 1869 and seems to have gone out of use by 1892 and is similar to the fieldwork that existed on the Cadets' Practice Ground (see Cadets' Practice Ground section for further discussion).

The two-gun battery's disappearance from maps and plans may illustrate the steady decline in the practical instruction of artillery that took place in the Royal Military Academy during the 1870s and 1880s, originating from the reform of the RMA in the 1850s. Although the Board of Ordnance was dissolved, officer cadets for both its successors would still pass through the RMA Woolwich on a common syllabus, but only those gaining the highest marks would be commissioned into the Royal Engineers, the rest going to the Royal Artillery. This arrangement would influence the RMA throughout the 19th Century; the need to score high marks for a pass into the Engineers placed the emphasis on academic subjects, particularly mathematics, where the necessary marks could be accumulated and practical subjects, like gunnery, and commissions into the Royal



Artillery were viewed as second best (TNA:PRO WO33/2906). RE officers interviewed by the 1886 Committee on the Course of Study at the RMA Woolwich (TNA:PRO WO33/2906) were of the opinion that artillery training was a waste of the high-flying potential RE officer's time. The artillery officers interviewed observed that the amount of time spent on artillery drill had been successively 'pinched in' and the Governor of the RMA observed that the guns held by the RMA were obsolete and 'not of the best'. Little except basic drill was carried out at the RMA with the rest crammed into the couple of weeks firing practice held at Shoeburyness.

A photograph dated 1899 (Figure 28) of the open section of the practice battery suggests that the situation revealed in the 1886 report was addressed. The mixed collection of artillery pieces and carriages shown in the 1868 photograph (Figure 26) has been replaced by a nearly homogenous battery of 64-pounder 64 cwt Rifled Muzzle Loaders (RML) on wrought-iron medium carriages fitted with side gear. The twin racer rails for the traverse have been set in new larger concrete platforms along with a 'Type A' or similar pivot against the parapet wall. This wall has been reduced in height (the scar showing the former height of the wall is visible on the west wall of the casemate) removing the embrasures. The homogeneity of the battery is spoilt by the inclusion of a 64 pounder on a timber traversing-platform at the far eastern end, but both types of weapon and their mountings were common equipment for coastal defence batteries, which the practice battery aimed to replicate, and remained in use from the late 1860s until the early 1900s.



*Figure28 : The practice battery in 1899 (Courtesy of the Royal Artillery Historical Trust Collection AL219A)*

As the 64 pounders were long-lived in front-line service the date of their installation at the RMA is difficult to pin down. Lieutenant Birch RA, interviewed by the committee in 1886 stated that during his time as a cadet in 1880 there were no large guns at the RMA and the 64 pounder RML would just qualify as a large gun. However Lieutenant Furse RA, giving evidence to the same enquiry on his recent (1885) cadet course at Woolwich,

mentions standing drill on the 64pdr with the same drill repeated on live examples mounted at Shoeburyness, suggesting the guns were installed between 1880 and 1885. Work for the mounting of 64 pounders was carried out at the Drop Redoubt in Dover as late as 1896 (Brown et al 2001, 21) but a reference from Guggisberg (1900, 194) does strongly suggest that the casemates were disused by the date of the photograph as the creation of the rugby and 'soccer' pitches on the area of the ground between the gymnasium and the practice battery in the 1890s involved the construction of cricket pavilion (its roof can just be seen in the 1899 photograph) for the second XI close to the 'old casemates'. Mortars had been removed from service along with all muzzle loading weapons in 1904 (Wilkinson-Latham 1987, 55) and we can assume that the mortar battery had ceased to be used by that date.



*Figure 29: Practice drill on the 6 inch Breech Loader MkVIII gun circa 1912 (Courtesy of the Royal Artillery Historical Trust Collection AL951 Box 25/29)*

One photograph (Figure 29) shows gun drill on a Breech Loading (BL) 6 inch gun emplaced to the west of the practice battery's adjacent casemates. The dress of the cadets would date it between 1912 and the 1920s. The 6 inch BL gun was the standard medium-range weapon for coastal batteries between 1910 and 1956 (Wilkinson-Latham 1955, 55) and was usually mounted en barbette: set on a holdfast sunk within a substantial concrete emplacement forming a shell-proof apron (barbette) at the front of the mounting. Study of the photograph reveals that an approximation of this type of mounting has been provided by removing the rails and pivots of the previous weapons and filling the space behind the parapet wall with concrete levelled to form the gun



floor. It lacks the steps, ammunition lockers and shell stores which would have been set around the base of an operational mounting. The Armament Return for 1910 (TNA:PRO WO33/499) is the first to note that one 6 inch Mark VIII BL gun was approved for issue to the RMA for practice use. However, a sheeted gun-shaped object in the background of the photograph and the indication of two adjacent circular emplacements on the Ordnance Survey 3<sup>rd</sup> edition 25 inch map published 1916 strongly suggests that another gun was mounted in the battery. The return for 1918 (TNA:PRO WO33/874) lists both a 6 inch BL and a 6 inch Quick Fire (QF) gun as allocated to Woolwich but by this date all the large and medium calibre guns at Woolwich are described as in 'GB [Great Britain] Reserve' so its exact use and location cannot be determined.



*Figure 30: Practice drill on 12 pounder Quick Fire gun circa 1912, note the top of the casemates in the background (Courtesy of the Royal Artillery Historical Trust Collection AL951 Box 25/15)*

Another contemporary photograph of the RMA practice battery (Figure 30) shows practice drill on two 12 pounder Quick Fire (QF) guns or similar. The photograph shows that these mountings are not in the practice battery – note the top of the casemates in the background - but immediately to the west on a concrete platform levelled out of the counterscarp of the battery. Like the 6 inch BL mounting, the position is not an exact replica of the operational mounting as it lacks provision for ammunition storage. Study of both the Ordnance Survey 3<sup>rd</sup> edition published 1916 (Figure 31) and the 1924 plan of the RMA (Gillman 1924, 500) shows this rectangular-shaped area set in the counterscarp of the practice battery and connected to it by a pathway. In fact the entire scarp has been remodelled to allow the extension of a footpath running around the perimeter of the football pitch, short flights of stairs set in the scarp connect the pitch and footpath suggesting that the scarp was used as a terrace for watching the matches. It is not clear when this gun position was constructed. The 12 pounder QFs are not in the Armament

Returns for 1910-1913 but are listed in 1918 along with the single 6 inch Mark VIII BL gun first noted in 1910. The absence from the 1910-1913 lists certainly suggests that the QF weapons were emplaced later than the 6 inch BL gun.

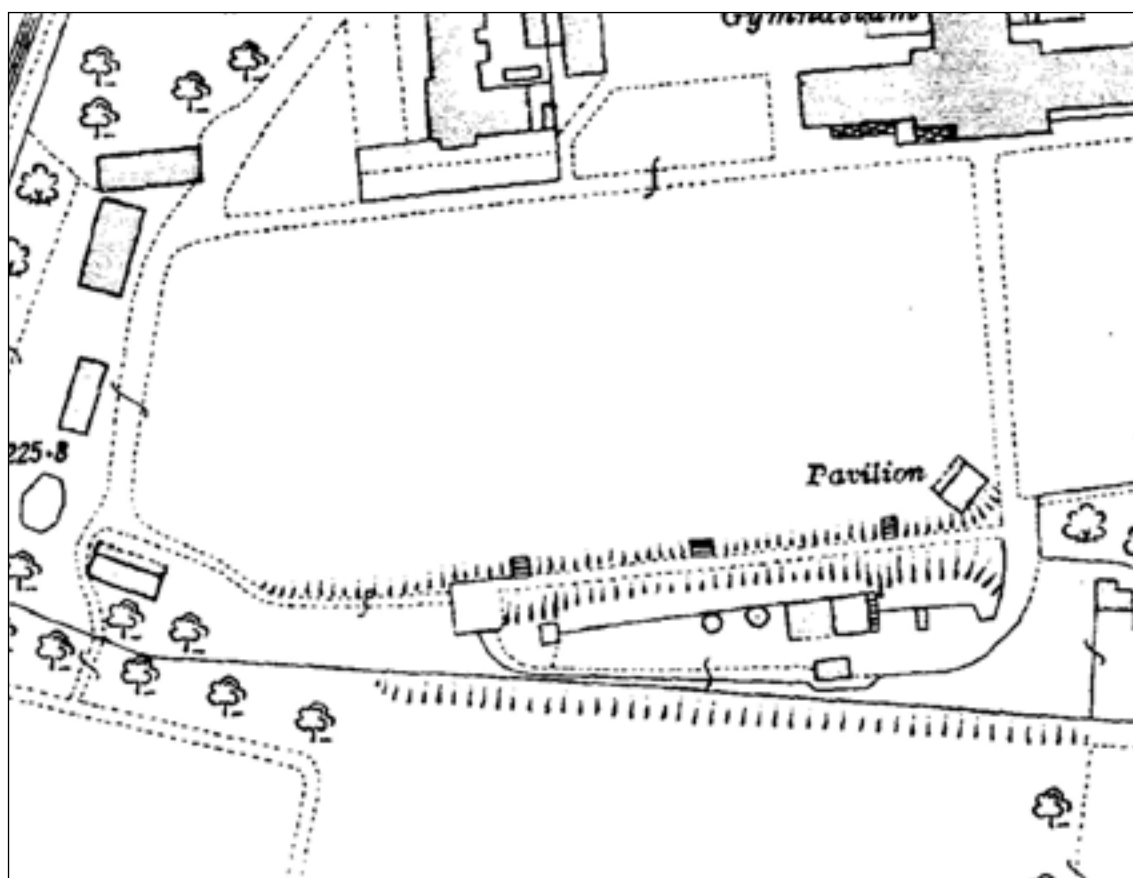


Figure 31: The practice battery in 1916 (Extract from Ordnance Survey 25 inch 3<sup>rd</sup> edition)

Remarkably, given that the RMA was disbanded at the outbreak of the First World War, and the college buildings used for accommodation and technical training, orders to disarm the battery were not given until September 1918 (Maurice Jones 1954, 39). An aerial photograph (Figure 32) shows the battery after it had been disarmed. The casemates had been retained for 'instructional purposes' but appear to have been blocked in. Adjacent to the casemates, the 6 inch gun has been removed but the empty concrete platform remains. Beyond this is a large timber hut (likely to have a Belfast truss at this date) may occupy the rest of the battery. Three new wooden huts – two classrooms and a gun shed were erected at the RMA at this time (Gillman 1924, 497) though they are not shown on the plan which accompanied Gillman's article (Figure 36). On the east side of the casemates the earthworks and retaining walls for the old mortar battery are visible. The 1916 Ordnance Survey map (Figure 31) shows the scarping and shape of this battery but the traverse has been removed in favour of a platform reached from the terreplein by steps running up against the east wall of the casemates. Unfortunately the 12 pounder QF position is obscured by trees on the aerial photograph but the plan of the RMA in the Gillman (1924) article shows the rectangular platform.



*Figure 32: Aerial photograph of the RMA [no date] taken from south, note the blocked casemates (frontispiece to 'The Royal Military Academy', Maj Gen Sir W. Gillman RA DSO, Journal of the Royal Artillery Volume 50, 1924)*

The next reference to the battery relates to the emergency measures required at the time of the Munich Crisis in 1938. Maurice Jones (1954, 105) describes how a gas chamber to train the cadets in what was held to be the certainty of impending gas warfare, was constructed in the 'bowels of the old battery'. Contemporary gas chambers consisted of a large single hut or similar structure divided into a number of interconnected rooms. Pupils entered the first room to be instructed in the fitting of their gas masks and given basic instructions and then walked through the rooms receiving a slightly higher concentration of gas (usually tear gas) in each room to test the mask and give them confidence. In the final room the mask was removed and the pupil exposed to a small dose of gas to accustom them to the sensation of being 'gassed'; they then left the hut into fresh air to recover (Brown 1999, 24). Close inspection of a 1944 aerial photograph (RAF 106G/LA30 4146 07-AUG-1944) shows that a second hut, built on the site of the 1910 6 inch gun, incorporates the western corner of the casemates suggesting intercommunication between the hut and casemate. The brick-built casemates would have made excellent gas chambers and the rectangular-shaped objects visible on their roofs in the aerial photograph (RAF 106G/LA30 4146 07-AUG-1944) could well be ventilators.

The construction of married quarters on the battery site indicates the probable date of its destruction. In August 1946, with the closure of the RMA and the transfer of the cadets to Sandhurst, the redundant buildings were established, by order of Field Marshall Montgomery, as a mess for the officers posted to Whitehall in various capacities

(TNA:PRO WO32/17473), though the facilities were never well used due to poor transport links to central London and the site was continually under review. By the 1950s the RMA also housed a tactical training school for naval officers along with the Artillery Institute and library. The review in 1960 advocated the clearance of sub-standard accommodation including 'various old huts and installations' in the south and south east corner of the site and their replacement by married quarters, QARANC [Queen Alexandra's Royal Army Military Nursing Corps] officers' housing and a rehabilitation unit for the nearby Royal Herbert Hospital (TNA: WO32/17473). The married quarters on Prince Imperial Road were eventually built in the early 1970s (P Guillery, pers comm).

## **Description and Interpretation of the Remains**

Due to development to the south of the Royal Military Academy in the second half of the 20th century it is difficult to determine how much of the practice battery is fossilised in the current topography. Modern housing has been placed on top of the scarp where the guns and casemates were located and Prince Imperial Road has been inserted at its foot. However the existing terrace on which the houses are located preserves some of the form of the battery and it is possible that buried remains may survive within the gardens. The terraced path that can be seen on the 1916 Ordnance Survey 25 inch map (Figure 31) is still clearly visible running along the scarp, mid-slope. Examination of the site revealed a section of concrete wall at the west end of this slope (approximately TQ 4298 7695) poured from a poor-quality concrete using a large proportion of aggregate. Comparison with the circa 1912 photograph (Figure 30) of the 12 pounder Quick Fire (QF) battery suggests that this is a section of the low wall visible in front of the two guns. On the south side of this wall, just visible through the turf, is a circular feature consisting of poured and levelled concrete, possibly a gun holdfast for one of the 12 pounder QFs, suggesting that remains of the battery may survive buried below the turf.



*Figure 33: The former location of the western end of the battery in 2008. The modern landscaping may preserve some of the earthwork scarp of the battery. The small concrete wall possibly related to the 12 pounder Quick Fire battery mentioned in the text (Figure 30) is located in the vegetation in the centre of the photograph (Photograph by Sarah Newsome – copyright English Heritage)*



## OPEN SPACES AROUND THE ROYAL MILITARY ACADEMY

### Documentary Evidence for the History of the Site

Unsurprisingly, given the nature of the training that the cadets had to undertake, the other open spaces around the Royal Military Academy were exploited for various training purposes on a daily basis. Large amounts of evidence survive for both training and drill practice in front and behind the RMA (e.g. Timbers 2008, 62; Guggisberg 1900, 86; Figure 34) and the use of the areas both north and south of the RMA for sports such as tennis, cricket and steeplechase (Vincent 1888, Plate XLIII; Guggisberg 1900, 86; 172). It is clear that some effort was taken to level the ground to the south of the RMA battery, identified as Jacob's Field, in order to create a series of sports pitches. As with the other open spaces around the common, events were also staged at RMA, such as regular athletics meetings like the one in 1868 (NMR BB89/6037).



*Figure 34: Cadets undertaking Physical Training exercises on the sports pitches to the south of the Royal Military Academy circa 1924 (Courtesy of the Royal Artillery Historical Trust AL932/17)*

### South of the RMA (including Jacob's Corner)

Jacob's Corner is a section of former common to the south of the RMA, located at the foot of Shooter's Hill. The Ordnance Survey first edition 25 inch map, published 1868, shows it as a large open area within the south-west corner of a small irregularly-shaped parcel of land, extending from the hedge marking the south boundary of the academy to the wooded fringes on its south and east sides and to Academy Road to the west,

which divides it from the rest of the common. The eastern boundary follows a minor lane which diverges from Red Lion Lane to the south-east of the RMA and forms the rear boundary of houses on Red Lion Lane, ending at a covered Mineral Well opposite the junction of Red Lion Lane and Constitution Hill. War Office boundary posts are shown on the west side of this lane and a further boundary post is shown in the wooded area to the south of the mineral well. It should be noted that this marker is a Board of Ordnance post suggesting that this part of the boundary pre-dates 1855.

The 1896 Ordnance Survey (25 inch, 2<sup>nd</sup> Edition) shows encroachments on the fringes of Jacob's Corner as Woolwich continued to urbanise. The winding lane shown on the first edition map defining the boundary of the open ground has disappeared. In its place are additional War Office markers running parallel to the rear boundary walls of the new houses and delineating a boundary that excludes the area around the mineral well. In the south-west corner of the field is a covered reservoir for the Kent Water Works. The Woolwich and Plumstead Cottage Hospital was built in 1889 (NMR TQ 47NW108) in the south-west corner, presumably on land transferred from the War Office.



Figure 35: Extract from Ordnance Survey first edition 25 inch, published 1868, showing the area identified as Jacob's Corner. The modern Academy Road is visible running north to south at the western side of the map.

Jacob's Corner is not mentioned in the readily available sources concerning Woolwich Common until a letter to the Woolwich Gazette in May 1892 (Guildhall Library). The author notes that cricket and football [on the common] are only allowed in 'Jacob's



Corner' and how these activities are damaging the grass. It appears that throughout the 1890s successive governors of the RMA conducted a campaign to acquire Jacob's Corner for use by the cadets. The garrison persistently refused stating that the ground was used for the drilling of the artillery. Gilman notes that these drills tended to coincide with War Office tours of inspection concerning the transfer of the land to the RMA (Gilman 1924, 495).

In 1908, Major General R.H Jelf [Governor of the RMA, 1901-1912] managed to secure the transfer of Jacob's Corner to the RMA, overcoming a last stand by the Royal Artillery that included full manoeuvres with horse and gun teams on Jacob's Corner during the final visit of the War Office inspectors (Gilman 1924, 496). The ground was found to be so waterlogged that extensive drainage work was needed before the construction of sports pitches, a running track, miniature rifle range and physical training (assault) course could be started. The land was enclosed, drained, re-drained and finally herring-bone drained with large quantities of clinker and ashes used to make up the level of the sports pitches. The rugby pitch opened in 1911, soccer 1912 and cricket in 1914 but the first athletics meeting was not held until 1919 (Maurice-Jones 1954, 7).

The Ordnance Survey 3<sup>rd</sup> edition 25 inch map published 1916 reflects little of this extensive work showing only a scarp running parallel to the boundary hedge of the RMA to indicate the increased height of the new pitches. The miniature rifle range is shown located to the east of the pitches adjacent to a roadway leading from the practice battery at the rear of the Academy. The scarp shown behind the target at the south end of the battery indicates (after a site inspection) a noticeable change in ground surface rather than the butt behind the range target, although the range may have been sited to take advantage of this natural feature. The roadway from the Academy continues around the three sides of the main pitch, passing a pavilion at the pitches' south end, and then bifurcates passing down the north and south edges of the smaller western pitch and eventually reaching Academy Road. The mown grass of this pitch, goal posts and the hard surface of the roadway are just visible on the 25 September 1917 aerial photograph (RAHT Collection AL799; Figure 16). The only other feature of note on the 1916 Ordnance Survey is a large rectangular-shaped enclosure of indeterminate purpose to the immediate north of the rifle range, possibly cricket nets.

A plan of the academy grounds included in the 1924 article by Major-General Gilman (the retiring Governor of the RMA) (Figure 36) shows Jacob's Corner at its full development. The large eastern pitch shown on the 1916 Ordnance Survey 3<sup>rd</sup> Edition map is shown as two pitches divided from each other by a further roadway running east-west. The northern pitch accommodates football, hockey and a running track, while the southern pitch is for rugby with the pavilion of the 1916 survey replaced by two stands. The western pitch nearest to the Academy Road has also gained a stand and this pitch and the soccer and hockey pitches share a pavilion. To the north of the rifle range is the new sergeant's mess for the instructors in drill and gunnery posted to the RMA. Construction work on this building, which replaced the building on the east side of Red Lion Lane opposite the main academy building, had just finished when the 1924 plan was published (Gilman 1924, 498). A 1944 aerial photograph (RAF I06G/LA/30 4146 07-AUG-1944) shows it as square-plan building with a Mansard roof with pitched-roofed single-storey wings on the east and west sides.

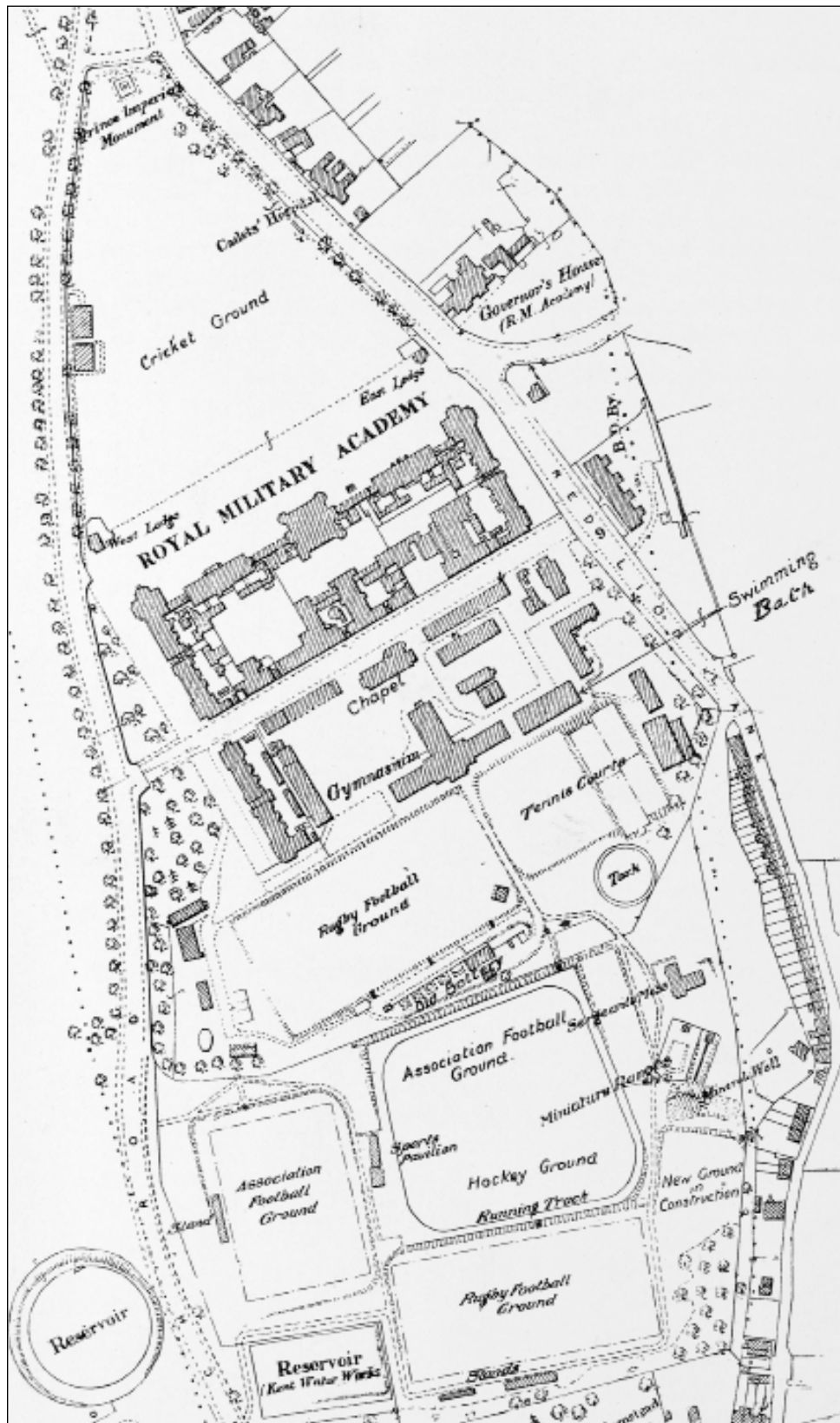


Figure 36: Plan of the academy grounds included in the 1924 article on the history of the RMA by Major-General Gilman.

A 1944 aerial photograph (RAF 106G/LA/30 4146 07-AUG-1944) shows Jacob's Corner unchanged by the Second World War, with all the pitches and pavilions in situ. A series of parallel lines across the soccer and hockey pitches may be witness marks of anti-glider obstacles. The area to the east of the pitches around the War Department boundary has been divided into allotments and the ground to the south-east (labelled as 'new ground in construction' on the 1924 plan) is in use as an assault course. Reference is made in 1919 to a Physical Exercise (PE) course (Gilman 1924, 986) and the 'new ground in construction' may refer to the laying out of this course as the assault course appears to be well established on the aerial photographs taken in the 1940s. It also seems unlikely that the clerical staff billeted at the RMA during the Second World War (Maurice-Jones 1954, 113) would have required this type of physical training facility. Immediately to the west are embayed trenches similar in form to those found elsewhere (near the tennis courts on Barrack Field for instance) which were probably air-raid shelters. This interpretation is supported by their proximity to the sports pitches, which appear to be still in use, but as they are adjacent to the obstacle course they may have had a training role. On the sports field immediately to the south of the Royal Military Academy, three rows of bell tents are visible as well as the distinctive marks in the grass where other tents have been dismantled (RAF 106G/LA30 4146 07 AUG 1944).

At the end of the Second World War, the RMA Woolwich finally amalgamated with the Royal Military College, Sandhurst to form the Royal Military Academy, Sandhurst opening in November 1946 (Makepeace-Warne 1998, 305). The now vacant buildings at Woolwich were occupied by the Royal Artillery Institute, an officers' mess and various other units. The sports fields at Jacob's Corner remained in use by the Royal Artillery. The land on the east and south fringes - the site of the obstacle course - had been used for the construction of a housing estate of semi-detached married quarters called Academy Place by 1954 (Maurice-Jones 1954, 13).

### **North of the RMA**

Clearly the open ground to the front or north of the RMA, the 'front lawn', was exploited for events and activities from its inception though, given its role in the aesthetic presentation of the RMA, it seems unlikely that the area was used for training that involved the construction of earthworks. Historic photographs held in the Royal Artillery Historical Trust collections at *Firepower* document a number of the formal, social and sporting activities that occurred on the front lawn, including military parades and drills (RAHT AL 150/29; RAHT AL 27/63), tennis (RAHT AL 150/23) and cricket (see Figure 37). The various diaries and accounts surviving which document life at the RMA are likely to contain a great amount of detail on these types of activity.

This pattern of use appears to have continued at least until the Second World War. Aerial photographs from 1944 show open trenches running along the western and eastern sides of the open ground immediately to the north of the RMA (RAF 106G/LA30 4146 07 AUG 1944). These may be trench shelters to be used by cadets caught out on the playing fields in the event of an air raid (see Barrack Field section for similar features), as cricket pitches can be seen laid out in the photographs. These may be the slit trenches which were dug on the east and west perimeters of the RMA during the

Munich Crisis (Maurice Jones 1954, 105). Football pitches can be seen laid out to the south and north of the academy in 1945 (RAF 106G/UK/916 6085-6086 11-OCT-1945) probably reflecting seasonal changes in the sports being played.



Figure 37. A photograph of a gathering for a cricket match in 1869 on the front lawn of the Royal Military Academy, which is visible in the background. (Courtesy of the Royal Artillery Historical Trust AL70/38).

### Description and Interpretation of the Remains

The remaining areas of open ground to the south of the RMA were examined during a rapid field visit but no measured survey was undertaken (The remains of the RMA practices batteries are addressed in a separate section of this report). A number of features were noted including subtle earthworks centred on TQ 4315 7685, the former site of the miniature rifle range mentioned above. It is likely that these earthworks relate to the buried remains of the boundaries of the miniature rifle range and its associated structures. In addition a concrete plinth was noted at TQ 4294 7685, possibly the base for one of the buildings shown on the aerial photographs of 1944 (RAF 106G/LA/30 4146 07-AUG-1944) and historic maps (e.g. Gilman 1924). The structures appear to have functioned as pavilions or changing rooms relating to the use of the area as playing fields. As stated previously, the location of the assault (physical training) course noted on was developed for housing in the 1950s, but there is a slight possibility of buried remains. It is worth noting at this point that the area immediately to the north of the covered reservoir is now regenerating water-logged scrub but should not be taken as a fragmentary survival of unimproved common as it appears to have been mown grassland during the Second World War (RAF 106G/LA/30 4146 07-AUG-1944) and was probably in use as a sports field immediately prior or at that time.

The front lawn north of the RMA was not examined as part of the research as it was thought likely that any earthwork remains of training activity in this area were likely to have been levelled. Examination of aerial photographic evidence suggests that the trenches that ran down the side of the field during the Second World War (mentioned above) have since been in-filled though buried remains may survive.

## CADETS' PRACTICE GROUND

The Cadets' Practice Ground was located to the north of Nightingale Place at TQ 4351 7802.

### Documentary Evidence for the History of the Site

Until 1819 the training of the gentlemen cadets at the Royal Military Academy, Woolwich (RMA) did not contain any practical element, the only requirement was to observe the manufacture of artillery pieces at the Arsenal and view exercises at the Repository and on the common carried out by the RA Garrison. As with many developments in the history of the British army the introduction of practical training arose as the result of expediency. At the end of the Napoleonic wars in 1815, there was a glut of surplus officers officially described as on 'half pay'. The maintenance of a large number of half-pay officers on the promotions list left no vacancies for passed-out cadets from Woolwich to join the list and start their military careers. In 1819, the Duke of Wellington, newly appointed as Master General of the Ordnance, imposed a solution by ordering the creation of a six month practical class for passed cadets. This class would occupy the cadets until there were vacancies on the list or they opted for alternative commissions in bodies such as the army of the East India Company (Guggisberg 1900, 76-78).

The practical class would be based at the Royal Arsenal and would take 46 cadets in its first year (1820). It was instructed to: 'undertake Repository work... and other practical skills... particularly surveying and similar undertakings', which included the study of fortification (Guggisberg 1900, 78). The class continued for the next twenty years although the glut of surplus officers and cadets was dealt with in about ten years. In 1846, reference is made to the training of the cadets on practice fieldworks on the Green at the Royal Arsenal, known for some obscure reason as the 'pussies' (Vincent 1888, 402). In 1848, the course became part of the general syllabus of the RMA and marks gained would now count towards the cadets' eventual position on the promotions list. Vincent (1888, 405) states: 'In 1851 the Green was no longer in use for field works and another piece of ground appropriated beyond the Carriage Square' and in 1856, during a reorganisation of the syllabus, the course was abolished and the now senior cadets were relocated away from the Arsenal to the Royal Engineers (RE) Barracks on Grand Depot Road at the north end of the common.

A few years after the 1851 move to Carriage Square it is suggested that - 'the space was required for factories... the field at Nightingale Vale behind the Commandant's House was substituted' (Vincent 1888, 406). The area was given to the Corps of the Royal Engineers for training purposed in 1856 with much of the field being allocated to the RMA for the training of cadets (P Guillery, pers comm). The Nightingale Vale field was certainly in use by 1861 as the field works were transferred from the surveying to the fortification staff 'the digging ground being the same field as at present used in Nightingale Vale' (Guggisberg 1900, 95). The digging ground, also referred to as the 'Potters Field' (Guggisberg 1900, 131), is named in a survey of 1868 (TNA: PRO WO 78 2546) as the Cadets' Fieldworks (Practice Ground). The plan shows that the practice ground occupied a generous site to the rear of the Commandants House (now

Government House) on the east side of Woolwich New Road, with Brookhill Road to the east and Nightingale Place to the south. Photographs from the 1880s and 1900s show that the site had a pronounced slope from west to east, descending towards Brookhill Road. To its north were a series of fields, the one immediately adjacent noted as being rented by the Commanding Engineer, extending behind the Garrison Church, Commandant's stables and the gardens on Mill Lane. The western perimeter of the field was formed by the boundary wall of the Female Hospital, with the east and south perimeter fences running parallel to their respective roads. Entrance to the site appears to have been either through the yard of the Commandant's stables in the south-west corner of the field or through a small clearing in the verge leading to Brookhill Road on the north-east side of the field.

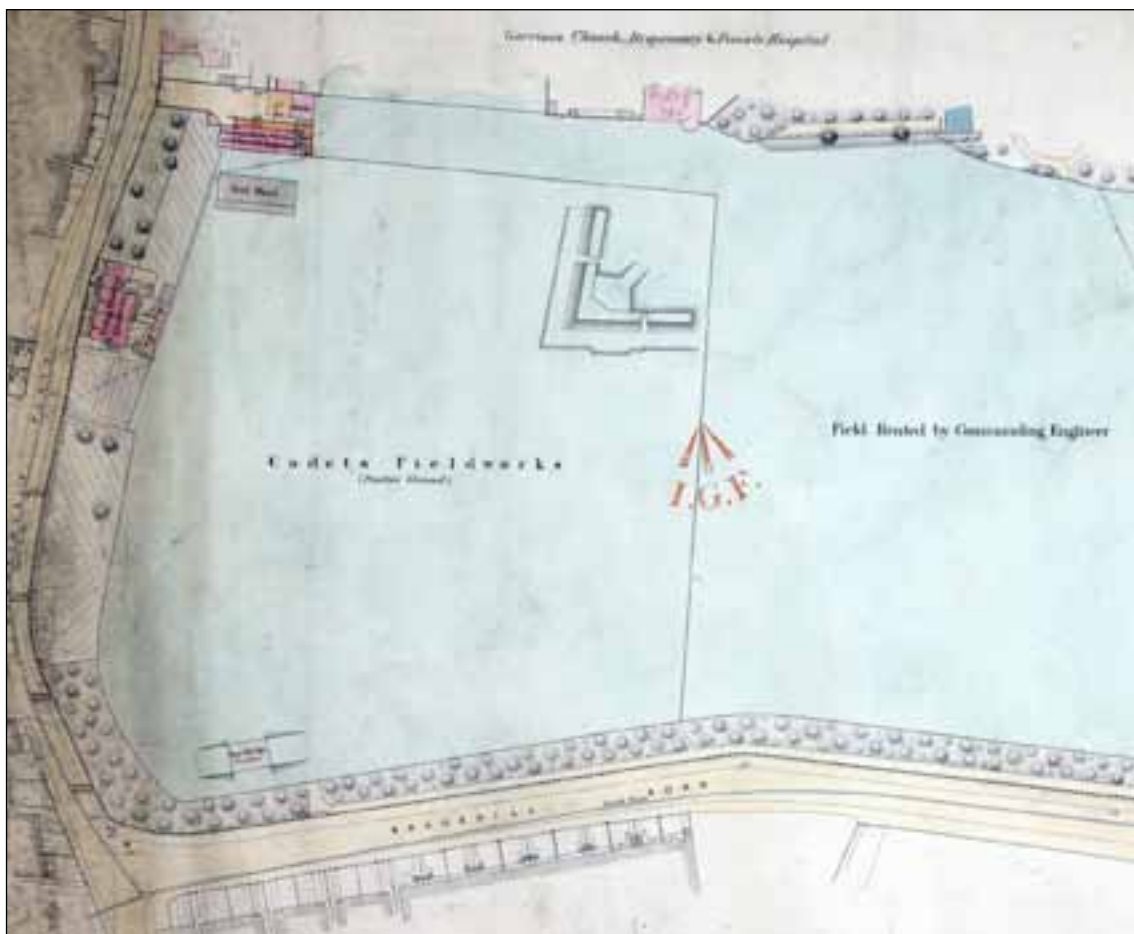


Figure 38: The Cadets' Fieldworks in 1868. North is to the right. (The National Archives: Public Record Office WO 78/ 2546)

Three features are depicted on the 1868 plan (Figure 38): a small tool shed in the south-west corner, a 'practice spar bridge' consisting of two embankments with the bridge slung between them in the north-east corner and to the north-west a large earthwork bastion with an arrowhead-shaped trace. The bastion is a fairly elaborate fieldwork with a multi-faceted scarp, an infantry step behind a parapet, embrasures on both flanks and a ramp leading to the step from the terreplein; by 1868 bomb-proof works and masonry casemates were on the verge of obsolescence if not obsolete. The Ordnance Survey 1<sup>st</sup> edition 25 inch survey published 1869 shows the bastion and the



tool shed but not the spar bridge, which may not yet have been constructed when the area was surveyed, and another work adjacent to the bastion, a scarped dog-leg with an embrasure at its northern end. The difference in depiction between the two surveys is probably an indication of the cadets' continual raising and slighting of fieldworks on the training ground. The remainder of the field would have been devoted to the digging of practice trenches. A letter of 1845 (held at the RMA Sandhurst) discussing the digging of trenches at the RMA notes the 'stiffness' of the soil in the Woolwich area ; the sobriquet 'Potters Field' (Guggisberg 1900, 131) perhaps referred to the consistency of the soil encountered.

Whether it was the consistency of the soil or the continued emphasis on the study of academic subjects at the RMA, Guggisberg notes that 'little work was done in the Potters Field in the 1870s', as permanent fortification was the preferred topic (Guggisberg 1900, 131). This situation appears to have continued until, in 1886, the Committee on the Course of Study at the RMA Woolwich (TNA:PRO WO 33/2906) interviewed instructors and cadets about the syllabus at the institution. The committee enquired into the relative proportions of field work instruction to model work (the demonstration of fortifications and field work by using scale models). The Instructor of Field Fortification and the Professor of Fortification answered that a small extent of practical field work was undertaken: a full-size siege work and trenches were made for the cadets to see and a bridge was erected to illustrate the obligatory course.



Figure 39: Extract from Ordnance Survey 25 inch map of London published 1869 showing the Cadets' Practice Ground.



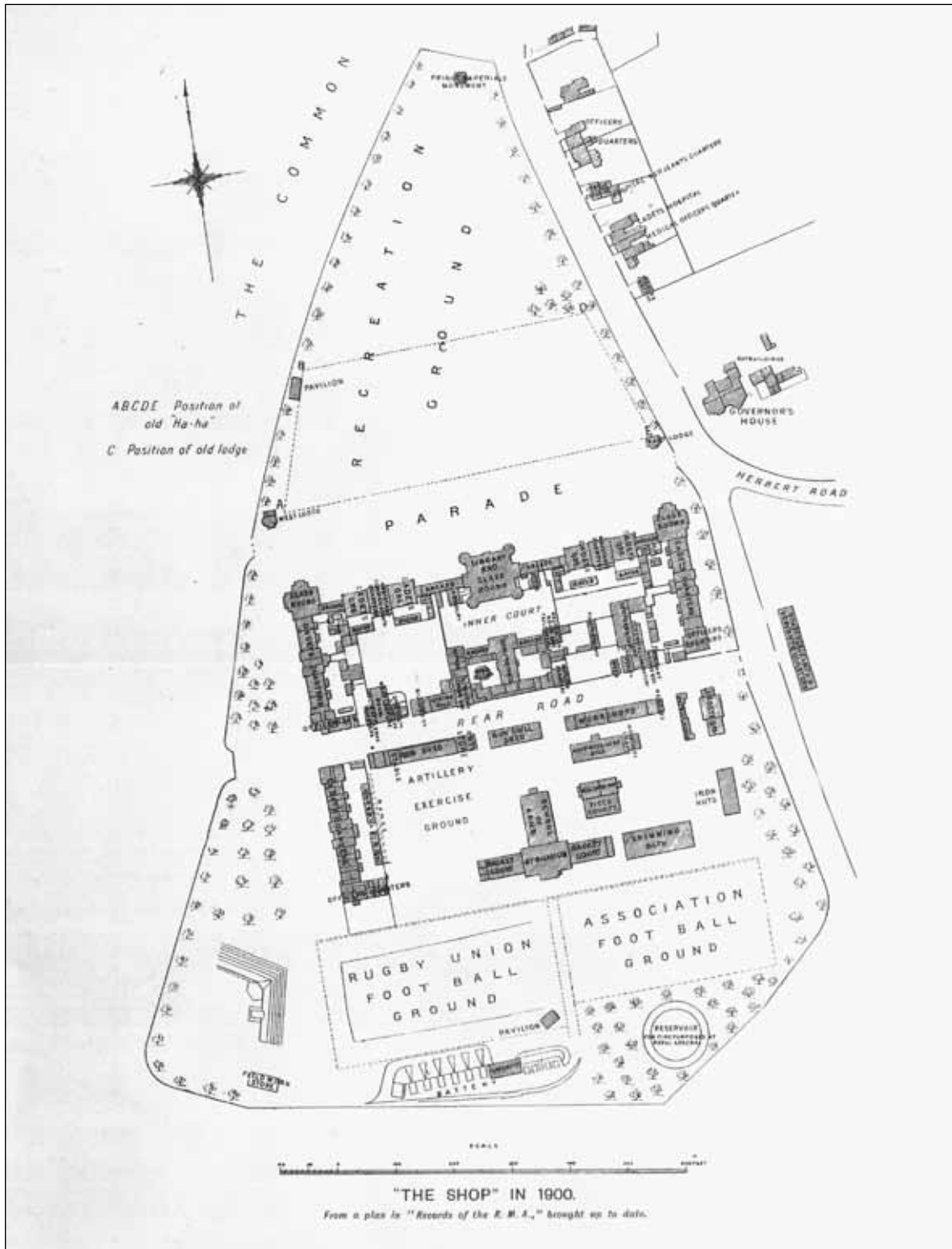


Figure 40: 'The Shop' (the RMA) in 1900 showing the arrow-head bastion (reproduced from Guggisberg 1900, 178)

The construction of full-size demonstration fieldworks may not have been confined to the practice ground. The plan of the RMA in 1900 (Guggisberg 1900) shows another substantial arrow-headed bastion, almost identical to the example at the practice ground, to the west of the RMA practice battery (Figure 40). This bastion is not shown on any of the earlier available plans of the RMA or on the 1st edition 25 inch Ordnance

Survey map published 1869. The 2nd edition Ordnance Survey map published in 1896 shows what are probably its remains as a small steeply-sided mound in the position of the bastion. A possible resolution to this mystery is contained in the legend on the Guggisberg plan which reads: 'The Shop in 1900 from a plan in Records of the RMA [dating to 1892 (Anon 1895)], brought up to date' suggesting that an earlier fieldwork slighted when the rugby and soccer pitches were constructed in 1892 has been left on the plan (Guggisberg 1900, 174).



*Figure 41: Siege works on Potters Field circa 1900 (looking north-west). The arrow-headed bastion can be seen in the background (reproduced from Guggisberg 1900, 159)*

The existence of not one but two seemingly obsolete arrow-headed bastions at Woolwich may have influenced the report of the 1886 committee that noted too much time was devoted by the RMA to the study of obsolete systems of fortification (TNA:PRO WO 33/2906). During the 1870s and 80s several imperial actions, notably the successful defence of Rourke's Drift in 1878 (commanded by Lt Chard R E a Woolwich graduate), had illustrated the importance of temporary fieldworks. Similarly the large masonry forts in the United States had proved vulnerable to rifled artillery and this type of fortification was increasingly replaced by low-profile earthworks. The waning importance of instruction in large, traditional, fieldworks may explain the encroachment on the east side of practice ground shown by study of the Ordnance Survey 2<sup>nd</sup> edition 25 inch map published in 1896, which shows the verge to Brookhill Road and a large parallel strip, including the site of the spar bridge shown on the 1868 plan, have been used as the site for married quarters for the adjacent Army Service Corps (ASC) barracks (the former Royal Engineers' barracks) and a drill hall.

## Twentieth Century

During the Second Boer War (1899-1902) the tactics and organisation of the British Army fundamentally changed with the emphasis now on marksmanship, movement, including physical fitness, fieldcraft and extemporised fieldworks particularly when combined with small blockhouses. Descriptions by both Maurice Jones (1954) and Guggisberg (1900) in their respective histories of the RMA detail the influence of this new doctrine on the use of the Practice Ground during the early 1900s. Guggisberg (1900, 195) relates:

'under his sapper instructor the G.C. [Gentleman Cadet] puts in some pretty stiff exercise at fixed works, especially when he is first introduced to the noble art of digging. The energy with which a snooker class [first-term cadets] starts in excavating a shelter trench is sublime.... for five minutes..... The manufacture of field kitchens out of earth, the boiling of potatoes on them and the construction of a watertight hut out of sticks and mud are amongst the numerous acts of military engineering acquired by the G.C'

Maurice Jones (1954, 7) adds:

'one of the lessons of the South African wars was that tactics and field craft were no indoor subjects, in 1901 2<sup>nd</sup> class bivouacked by sections during May in the Field Works field, cooking their own food etc'



Figure 42: Gentleman cadets digging trenches in what is probably the practice ground in 1918 (Courtesy of the Royal Artillery Historical Trust AL 799)

The principles of fieldcraft and fortification taught at the start of the 20th century were those that the British army took to war in 1914. The RMA closed on the outbreak of the First World War and its cadets were either commissioned immediately or dispersed to the new Officer Training Units. The Academy buildings were used for the drilling and instruction of recruits to the Royal Artillery and for technical training courses on subjects such as field telephony (TNA: PRO WO 314/1) perhaps taught by the staff of the Signals Experimental Establishment (see above). Despite the intensity of training undertaken throughout Britain, particularly on the construction of trench systems, the depiction of the Cadets' Practice Ground on the Ordnance Survey 3rd edition 25 inch map (London) published 1916 shows no detail other than the 1867 tool shed, reflecting the status of these trenches as temporary works.

At the end of the First World War the syllabus at the RMA was changed with general maths, science, engineering and basic military skills being taught at the RMA but all advanced technical training being conducted at the respective training schools of the corps: engineers, artillery, signals or tanks that the cadet had selected for their military career. The transfer of the practice ground from the RMA to the Garrison in 1923 was very likely occasioned by this change (Gillman 1924, 497). Basic cadet field training was then undertaken at the Repository or by the entire RMA decamping to Salisbury Plain or Aldershot for two weeks, a practice established before the First World War (Maurice-Jones 1954, 45).

What use the Garrison made of the practice ground is unclear. Second World War aerial photographs (RAF 106G/LA/30 4146 07-AUG-1944) show that eight, large, semi-detached houses (Lord Roberts Terrace) were built on the west side of the practice ground - the site of the arrow-head bastion - with their rear garden walls following the practice ground boundary wall. Lord Roberts Terrace was formed as a road in 1930 and four semi-detached houses were built following its construction. The houses were built as married quarters (P Guillery, pers comm), probably for the Woolwich Garrison or the adjacent military hospital.

The Ordnance Survey 1:2500 map (TQ 4377) surveyed in 1956 shows that Lord Roberts Terrace was constructed on an even slope with a pronounced scarp immediately to the east of the Terrace. Set into this slope was a water tank clearly identified on the 1956 survey and visible on aerial photographs by 1946 (RAF 106G/UK/1356 7306 02-APR-1946). Both the 1956 survey and the aerial photographs show the remainder of the practice ground as open ground to the rear of the Brookhill Road married quarters, bisected by paths linking both the married quarters and the east and west blocks of the Royal Army Service Corps (RASC) barracks with Nightingale Place. The 1944 aerial photographs (e.g. RAF 106G/LA/30 4146 07-AUG -1944) show a series of embayed trenches, possibly air raid shelters for the surrounding hospital and married quarters, and a concrete hardstanding under the trees near to the married quarters, possibly a hut base. Four, possibly five, semi-sunken Second World War air-raid shelters are visible on the practice ground on post-war photographs dating from 1946 (e.g. RAF 106G/UK/1356 7306 02-APR-1944) but the linear trenches appear to have been infilled.

As has been discussed the 1956 Ordnance Survey 1:2500 map shows few changes from

the 1944 aerial photographs. The married quarters at the corner of Nightingale Place and Brookhill Road had been demolished by this date, but the remainder of the site was much as it had been since the construction of Lord Roberts Terrace in the 1930s. Prior to the construction of the Brook Hill Estate in 1973-4 (P Guillery, pers comm), the remaining military buildings, including the women's hospital and the remaining structures of the former RE barracks, were demolished and the area used for further married quarters. The estate was built on the remaining practice ground and the site of the 19<sup>th</sup> century married quarters.

## **Description and Interpretation of the Remains**

A site visit identified a few surviving fragmentary remains relating to the practice ground. The gate piers and a section of wall that formed the entrance from Nightingale Place to the stable yard and the practice ground survive and are retained as part of an enclosure for an electricity sub-station and a section of the front garden wall of 58 and 59 Nightingale Place (built 1913). Both the piers and wall are built in a buff-brown brick laid in Flemish-bond. The piers retain masonry bases and shoulder bands which accommodated the pintles for the gate hinges, but have cast concrete capstones presumably as replacements for masonry examples. The Ordnance Survey bench mark incised in the right hand (east) gate pier is clearly marked on successive Ordnance Survey maps and cast-iron bumpers are located on the road side of each pier. The surviving section of wall has a corbelled base with distinct steps which follow the pronounced slope of the roadway down towards what had been the stable yard. This wall ends at the modern brick-built boundary wall for the Gunner Lane estate. A section of the boundary wall between the stable yard and the practice ground survives as the lower courses of the rear garden wall for No.1 Lord Roberts Terrace. This section ends at a modern garage to the rear of 60-62 Gunner Lane. No surviving earthworks relating to the practice ground were identified during the site visit.

## DISCUSSION AND CONCLUSIONS

The survey and research has demonstrated the great impact that the presence of the military in Woolwich had on the common and its environs, fundamentally affecting the character of the area over many of years from its arrival in the second half of the 18<sup>th</sup> century. Though by the 19<sup>th</sup> century military activity on common land was neither new nor unusual (Bowden et al 2009, 44-50), Woolwich was probably unique in terms of the extent and frequency of its use at this time. It has also been suggested that Woolwich Common was the earliest common to be permanently acquired by the military (Bowden et al 2009, 54), again reflecting the unique role of the common in this famous military town. The research has also demonstrated the huge variety of ways in which the open space that the common provides has been utilised and how these different uses sometimes conflicted, particularly the use of the common for military training and public recreation.

The research has highlighted the multi-functional nature of Woolwich Common where a variety of often conflicting activities have taken place. Exploitation for pasture, turf- and gorse-cutting and quarrying are some of the earliest uses of the common that have been identified and these often appear to have been in conflict with the acquisition of the area for military training. It is clear that the military used many different open spaces in Woolwich for training and training activities occurring on the specifically on the common have been difficult to identify though they must have taken place. However the use of the common for firing practice from the mortar battery adjacent to the barracks appears to have had a significant impact. Map and aerial photographic evidence reveals the extent to which the military altered routes and land boundaries around the common for their own purposes, particular to facilitate the use of the practice mortar battery. Other areas, such as Barrack Field, appear to have been levelled by the military to provide more suitable terrain for training and drill.

Background research has also demonstrated how the other green spaces around the common were utilised in military field training and how changes in the use of these spaces reflect the changing tactical needs of the British army in the 19<sup>th</sup> and into the 20<sup>th</sup> century. From the information which had been revealed regarding the RMA practice batteries and the fieldworks on the Cadets' Practice Ground, a clearer understanding of the practical aspects of the RMA cadet's training and how it was accommodated in the open spaces around the common has been gained.

The convenient open ground provided space for a number of buildings which were built at the fringes of Charlton and Woolwich commons over many years, ranging from soldiers' huts to hospitals; many were directly related to the military presence in the town. The important role of the Ha-Ha Road site, which housed the Signals Experimental Establishment, the Radio Production Unit and then the Atomic Weapons Research Establishment, has been highlighted by the research. Research and development work into a variety of different technologies, from radio communications to electronic components for nuclear bomb trials, was undertaken in the specialist facilities on the site and many of the systems developed played a role in events of international importance during the First and Second World Wars and the Cold War. The use and



expansion of the Ha-Ha Road site also occasionally appeared to conflict with common's training and recreational uses.

In times of military conflict it appears that the status of the common changed, and though the training activities undoubtedly continued the common was also used to provide temporary camps for field batteries in the First World War and for the siting of anti-aircraft guns in the Second World War. Barrage balloons were sited on the common and on Barrack Field during the conflict and emergency trench shelters were dug around the edges of the sports fields at the RMA and on Barrack Field.

The use of the common for sporting and leisure activities was also identified as a strong theme during the research, with activities such as horse racing occurring on the main part of the common and areas around the barracks and Royal Military Academy being used for football and cricket. It should be noted that many of those participating in sports on the common and surrounding areas would have been soldiers and cadets as opposed to civilians. In later years some of these sports grounds were formalised, particularly with the building of the Woolwich Stadium which was used for football and the searchlight tattoo events. The use of the common as a recreational space is the only traditional function of the common that survives today, the area now being home to dog-walkers and the occasional circus. It is also clear, however, that the common played a role in bringing the inhabitants of Woolwich, both military and civilian, together. Numerous events have taken place on the common over the years including grand royal reviews, commemorative events and celebrations and a wealth of newspaper articles, drawings and photographs record these large gatherings. The use of the common for the shooting events in the 2012 Olympic Games will see these traditional roles of the common reaffirmed.

Unfortunately little evidence of the varied and sometimes important roles that Woolwich Common played in events of local, national and international significance survives on the common today, though lost mortar rounds and other small objects may lie buried in the top soil. This is in part due to the nature of the activities taking place; few of the ways in which the common was used for military training and recreation would have left their mark on the landscape. As for those activities which might have left some trace, the impact of horse artillery training, trench digging, earth dumping in the Second World War and the construction and then later demolition of the Second World War Heavy Anti-aircraft Artillery battery have altered the topography of common, particularly to the south, beyond recognition. Perhaps the most significant feature that survives, beyond the massive earthworks of the Woolwich Stadium, is the zigzag trench running along the southern boundary of the Ha-ha Road site. Though an interpretation as a First World War practice trench has been discussed, on balance it seems more plausible that the trench represents the remains of a shelter, possibly constructed in the build up to the Munich Crisis in 1938, in order to house the staff of the Signals Experimental Establishment in the event of an air raid.

The research has also demonstrated that little upstanding evidence remains of the activities which occurred on the other open spaces around the common, around the RMA and on Barrack Field and the former site of the Cadets' Practice Ground. However

potential for buried archaeological deposits remains, particularly in the gardens that were constructed on top of the RMA practice batteries and also on Barrack Field, where parch marks indicate the potential for buried remains of an 18th century road that was diverted from the front of the Barracks and the Second World War trenches that were excavated around the playing fields.

## **METHODOLOGY**

### **Fieldwork**

Rapid survey of the lower, northern section of the Common was undertaken in May 2008. The field data (any earthwork or surface structural remains thought to be of historic or archaeological interest) was mapped at 1:2500 scale using a Trimble GeoXt mapping grade receiver using GPS and a differential measurement supplied in real time from a Trimble GeoBeacon and transformed to OSTN02. The field codes were processed in Korec's Geosite software and plotted out in AutoCad software.

During the walk-over surveys features were noted, sketch-plotted and photographed as appropriate.

### **Aerial Photographic Transcription**

The aerial photographs used to create Figure 21 were transformed using the Ordnance Survey 1:2500 MasterMap map base using the Aerial 5.3 transformation programme. The archaeological features were transcribed using AutoCAD to a scale of 1:2500.

NMR aerial photographs have been examined for all areas discussed in the text.

### **Publication**

The survey plan was completed at 1: 2500 scale using digital drawing techniques in AutoCad/Adobe CS2 software. Additional report illustrations were prepared using AutoCad/Adobe CS2 software. The report was prepared for publication using Adobe InDesign software.

### **Archive**

The survey data has been archived in compliance with English Heritage RADF guidelines and deposited at the NMR.

### **Limiting factors**

The vegetation conditions on the higher, southern section of the common were unsuitable for measured survey. Therefore a rapid walkover and desk-top survey was undertaken.

A walk-over survey of Barrack Field and area south of the RMA was not undertaken those areas were considered to have been levelled.

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by order of Brigadier General Borgard in the year 1728, July 10 to August 8. Folios 189-  
192
- TNA:PRO WO 32/I7473 Royal Military Academy, Woolwich, War Office Officers' Mess:  
proposed charter, transfer of control and accommodation requirements 1957-1971
- TNA:PRO WO 32/3658 RESEARCH: General (Code 56(A)): Proposal to move the  
Signal Experimental Establishment from Woolwich 1926-1934
- TNA:PRO WO 32/3659 RESEARCH: General (Code 56(A)): Proposal to move the

Signal Experimental Establishment from Woolwich 1934  
 TNA:PRO WO 95/5457 First World War and Army of Occupation War Diaries  
 TNA:PRO WO 33/874 Annual return of Armaments on fixed mountings 1918  
 TNA:PRO WO 33/499 Annual return of fixed mountings for home and abroad 1910  
 TNA:PRO WO 33/2906 Report of Committee on regulations for heavy artillery training 1904  
 TNA:PRO WO 47/2574 Extracts of Board of Ordnance minutes (series 2). 21st February 1803  
 TNA:PRO MPH 1/32/1???

TNA:PRO WO 55/187 Ordnance Office and War Office: Miscellaneous Entry Books and Papers 1832  
 TNA:PRO WO 55/3034 Statements of Lands and Buildings – Woolwich 1851  
 TNA:PRO WO 78/2546 Woolwich: plan of War Department property, showing cadets' practice ground. 1868  
 TNA:PRO WO 78/3104 Royal Military Academy, Woolwich: Barrack Atlas plans of Academy 1881 (Sheet 2 1867)  
 TNA: PRO WO 314/1 Remarks on training at the Royal Military Academy, Woolwich, from August 1914 to June 1918  
 TNA: PRO WORK 43/1314 Plan of the property of the War Department in the parishes of Charlton, Plumstead and Woolwich: 1 inch: 330 feet 1858

### **Ordnance Survey maps**

Ordnance Survey 25 inch 1st edition (London Sheet 71) surveyed 1864-66, published 1869  
 Ordnance Survey 25 inch 2<sup>nd</sup> edition (London Sheet 107) surveyed 1893-94, published 1896  
 Ordnance Survey 25 inch 3<sup>rd</sup> edition (London) published 1916  
 1956 Ordnance Survey 1:2500 map (TQ 4377)

### **London Metropolitan Archives**

LMA P97/MRY/049 St Mary, Woolwich – Vestry Minutes  
 LMA P97/MRY/050 St Mary, Woolwich – Vestry Minutes  
 LMA GLC/AR/BR/26/WO/M/24/I-2: LBGPA

### **Miscellaneous**

AWE Aldermaston: Woolwich Common Album 1956  
 Parliamentary Archives FCP/2/327  
 Greenwich Heritage Centre 1810 map of Woolwich  
 Greenwich Heritage Centre Woolwich cuttings  
 Greenwich Heritage Centre Woolwich Common Nursery plans  
 Bexley Local Studies and Archive Centre: Andrews, Dury and Herbert's 1769 map of Kent  
 Sandhurst letter 14th Oct 1845 from Capt S Williams RE to Maj Gen Sir G Whitmore RE, Lt Governor of the RMA  
 Woolwich Gazette letter May 1892 (Guildhall Library)  
 Kentish Mail 3rd June 1892  
 The Times 25th July 1835, 5

The Builder 26th Sept 1863

Naval Kite Trials - <http://www.sfcody.org.uk/kites.html> 25 Aug 2010

## Royal Artillery Historical Trust

### Photographs

AL799 – possibly Cadets' practice ground 1918

AL799 - Aerial photograph of RMA and section of common 25 Sept 1917

AL70/38 – 'Cricket match at RM Academy, Woolwich 1869'

AL932/17 – Physical Training exercises at RMA 1924 or 1925

AL150/23 – Cadets posing in open embrasure of RMA practice battery – no date

AL 150/29 – Forming a square on front lawn of RMA – no date

AL 27/63 – 'Battalion parade, June 1928'

AL 951 BOX 25/15 – 'Garrison gun drill on 12 pounder QF Sep 20 1912' and marked 'Drill Bty RMA'

AL 951 BOX 25/29 – 'Garrison gun drill on a 6 inch BL MK Oct 4 1912' and marked 'Drill Bty RMA'

AL219 – 'The battery RMA June 1899'

AL2/1/21 – '7 inch gun in casemate behind the 'Shop' 1868'

AL100/19 – [Mortar] 'Practice, 1847'

AL366/4 – RMA practice battery, between 1868-1885

AL644 – 'One O'clock Gun' – no date

AL418 – Woolwich Garrison Searchlight Tattoo circa 1930

AL 445 – Field batteries / artillery train on Woolwich Common 1915

AL100/53 – 'HM King's Review at Woolwich 1913'

### Map

1868 map Royal Military Academy, Woolwich (surveyed 1867 by Bayly)

## Greater London Historic Environment Record

GLSMR ELO8004

GLSMR ELO463

GLSMR MLO68283

GLSMR MLO72874

## National Monuments Record

NMR BB89/6037 Photograph of RMA Athletic Sports Gathering 1868

NMR WORK 43/747 Plan of Ordnance Lands and Buildings at Woolwich 1806

### Aerial Photographs

RAF I06G/UK/1356 7306 02-APR-1944

RAF I06G/LA30 4145 07-AUG -1944

RAF I06G/LA30 4146 07-AUG -1944

RAF I06G/LA30 4147 07-AUG -1944

RAF I06G/LA30 4148 07-AUG -1944

RAF I06G/UK/916 6036 11-OCT-1945

RAF I06G/UK/916 6037 11-OCT-1945

RAF I06G/UK/916 6050 11-OCT-1945

RAF I06G/UK/916 6060 11-OCT-1945  
RAF I06G/UK/916 6085 11-OCT-1945  
RAF I06G/UK/916 6086 11-OCT-1944  
RAF I06G/UK/916 6087 11-OCT-1944  
RAF I06G/UK/916 6110 11-OCT-1945  
RAF 58/261 5023 24-JUN-1949  
NMR TQ 4378/4 (15157/14) 02-SEP-1994  
NMR TQ 4378/51 (24457/30) 06-SEP-2006

#### Monument and Event Records

NMR TQ47NW108  
NMR TQ47NW176 (1412604)  
NMR TQ47NW143 (1354891)  
NMR TQ47NW146 (544110)  
NMR LINEAR 349 (1043145)



## **ENGLISH HERITAGE RESEARCH DEPARTMENT**

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- \* Archaeological Science*
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- \* Architectural Investigation*
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- \* Survey of London*

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