

Beaches, fields, streets, and
hills . . .

the anti-invasion landscapes of
England, 1940

Beaches, fields, streets, and hills . . .

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We shall fight on the beaches, we shall fight on the landing grounds,
we shall fight in the fields and in the streets, we shall fight in the hills;
we shall never surrender.

Winston S Churchill, 4 June 1940

William Foot

Maps by Clara Thomson

With a Foreword by Professor Richard Holmes



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Front cover: Main picture: Pillbox near Hartford End, Essex

Small pictures (left to right): Pillbox on St Michael's Mount Cornwall,
Anti-tank blocks by the River Mole, Surrey,
Pillbox near Dover, Kent (all by the author)

Back cover: German map dated October 1940, showing British defence lines (courtesy of
The Imperial War Museum, London)

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Abbreviations

Archival

AP	-	Air photograph
BLML	-	British Library Map Library
HER	-	Historic Environment Record
IWM	-	Imperial War Museum
NMP	-	National Mapping Programme
NMR	-	National Monuments Record
PRO	-	Public Record Office [now The National Archives]
SMR	-	Sites and Monuments Record
TNA	-	The National Archives

Military

AA	-	Anti-aircraft
ADGB	-	Air Defence of Great Britain
AFV	-	Armoured fighting vehicle
A/Tk	-	Anti-tank
Bde	-	Brigade
Bn	-	Battalion
CASL	-	Coast artillery searchlight
CE	-	Chief Engineer
C-in-C	-	Commander-in-Chief
Coy	-	Company
CRE	-	Commander Royal Engineers
DA	-	Defence Area [Project use only, not contemporary]
Div	-	Division
FDL	-	Forward Defended Locality [occasionally, 'forward defended line']
FW3	-	Directorate of Fortifications and Works, Branch 3
G (or GS)	-	General Staff
GHQ	-	General Headquarters
HAA	-	Heavy anti-aircraft
HE	-	High explosive
HQ	-	Headquarters
LAA	-	Light anti-aircraft
LMG	-	Light machine gun
MMG	-	Medium machine gun
OP	-	Observation post
QF	-	Quick-firing
RA	-	Royal Artillery
RAF	-	Royal Air Force
RCE	-	Royal Canadian Engineers
RE	-	Royal Engineers

RSJ	-	Rolled steel joist
VP	-	Vulnerable Point
WD	-	War Department
WO	-	War Office

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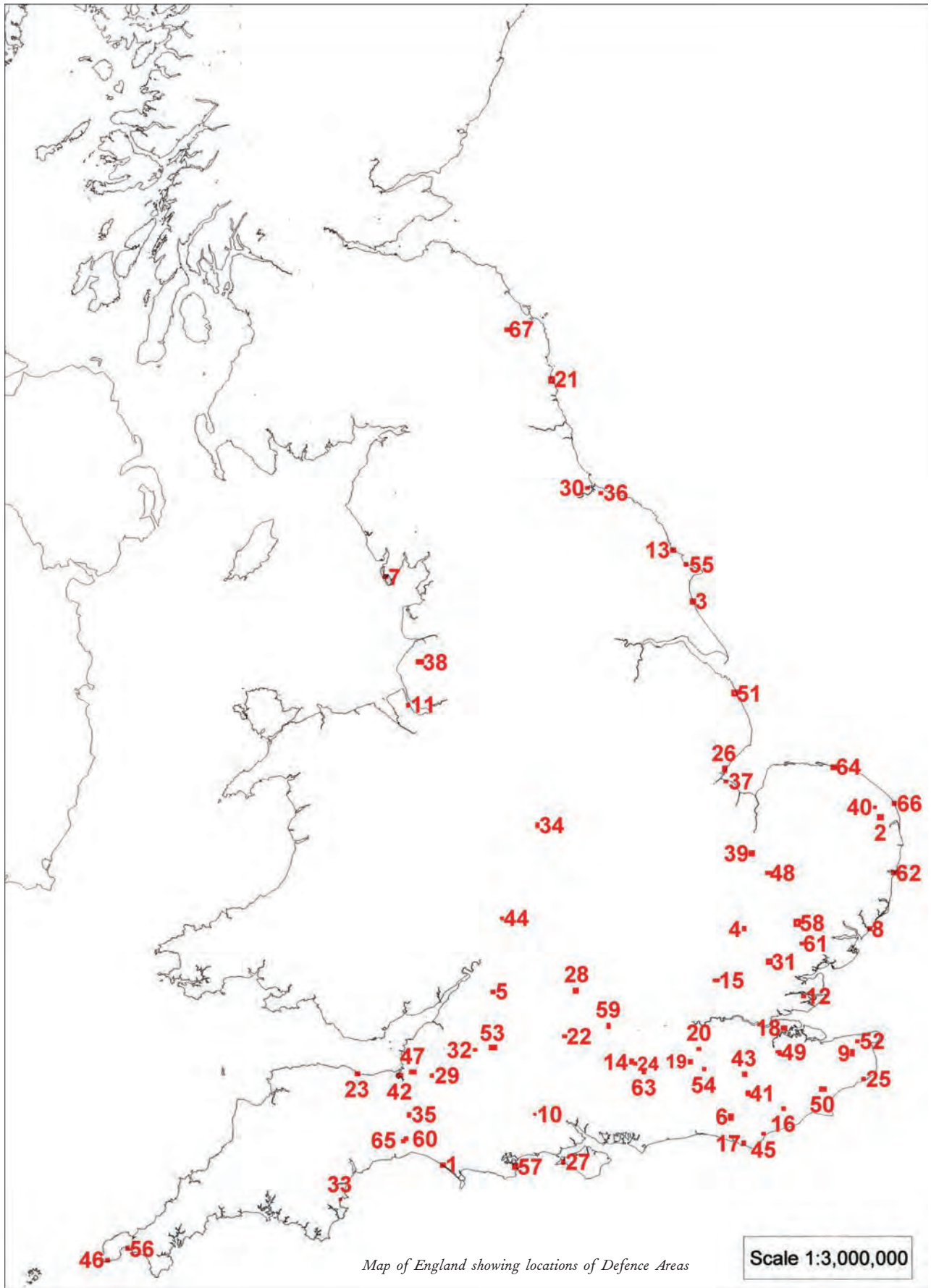
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- 308 Type 22 pillbox [13637], Canewdon
- 309 Type 22 pillbox [13634], Canewdon

- 310 Type 23 pillbox [16963], Lambourne Hall, Canewdon (reproduced by courtesy of Essex County Council, © F Nash)
- 311 Air photograph of Pershore Bridges, 1941 (English Heritage (NMR) RAF Photography)
- 312 6 pdr gun emplacement, Holt Fleet Bridge, Worcestershire
- 313 Pershore Bridges, c 1946 (reproduced by courtesy of M Freeman)
- 314 6 pdr gun emplacement [9017], Pershore Bridges
- 315 Cylinders [9021], Pershore Old Bridge
- 316 Spigot mortar pedestal [8934], Weir Meadow, Pershore
- 317 Breamore Mill and bridge
- 318 Pillbox [488], Breamore Mill
- 319 Defended barn [475], Breamore Mill
- 320 Loop-hole, defended barn [475], Breamore Mill
- 321 Pillbox [7296], Waud House, Wooler
- 322 Pillbox [7300], Wooler
- 323 Air photograph of Bromborough Pool, 1948 (English Heritage (NMR) RAF Photography)
- 324 Bromborough Pool Bridge
- 325 Pillbox [6150], Bromborough Pool Bridge
- 326 Pillbox [15716], Bromborough Pool Bridge
- 327 Greatham Creek Bridge
- 328 Air photograph of Greatham Creek, 1946 (English Heritage (NMR) RAF Photography)
- 329 Section post [16496], Greatham Creek
- 330 Pillbox [6049] and section post [6050], Greatham Creek
- 331 View of section post [6050], Greatham Creek
- 332 Interior of section post [16496], Greatham Creek
- 333 Air photograph of Kirkleatham, 1946 (English Heritage (NMR) RAF Photography)
- 334 War Diary Plan of the defences of Kirkleatham, 1941 (reproduced by courtesy of TNA)
- 335 Pillboxes [5917 and 5916], Kirkleatham
- 336 Drum tower [10148], Kirkleatham Hall
- 337 Spigot mortar pedestal [10722], Kirkleatham
- 338 Roadblock, Shalford, Surrey (© C Urquhart)



Map of England showing locations of Defence Areas

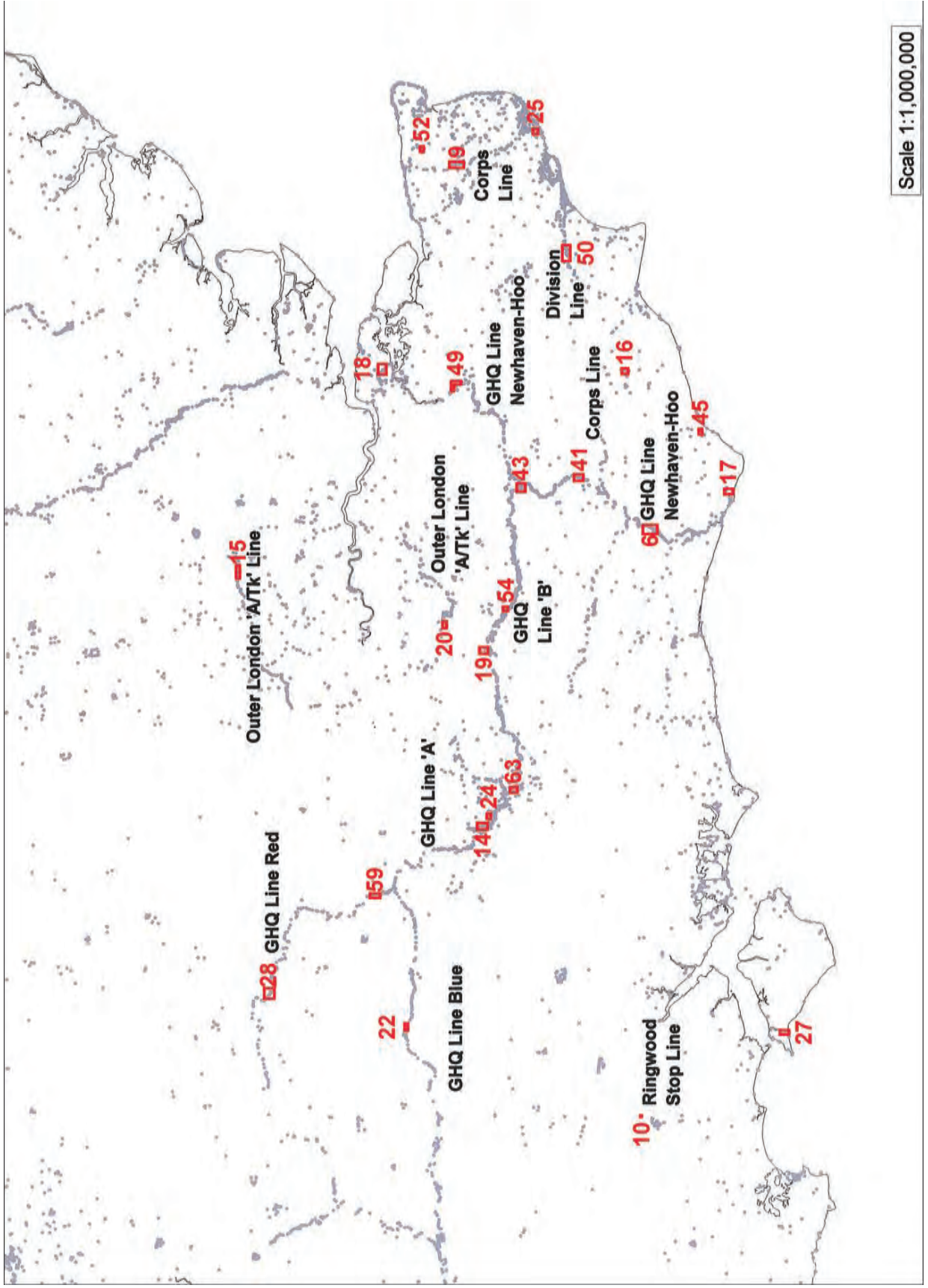
Scale 1:3,000,000

Key to Defence Area numbers

- 1 Abbotsbury, Dorset
- 2 Acle, Norfolk
- 3 Atwick, East Yorkshire
- 4 Audley End, Essex
- 5 Avening, Gloucestershire
- 6 Barcombe Mills, East Sussex
- 7 Barrow Island, Cumbria
- 8 Bawdsey Point, Suffolk
- 9 Bramling – Ickham – Wickhambreaux, Kent
- 10 Breamore Mill, Hampshire
- 11 Bromborough Pool, Cheshire
- 12 Canewdon, Essex
- 13 Cayton Bay, North Yorkshire
- 14 Chequers Bridge, Hampshire
- 15 Cheshunt, Hertfordshire
- 16 Cripp's Corner, East Sussex
- 17 Cuckmere Haven, East Sussex
- 18 Deangate Ridge, Hoo, Kent
- 19 Dorking Gap, Surrey
- 20 Drift Bridge, Surrey
- 21 Druridge, Northumberland
- 22 Dunmill Lock, Berkshire
- 23 Dunster Beach, Somerset
- 24 Ewshot, Hampshire
- 25 Farthingloe, Dover, Kent
- 26 Freiston Shore, Lincolnshire
- 27 Freshwater Bay, Isle of Wight
- 28 Frilford – Fyfield, Oxfordshire
- 29 Godney, Somerset
- 30 Greatham Creek, Stockton-on-Tees
- 31 Hartford End, Essex
- 32 Hog Wood, Bath & North East Somerset
- 33 Hollicombe Beach, Torbay
- 34 Hopwas Bridge, Staffordshire
- 35 Ilton, Somerset
- 36 Kirkleatham, Redcar & Cleveland
- 37 Lawyers' Creek, Holbeach, Lincolnshire
- 38 Leeds & Liverpool Canal: Burscough, Lancashire
- 39 Littleport, Cambridgeshire
- 40 Ludham Bridge, Norfolk
- 41 Old Lodge Warren, East Sussex
- 42 Pawlett Hill, Somerset
- 43 Penshurst, Kent

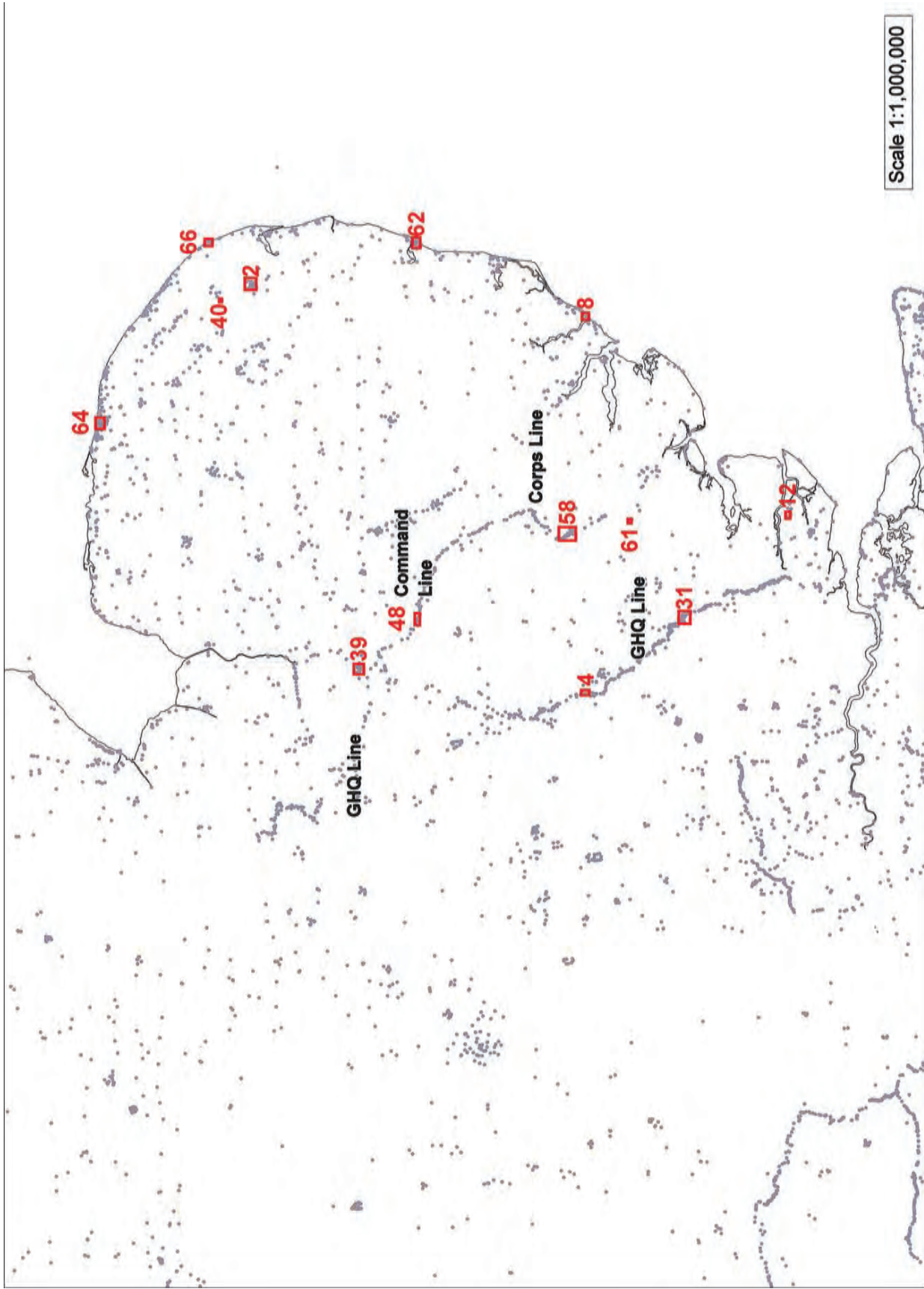
- 44 Pershore Bridges, Worcestershire
- 45 Pevensey Castle, East Sussex
- 46 Porthcurno, Cornwall
- 47 River Brue: Cripp's Bridge, Somerset
- 48 River Lark: Jude's Ferry Bridge, Suffolk
- 49 River Medway: Maidstone, Kent
- 50 Royal Military Canal: Bilsington – Ruckinge, Kent
- 51 Saltfleetby, Lincolnshire
- 52 Sarre, Kent
- 53 Semington – Whaddon, Wiltshire
- 54 Sidlow Bridge, Surrey
- 55 Speeton, North Yorkshire
- 56 St Michael's Mount, Cornwall
- 57 Studland Bay, Dorset
- 58 Sudbury, Suffolk
- 59 Sulham Valley, Berkshire
- 60 Wadbrook, Devon
- 61 Wakes Colne Viaduct, Essex
- 62 Walberswick, Suffolk
- 63 Waverley Abbey, Surrey
- 64 Weybourne, Norfolk
- 65 Weycroft, Devon
- 66 Winterton-on-Sea, Norfolk
- 67 Wooler, Northumberland

NB: These numbers are for map reference purposes only and do not have any other area identification purpose. The system of numbered defence areas within the full study report of this project is not continued to this research report.

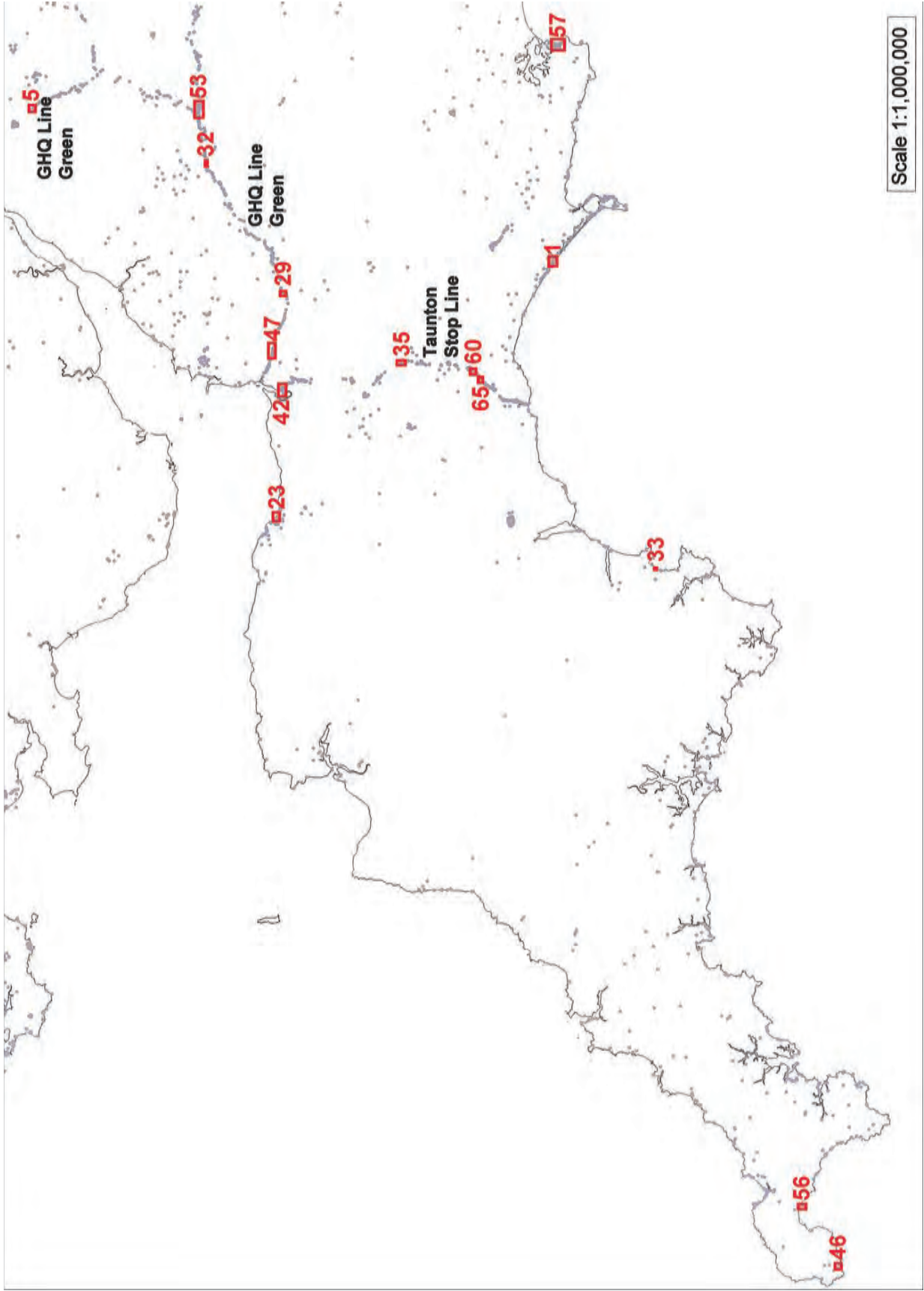


Scale 1:1,000,000

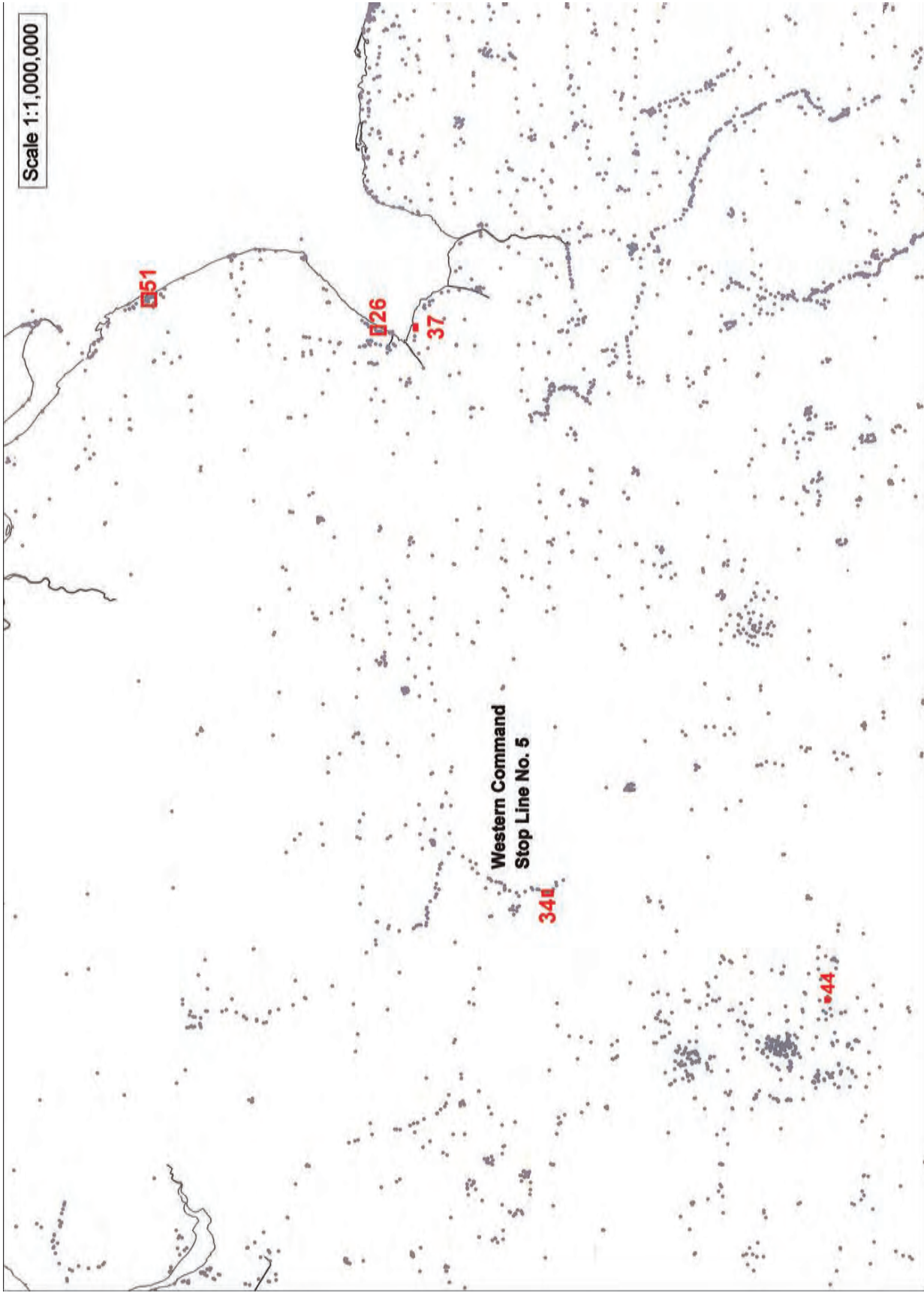
Regional maps showing the areas in relation to the structure of defence



Regional maps showing the areas in relation to the structure of defence



Regional maps showing the areas in relation to the structure of defence

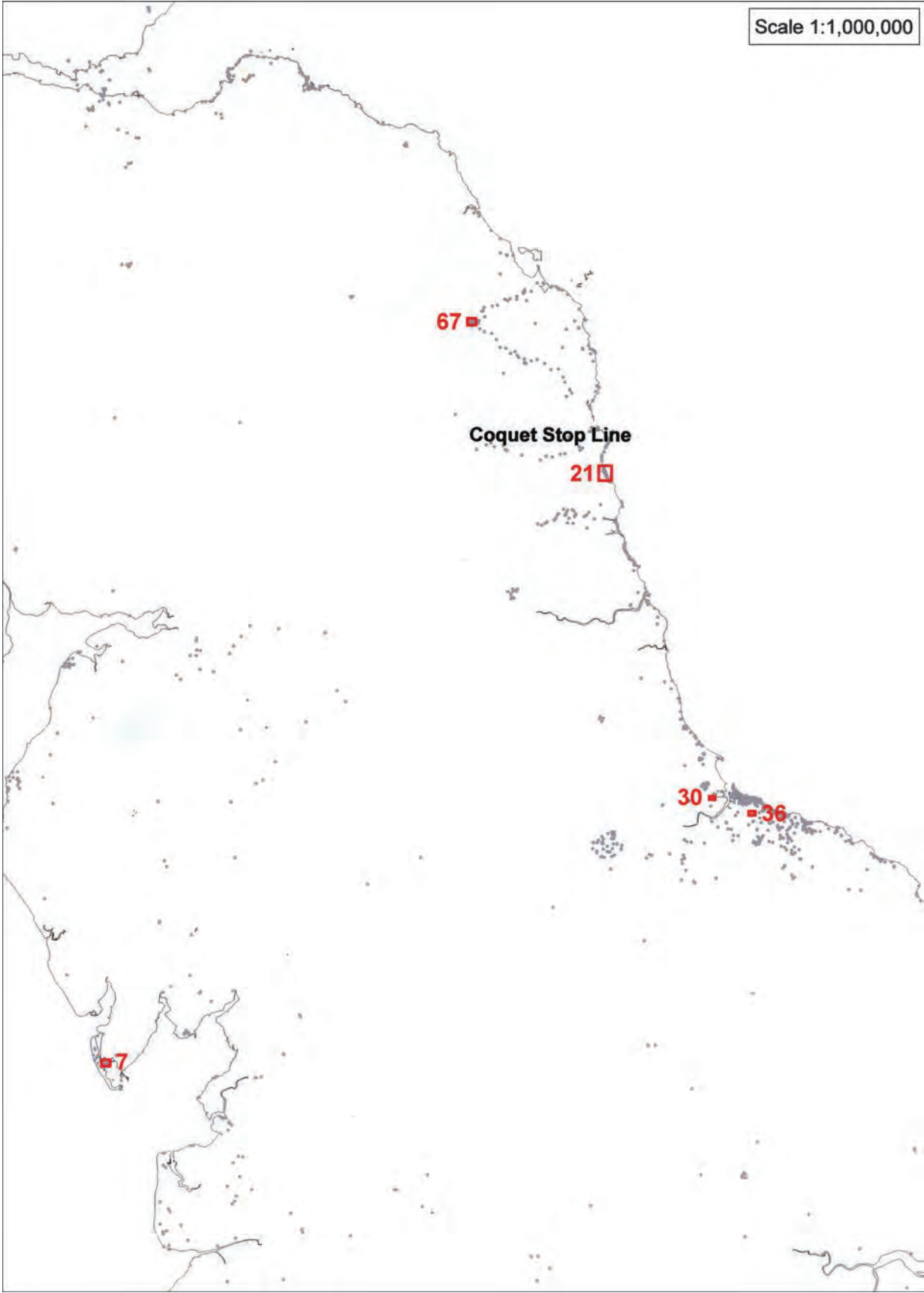


Regional maps showing the areas in relation to the structure of defence



Regional maps showing the areas in relation to the structure of defence

Scale 1:1,000,000



Regional maps showing the areas in relation to the structure of defence

About the Maps

The majority of maps in this report use 1:25,000 Ordnance Survey data reproduced at the scale 1:10,000. In a few cases, the scale has been increased to 1:5000 or decreased to 1:15,000. For the background mapping, Ordnance Survey conventional signs and colours apply.

For the added data of the defence works, a system of symbols, based on those used by the German and British forces at the time, has been devised. These are colour coded to show sites that survive, those that have been removed, and those where survival is not known. If the position or identity of a site is not certain, a question mark is added alongside. The key to the symbols is at page xxviii. It has not been possible to distinguish between the different types of ‘pillboxes’ with the exception of anti-tank gun emplacements and Vickers machine gun emplacements. The symbol for an anti-tank block in some cases also marks the site of a roadblock. Linear defences such as anti-tank ditches, scaffolding, or barbed wire entanglements are shown by continuous lines connecting symbols at changes of direction. In certain cases, the boundaries of minefields have also been indicated by lines.

The numbers on the maps provide unique site references. The tables of sites with each area description provide brief details of defence work type and national grid reference. For a fuller description of each site, reference should be made to the Defence of Britain Project database, as updated by the Defence Areas Project, available through the Archaeology Data Service <<http://ads.ahds.ac.uk/catalogue/resources.html?dob>>

The national and regional maps showing the locations of the defence areas have the Defence of Britain Project site data as their background, enabling the courses of stop lines to be made out as well as other areas of concentrated defence.

It should be noted that in some areas, sites shown at the edges of the map have not been field checked as they lay beyond the strict boundaries determined by the project. This is particularly true of coastal and stop line defence where the additional sites have been included on the maps to indicate the continuous nature of such defence.

KEY TO ALL DEFENCE AREA MAPS

- PILLBOX (TYPE 22)
- PILLBOX (TYPE 23)
- PILLBOX (TYPE 24)
- PILLBOX (TYPE 25)
- PILLBOX (TYPE 26)
- PILLBOX (TYPE 27)
- PILLBOX (NORCON)
- PILLBOX (CANTILEVERED)
- PILLBOX (PREFABRICATED)
- PILLBOX (VARIANT)
- ALLAN WILLIAMS TURRET
- RUCK MACHINE GUN POST
- TETT TURRET
- MACHINE GUN EMPLOYMENT

- PILLBOX (WORLD WAR ONE)
- VICKERS MACHINE GUN EMPLOYMENT
- ANTI TANK GUN EMPLOYMENT (TYPE 28)
- ANTI TANK GUN EMPLOYMENT (TYPE 28A)
- ANTI TANK GUN EMPLOYMENT FIELD GUN EMPLOYMENT
- ANTI-TANK GUN POSITION
- GUN EMPLOYMENT
- SECTION POST
- FORTIFIED HOUSE DEFENDED BUILDING
- LOOPHOLED WALL
- INFANTRY POST MACHINE GUN POST
- FIRE TRENCH
- RIFLE PIT
- SLIT TRENCH
- TRENCH
- WEAPON PIT

- ARTILLERY GUN POSITION
- ANTI AIRCRAFT GUN POST
- SPIGOT MORTAR EMPLOYMENT

- ANTI-TANK OBSTACLES
- ANTI TANK BLOCK
- ANTI TANK HAIRPIN
- ANTI TANK HORIZONTAL RAIL
- ANTI TANK VERTICAL RAIL
- ANTI TANK WALL
- CABLE
- CONE
- COFFIN
- CUBE
- CYLINDER
- PIMPLE
- POST
- LINE OF OBSTACLES

- ROADBLOCK
- RAILBLOCK
- ANTI TANK DITCH
- ANTI TANK DITCH (NATURAL IMPROVED)
- LINE OF ANTI-TANK DITCH
- ANTI LANDING TRENCH
- ANTI LANDING OBSTACLE
- BEACH SCAFFOLDING
- ANTI-TANK SCAFFOLDING
- LINE OF SCAFFOLDING
- ANTI BOAT LANDING OBSTACLE
- BARBED WIRE ENTANGLEMENT
- BARBED WIRE FENCE
- LINE OF BARBED WIRE
- BEACH DEFENCE LIGHT
- COAST ARTILLERY SEARCHLIGHT
- LYON LIGHT EMPLOYMENT
- BEACH DEFENCE BATTERY
- COAST BATTERY
- EMERGENCY COAST DEFENCE BATTERY
- CANADIAN PIPE MINE
- DEPTH CHARGE CRATER
- DETONATION CHAMBER
- MINEFIELD
- MINED BRIDGE

- BARREL FLAME TRAP
- PETROLEUM WARFARE SITE
- FLAME FOUSSASSE
- COMMAND POST
- ARMY HEADQUARTERS
- ARMY BATTLE HEADQUARTERS
- HOME GUARD HEADQUARTERS
- HOME GUARD STORE
- HOME GUARD SHELTER
- OBSERVATION POST
- HOME GUARD OBSERVATION POST
- COASTAL OBSERVATION POST
- OBSERVATION BUNKER
- AUXILIARY UNIT OPERATIONAL BASE
- AUXILIARY UNIT OBSERVATION POST
- AUXILIARY UNIT SPECIAL DUTIES OUTSTATION
- AUXILIARY UNIT SITE
- AIRFIELD
- OTHER DEFENCE SITES
- DEFENCE SITE (uncertain type)
- DEFENCE WORK (uncertain type)

Symbols in red indicates sites that are 'extant', yellow, 'removed', and white, 'unknown'

For example

Summaries – English, French & German

‘Beaches, Fields, Streets, and Hills’ – Summary

After the defeat at Dunkirk at the end of May 1940, Britain was faced with the imminent prospect of invasion. To counter the threat of a ground war fought across her own territory, defences were hastily erected on the coast and then inland, the latter involving a complicated pattern of linear (stop line) defence and of area defence based on important communication points (nodal points). The prime purpose of these inland defence systems was to serve as anti-tank obstacles preventing German armoured columns ‘cutting loose’ in Britain as they had done in France. The linear defences, formed of natural barriers such as rivers but supplemented by miles of machine-cut anti-tank ditches and rows of concrete obstacles, were protected at their crossing points of roads and railways by hardened weapon emplacements (concrete pillboxes and anti-tank gun emplacements). The landscapes that were defended in this way lay throughout Britain – at beach fronts, in marshland, on uplands and moorland, within cornfields and woodland, in valleys and on hillsides.

This study looks at 67 areas of English landscape where material evidence of the 1940 defences survives. Through documentary assessment and fieldwork, the defences have been reconstructed as they originally stood, and the strategy behind them analysed. Wherever possible, they have been repopulated with the troops that manned them, or were detailed to move to these prepared battlefields in the actual event of invasion, whether units of the regular Field Army or the Home Guard.

Each type of defence work is examined in detail, and the surviving condition of individual structures assessed. A glossary of defence work types is included, and these differing types are indicated on the maps that illustrate the 67 area reports by a series of symbols. Archival maps and air photographs are also included, some of which were produced by the German Army and Air Force indicating their meticulous preparations for the invasion.

The book also examines the overall historical perspective of the 1940 defences, and seeks to dispel several myths that have grown up concerning this subject over the years. It shows that, despite initial shortages of weapons and building materials, the defence systems put in place from mid-1940 to the Spring of 1941 were highly complex and meticulously planned, making full use of landscape features and natural topography, and set back in depth from the coastal front edge in protection of the nation’s heartlands. At their most developed in 1941, they would have presented a considerable obstacle to invading German forces; at the very least holding up and diverting the direction of attacks, enabling the mobile British reserve forces to counter-attack on ground of their choosing.

‘Plages, Champs, Rues, et Collines’ – Résumé

Après la défaite de Dunkerque à la fin de mai 1940, la Grande-Bretagne a dû faire face à la perspective d’une invasion imminente. Afin de parer à la menace d’une guerre sur terre sur son propre territoire, des défenses avaient été construites en hâte sur la côte, puis à

l'intérieur des terres, ces dernières impliquant un modèle compliqué de défense linéaire (ligne d'arrêt) et de défense de zones basées sur les points de communication importants (points nodaux). L'objectif principal de ces systèmes défensifs de l'arrière pays était de servir d'obstacles antichars, empêchant les colonnes blindées allemandes d'avancer librement en Grande-Bretagne comme elles l'avaient fait en France. Les défenses linéaires, formées de barrières naturelles comme les rivières, mais auxquelles s'ajoutaient des kilomètres de fossés anti-chars creusés à la machine et des rangées d'obstacles concrets, étaient protégées par des emplacements d'armes en dur (casemates en béton et emplacements de canons antichars) aux points où ces défenses traversaient les routes et les voies ferrées. Les paysages qui étaient défendus de cette manière se trouvaient dans la Grande-Bretagne toute entière – sur les plages, dans les marécages, sur les hautes terres et dans les landes de bruyères, dans les champs de blé et les bois, dans les vallées et sur les collines.

Cette étude porte un regard sur 67 zones du paysage anglais où restent encore des indices matériels des défenses de 1940. Les défenses ont été reconstruites comme elles l'étaient à l'origine par le biais de l'évaluation documentaire et du travail sur le terrain, et la stratégie qui les inspirait a été analysée. Dans la mesure du possible, elles ont été repeuplées par les troupes qui les tenaient ou bien qui avaient pour mission de se rendre sur ces champs de bataille préparés à l'avance au cas où il y aurait réellement une invasion, qu'il s'agisse d'unités de l'armée régulière ou bien de la Home Guard [volontaires pour la défense du territoire entre 1940 et 1945].

Chaque type d'ouvrage défensif est étudié en détail, et l'état des structures individuelles restant encore est évalué. Un glossaire des types d'ouvrages défensifs est inclus, ces différents types sont indiqués sur les cartes qui illustrent les rapports sur les 67 zones par le biais d'une série de symboles. Des cartes d'archives et des photos aériennes ont également été incluses, dont certaines avaient été produites par l'armée et l'armée de l'air allemandes, indiquant leurs méticuleux préparatifs d'invasion.

Le livre examine également la perspective historique d'ensemble des défenses de 1940, et s'efforce de dissiper plusieurs mythes qui ont apparu au fil des ans concernant ce sujet. Il montre que, en dépit du manque initial d'armes et de matériaux de construction, les systèmes défensifs mis en place entre mi-1940 et le printemps de 1941 étaient extrêmement complexes et méticuleusement planifiées, utilisant à fond les caractéristiques du paysage et la topographie naturelle, et qu'elles étaient placées bien à l'arrière du littoral afin de protéger les zones essentielles du pays. Sous leur forme la plus sophistiquée de 1941, elles auraient constitué un obstacle considérable pour les forces d'invasion allemandes; elles auraient pour le moins tenu le coup et changé la direction des attaques, permettant aux forces mobiles de la réserve britannique de contre-attaquer sur le terrain de leur choix.

Strände, Felder, Straßen und Hügel – Zusammenfassung

Nach der Niederlage in Dunkirk Ende Mai 1940 stand Großbritannien einer unmittelbaren Invasion entgegen. Um der Bedrohung eines Bodenkrieges im eigenem Land entgegenzuwirken, wurden entlang der Küste und später im Binnenland eilends Verteidigungsanlagen errichtet. Diese bestanden aus einem komplexem Netz von Verteidigungslinien und flächenweiten Verteidigungshindernissen, die sich auf wichtige Kommunikationspunkte konzentrierten. Die Verteidigungssysteme im Landesinneren dienten hauptsächlich als Panzersperre, um Deutsche Panzerkolonnen davon abzuhalten sich zu verstreuen, ähnlich

wie sie es schon in Frankreich gemacht hatten. Die Verteidigungslinien befanden sich entlang natürlicher Grenzen, wie zum Beispiel Flüssen, wurden aber auch durch kilometerlange Panzerabwehrgräben und Reihen von Betonhindernissen ergänzt. Dort wo sie auf Straßen oder Bahnlinien stießen, wurden sie durch Panzergeschosse und Geschütztürme aus Beton abgesichert. Auf diese Weise wurden weite Landstriche in ganz Großbritannien abgesichert – an der Küste, Marschländern, im Hochland und Heideland, in Kornfeldern und Wäldern, in Tälern und Hängen.

In dieser Studie wurden 67 Landstriche untersucht, wo Überreste der Verteidigungssysteme aus dem Jahr 1940 erhalten sind. Durch urkundliche Studien und Geländearbeiten wurde die ursprüngliche Lage der Verteidigungssysteme vor Ort rekonstruiert und die Grundstrategie analysiert. Wo es möglich war, wurden die Stützpunkte von den damaligen Truppen wieder besetzt, oder dort wo eine Invasion tatsächlich stattfand, wurden die Truppen der Feldarmee oder der Heimatfront eingesetzt.

Jede Verteidigungsanlage wurde im Detail untersucht und der Erhaltungszustand einzelner Anlagen bewertet. Ein Glossar von Verteidigungsanlagen ist diesem Bericht angehängt, und die verschiedenen Arten von Anlagen werden in den 67 Gebieten durch verschiedene Symbole dargestellt. Diese werden durch Karten und Luftfotographien ergänzt, die zum Teil aus Archiven der deutschen Armee und Luftwaffe stammten, und somit die sorgfältigen Vorbereitungen zur Invasion bezeugen.

Dieser Bericht untersucht auch die übergreifenden historischen Zusammenhänge der Verteidigungsanlagen von 1940 und hat zum Ziel Gerüchte zu zerstreuen, die sich im Laufe der Zeit zu diesem Thema gebildet haben. Es wird aufgezeigt, daß Trotz des Mangels an Waffen und Baumaterialien, die Verteidigungskomplexe, die ab Mitte 1940 bis zum Frühling 1941 gebaut wurden, präzise geplant waren und sich die landschaftlichen Eigenschaften und natürliche Oberflächentopografie zu Nutze machten. Viele dieser Anlagen waren hinter der Küste stationiert, um das Landesinnere zu beschützen. In ihrer Blütezeit im Jahre 1941 hätten sie für die angreifende Deutsche Armee ein bedeutendes Hindernis geschaffen, zumindest wäre es gelungen die Angriffe aufzuhalten oder abzuweisen, um dann der mobilen Reservearmee einen Gegenangriff aus ihrem eigenen Territorium zu ermöglichen.

Foreword

The face of continental Europe is criss-crossed by the scars of war. Although it was not until the 20th century that battle left enduring marks on the landscape, generation upon generation of military engineers built camps, castles, fortresses, bridge-heads, curtain walls, bastions, ravelins and so on, all the evolving symbols of their craft. It is hard to escape from them, and at obvious military choke-points, like that ‘fatal avenue’ leading through Belgium to the pit of the French stomach, they cluster like the rings of a martial onion with their earthworks and ashlar, steel and concrete.

Britain is different. To be sure, it has its fair share of Roman camps and medieval castles, as well as coastal defences from the great drum-towers of Deal and Walmer to the concrete emplacements of the Second World War. But there are missing generations. The squat geometry of Vauban and his followers is poorly represented in the British Isles: Fort George, near Inverness, is a noble exception. There were no First World War trench-lines, reinforced with bunkers and shrouded in barbed wire. And, a generation later, there was no Maginot Line or West Wall. However, from June 1940 work began on a series of defence works which have indeed left their mark, beginning with coastal defences and going on to a series of stop lines, designed to contain an invader’s armoured forces, area defences, to serve as nodes of local resistance, and defended localities like airfields, reservoirs and power stations.

Some of these works, like trenches and anti-tank ditches, were levelled during the war, once the need for food production outweighed the risk of invasion. Others were demolished not long after the war’s end, or have subsequently fallen victim to development, vandalism or erosion. But still others, many of them those once-ubiquitous ‘pillboxes’ of my boyhood, remain, sometimes adapted for agricultural or domestic use, or sometimes simply shrouded by brambles, or growing lichen as they settle gently into the terrain they were built to defend.

This is the first comprehensive published scholarly survey of Britain’s Second World War anti-invasion defences. It begins by reviewing the strategic logic for the works, and examining the various types of structure – pillboxes, gun emplacements, anti-tank obstacles, protected command posts, roadblocks and so on. It then considers defence areas, beginning with coastal defences and moving on to inland stop lines and area defences. Studies of specific sites are detailed, with maps, photographs, descriptions, and assessments of the tactical function of each site. The author uses his own photographs of individual defences, as well as aerial shots from the 1940s which show how they fitted into the landscape of their day. He also employs both contemporary and modern maps, the latter with defence works superimposed upon them so that their layout and function are clear. Wherever possible he uses primary sources to identify the purpose of each site. On some occasions he is able to identify a defensive fabric which has passed almost beyond recall, but there are other times when it is remarkable to see just how much has survived into the

21st Century. The section of the GHQ line in front of Aldershot, for example, gives a wonderful snapshot of the physical framework for a battle that happily never took place.

Although consideration of how well these defences might have fared had they been put to the test lies beyond the scope of this book, it is clear that Britain's defensive preparations were far more comprehensive than has often been thought. The author is probably correct to suggest that they 'would have succeeded in their principal objective of holding up the attack and altering its direction.' Whether this would have enabled defending forces to win the battle remains a matter for conjecture, but it is likely that they would have prevented a quick victory by an invader and, with the land battle flowing around anti-tank islands and canalised by stop lines, sea and air power would both have restricted German reinforcements and, no less to the point, limited logistic sustainment.

Our landscape is indeed given added meaning by these defences. The painstaking work so brilliantly summarised within these pages is not simply archaeology, but is eloquent testimony to a generation that braced itself for invasion that never came and in the process, saw familiar sights transformed by wire, earthwork and concrete, which must so often have seemed ugly harbingers of threatened chaos to come. This is a wonderful book, just as valuable, in its way, as any antiquarian survey of castle or camp, because the calloused hand of time will inevitably continue to abrade this skeleton of an unfought battlefield. It deserves remembering, and I can think of no better guide to that remembrance than this admirable book.

Richard Holmes
President, The Battlefields Trust

Preface

This is one of several books to emerge from recent research on 20th-century military sites and landscapes, with major funding by English Heritage. Most of the projects these books describe focus on documentary sources that outline in detail what was built, where and why, as well as the strategic and historical contexts in which this unprecedented construction effort occurred. This book is different. While it makes considerable use of documentary sources to inform on the overall strategy of defence as well as tactical dispositions within individual areas, the main emphasis is on the archaeology of these places – the physical legacy of surviving sites and their landscape context, setting and character. Many of the sites described here were first recorded through the Council for British Archaeology’s Heritage Lottery Funded Defence of Britain Project, a project that directly preceded and fed into this ‘Defence Areas’ study. These surviving sites helped define the areas chosen to be included as defence areas. Areas were selected for a number of reasons, key ones being their integrity and legibility as defence landscapes from 1940–41. English Heritage was most interested in those landscapes that could still be visited today, and understood in the terms in which they were designed and built early in the Second World War. This meant that many of the built structures had to survive, but also that the landscape should be largely unchanged – and at least recognisable – from that of 1940–41. Of course other landscapes may also meet these criteria. But here the author describes some of the main ones, and sets the parameters by which others may be so-described in the future.

Defence Areas was commissioned specifically: to promote public enjoyment, understanding and awareness of these places; to give context to the many point data generated through the Defence of Britain Project; and thus crucially to inform future management of these areas of historic environment. We hope this book will prove useful and interesting to those who consult it, and that it contributes in some measure to the continuing survival and conservation of defence areas, places that seem increasingly to matter, as events pass further into history.

John Schofield
Head of Military Programmes, English Heritage

Mike Heyworth
Director, Council for British Archaeology

Introduction

This book has arisen out of the Defence Areas Project commissioned by English Heritage and administered by the Council for British Archaeology, which ran from April 2002 to June 2004, its report appearing in December 2004 (Foot, with Thomson 2004). The purpose of this project was to undertake a national study of anti-invasion landscapes informing on surviving defence works in areas where coherent and often complete groupings could be identified with a common defence purpose. The study was confined to England although, of course, the anti-invasion provision of 1940/41 also involved the defence of Wales, Scotland, and Northern Ireland where many material remains survive. Following a restricted circulation of the project report on CD, the aim of the present book, which contains some additional and amended information, is to present the results to a wider audience.

Anti-Invasion Defences and the Historic Environment

The defence works raised against the threat of German invasion in the Second World War were built principally in the period 1940/41 (see 'Historic Background'). For the reasons that will be considered under 'Strategies of Defence', their construction was widespread throughout the country. Consequently, there are few parts of the United Kingdom which do not have surviving remains of defence landscapes of this period.

The preponderance of surviving structures, in particular those built as part of inland stop lines (see 'Strategies of Defence'), lies in the southern half of England below a line drawn between the Severn Estuary and The Wash. This is for two reasons. First, these are the areas where the defence systems were at their most developed against the likely directions of German attack. Second, the survival of sites within rural landscapes is far greater than of those that protected urban centres where both a deliberate post-war policy of removal and subsequent development has usually meant their elimination. For example, many of the urban conglomerations of the Midlands and North of England that were defended at their centres and by outer perimeters of defences have for these reasons suffered an almost total destruction of their defence works. On the other hand, within certain southern counties (for example, Hampshire, Surrey, Essex, and Somerset), there was only a limited removal of structures not interfering with essential services, agriculture, and public amenities, with the consequence that in some areas the survival of hardened structures is near complete.

Within the modern period in England, up until the First World War, most defence planning was related to the role of the Royal Navy and centred on the need to defend ports and dockyards on the South and South East coasts, resulting in the fixed defences of forts and batteries at such places as Plymouth, the Solent, Dover, and the Medway. Inland, military architecture was generally restricted to the regimental depots and barracks in county towns, and from the early 20th century the drill halls in urban centres for volunteer forces.

In the late 19th century, a line of Mobilisation Centres, where volunteer troops could assemble and stores and ammunition be kept, was built along the crest of the North Downs in Surrey and Kent, and also in Essex.

The First World War, with its massive mobilisation of men and production of war *matériel*, resulted in the sudden building of a profusion of military structures across the landscape, in particular camps and stores. The majority of these structures were of a flimsy and temporary nature, and were soon removed after the war leaving few upstanding remains today. Despite the battlefronts being in France and Belgium, where the principal bases of the British Army were established and where the main combat training of the troops was carried out, half a million men were retained in Britain as a force for Home Defence. Lines of defence works, including the first use of concrete pillboxes (many of which were circular structures with an overlapping roof edge giving rise to the name, ‘pillbox’), were established in 1914–15 at likely invasion points in Norfolk, Essex, and North Kent. These were maintained throughout the war, and were extended in 1917–18, in case the Germans should make an attempt against England to break the stalemate of the Western Front. In December 1939, the North Norfolk pillboxes were resurveyed to establish their condition and possible use for coastal defence in the new conflict. It makes an instructive footnote that shortly before the outbreak of war, the Ancient Monuments Board (working in conjunction with the Ancient Monuments Branch of the Office of Works – predecessor to English Heritage), were considering certain First World War pillboxes for preservation as examples of home defence architecture. The war intervened of course, and it is only in recent years that this category of sites has gained recognition and some sites have been afforded protection.

For most civilians, in particular those living in rural areas, the first evidence of militarisation in the Second World War was probably the establishment of a searchlight in the locality manned by army personnel, part of the structure of the Air Defence of Great Britain (ADGB). By 1941, 4000 searchlights had been positioned in a chequerboard pattern across Britain, many of the sites with their accommodation huts and generator being defended by a single pillbox. The land for the searchlights was acquired under the Defence Regulations, only recently enacted under the Emergency Powers (Defence) Act of August 1939. The particular Defence Regulation used was DR 50, by which ‘entry onto any land could be made to do any work necessary in connection with the prosecution of the war and the securing of public safety’. This regulation was seldom used to obtain land for defence works that were likely to be permanent, for example airfields or ordnance factories. For these categories of defence construction, the power of DR 51 was invariably used, by which a ‘competent authority’ could take full possession of the land and evict the present occupiers, by a process known as requisition.

The anti-invasion defence works begun from June 1940 represented the first of several major military intrusions into the English landscape consequent upon the various construction programmes necessitated by the Second World War. Evacuation of the civilian population from coastal areas, leaving only key workers, resulted in a mass movement of peoples that was considered preferable to the columns of refugees that might arise consequent upon a successful German landing. Most defence works at the coast were built under DR 50, but occasionally, where houses were required to be demolished to create fields of fire, DR 51 was invoked.

Inland areas through which defence lines were built, or which formed part of area defence in depth, were entered, often without prior notification to landowners, by the military and by the contractors acting on their behalf, invoking the power of DR 50 to build pillboxes, anti-tank gun emplacements, and roadblocks, to lay flame fougasses and landmines, and to dig anti-tank ditches, fire trenches, weapon pits, and anti-landing ditches. The impact on communities that may have suffered little disruption from the outside world for centuries was devastating. I S Greeves, a consultant engineer with Mowlems building the section of the GHQ Line through the Weald, describes the local population watching ‘open-mouthed at the way earthworks were being thrown up’ by earthmoving equipment brought in from London (Greeves 1978, 19).

The question of the effect of the defence works in rural districts on agricultural production, and the way in which compensation was paid to landowners and tenants, is beyond the present scope of this study. In general, however, compensation was paid until the defence work (known as a ‘temporary defence work’ (TDW)) was removed and the land restored. Where there was no immediate need to remove the TDW, the expense and labour not being considered in the public interest, the compensation was converted to a final lump sum: all such compensation was extinguished by 1960. Amongst the many stories associated with the 1940/41 anti-invasion works is the one that says that farmers were given a sum of money (usually stated to be £5) to remove each pillbox on their land, but pocketed the money instead. This story probably represents a confusion with the compensation lump sum, but may refer to some local schemes where farmers were asked to do the work of removing TDWs or infilling earthworks on behalf of the responsible state-directed agricultural committee (or ‘war ag’) for a cash payment. However, there was no general requirement for landowners or tenants to remove defence works when compensation ceased. At that time the structures passed from the control of central authority and became *de facto* the property of the landowner. The works had been built under DR 50 and had never been owned by the War Office as such, being merely field defences of the Army, a temporary part of its operational deployment, unlike more permanent fixed structures such as camps or coastal batteries. It is important to understand this point, because it helps to illuminate our understanding today of many of the defence strategies and the field fortifications that the Army raised.

Many farmers and other landowners found the concrete structures built on their land a considerable asset, and they were converted for a variety of uses that can still be witnessed today: sheds, cattle shelters, loading ramps, chemical stores, and bases for radio aerials. Concrete anti-tank obstacles can also still be found serving an anti-vehicular purpose.

Many defence works were removed even before the end of the war. Anti-tank ditches were filled in because they interfered with agriculture at a time when maximum food production was vital to national survival. The Army’s interest at this time was to recover dangerous and strategic materials from redundant defences, in particular those which could be recycled, and large quantities of explosives, metal bars, and tubular scaffolding were gathered. In October 1944, the Gilbert Committee (chaired by Sir Bernard Gilbert), which had been considering the question of the removal of TDWs and the restoration of private and public land, reported to the Cabinet that the responsible government department to organise this work should either be the War Office or the Ministry of Works; the latter was chosen.



FIGURE 1 Anti-tank gun emplacement [10071] used as a shed in a garden in Sudbury, Suffolk. (PHOTO: THE AUTHOR, 12 JUNE 2002)

A Temporary Defence Works Committee was established in March 1946, and the categorisation of TDWs was carried out on a county basis: ‘A’ (removal urgently required); ‘B’ (removal eventually required); ‘C’ (removal not in the public interest). War Department Land Agents furnished local committees, now liasing as well with the Ministry of Town and Country Planning, with complete lists of all works on private land in their areas, giving map references, landowners’ names, and types of defence work¹. Owing to a shortage of post-war labour and financial resources, the work of removal proceeded slowly. Many sites initially categorised ‘A’ were later downgraded to ‘B’ or ‘C’. Most clearance was done on public land where defence works impeded highways or affected public safety, and roadblocks were removed, trenches infilled, and beachfronts restored. Surveys of coastlines were carried out recording the exact position of defence works and categorising the desirability, or otherwise, of their removal². Between 1946 and 1953, the Ministry of Works spent £3.5 million on the removal of TDWs (over £100 million at today’s values). Later, responsibility devolved to county councils, and in some areas programmes of ‘tidying up’, perceiving defence works as eyesores, continued into the 1960s and 1970s³.

At no time during the immediate post-war removal of temporary defence works does it appear to have been suggested at either a national or local level that examples – whether of anti-invasion defences or from a broader category of military sites – be preserved specifically as part of the historic environment, the structures illustrating differing aspects of mid-20th-century warfare and representing an important period of British history. The known exception is from the specific site of Pevensey Castle where machine gun emplacements positioned within the medieval and Roman walls were considered to form part of the overall history of defence at the Castle and preserved accordingly (Robertson and Schofield 2000).

The 1940/41 anti-invasion defences are the one particular category of Second World War military construction where knowledge of the form and purpose of these works seems to have been lost most quickly. By the 1960s, many aspects of the subject had descended into myth in the popular imagination, much of this centring around the Home Guard and a view that pillboxes had been badly sited and often built ‘round the wrong way’, or had been constructed purely to ‘raise civilian morale’, and would ‘not have held up Hitler for a moment’. There was a conception that what could be seen in the present was all that had been built, and that the concrete structures still observable in fields and by the coast somehow would have stood in isolation like small castles. Even the terminology of ‘pillboxes’ and ‘dragon’s teeth’ added to an atmosphere of folklore rather than representing precise military purpose. These forms of myth and confusion survive to the present day, where they are often repeated by the media in their periodic evocations of the Britain of 1940.

One problem was that academic histories which included consideration of the period of invasion danger tended to give little attention to the built defences, or even ignored them entirely. The official history of the defence of the United Kingdom contains only a few notes on strategy, with a barely adequate map showing the course of the GHQ Line (Collier 1957). Peter Fleming’s *Invasion 1940* (Fleming 1957) is an excellent account of the planning for Operation Sealion, and the impact of the invasion danger on the British population, emphasising the deficiency in weapons after Dunkirk, but contains only passing reference to the country’s ground defences. The most comprehensive study of British defence provision in the Second World War was produced in 1948 as a monograph by the Historical Section of the Cabinet Office, but remained unpublished (Wynne 1948).

Research Background

In the late 1970s the first review of the 1940 anti-invasion defences was begun by Henry Wills, a journalist based in Salisbury. He advertised in the national and local press for information on the subject, and for records of sites to be sent to him, and was overwhelmed by the response. His project culminated in the book, *Pillboxes: A Study of UK Defences*, published in 1985, which included maps showing the positions of over 5000 anti-invasion defence sites, with an accompanying gazetteer. Wills continued his work, and was preparing a new edition of his book with a greatly expanded gazetteer at the time of his death in the mid-1990s⁴.

Henry Wills’ book stimulated an interest in the subject, and a number of organisations and individuals carried out further research and continued the fieldwork to locate sites and draw up a categorisation of different structures. Much of this work was done by enthusiasts, but the professional archaeological world was also beginning to take note of the subject, and in several counties records of defence structures were being added to Sites and Monuments Records. For this purpose archaeological officers worked in collaboration with amateur recorders to verify and enter their data.

In 1992, members of the Fortress Study Group, an organisation dedicated to the study of military fortification, carried out a pilot survey of the Holderness coast in East Yorkshire to assess the survival of military sites in a sample area and to test methods of categorisation and field recording. This survey was sponsored by the Royal Commission for the Historical Monuments of England (now merged with English Heritage). Equivalent surveys were carried out in Wales and Scotland.

The findings of these pilot surveys showed there was a need for a national survey of the 20th-century military structures of Britain and Northern Ireland, and as a result the Defence of Britain Project was set up, administered by the Council for British Archaeology but overseen by representatives from most of the leading national heritage bodies. Its remit was to carry out a full countrywide survey, with public participation, the results of which would then be entered on a national database maintained by the Project. In the life of the Project, from 1995 to 2002, some 20,000 records of all categories of military sites were acquired in this manner. The database can now be accessed on-line through the Archaeology Data Service⁵.

Shortly before the commencement of the Defence of Britain Project, English Heritage, as part of its Monuments Protection Programme, commissioned a separate but related project to assess the documentary sources held at the Public Record Office (now The National Archives) for 20th-century military sites. This work was undertaken by Dr Colin Dobinson, and the results set out in volumes arranged by eleven subject themes, most with accompanying gazetteers of sites. A series of general publications from this work is currently being produced in a partnership between the publishers, Methuen, and English Heritage.

Although Colin Dobinson had carried out a detailed and comprehensive analysis of anti-invasion defences as part of his documentary assessment work, it was not possible to attach to it any conveniently available list of individual defence sites or structures with the exception of components of the Taunton Stop Line (Dobinson 1996, 11). In order that English Heritage could have a database of such sites to consider representative exemplars for statutory protection, it was decided to use for this purpose the c 12,500 anti-invasion site records for England gathered by the Defence of Britain Project. In addition, English Heritage wished an assessment to be made of areas where differing types of defence structures survived in coherent groupings with a common defence strategy, the project falling within its wider commitment to landscape characterisation and outreach. From these requirements, the Defence Areas Project was commissioned, being administered by the Council for British Archaeology.

During the course of the Defence of Britain Project, and subsequently, a number of individuals have produced published works on aspects of anti-invasion defences. Colin Alexander's *Ironside's Line* (1999) is a major study of the GHQ Line and Bernard Lowry's works provide important summaries of information. Most recently, Dr Mike Osborne (an expert in the many types of defence structures, in particular pillboxes) has published *Defending Britain*, which provides an important overview of the 20th-century defence landscape. Martin Marix Evans has also brought together the historical and military background to the 1940/41 invasion threat in his *Invasion! Operation Sealion 1940* (Marix Evans 2004). A number of individuals have also undertaken detailed studies of individual areas of defences, particular attention being paid to the Taunton Stop Line for which there is very good documentary and field evidence (see eg Lacey 2003).

Historic Background

The German landings in Norway in April 1940 showed Britain how vulnerable she might be to invasion in the new age of blitzkrieg warfare. At this time, the first re-evaluation of Britain's ability to defend her own shores in a ground war took place, a reconnaissance of

the beaches of the English south and east coasts being carried out to determine which were most vulnerable to a German landing. As Hitler launched his air and land attacks on France and the Low Countries on 10 May 1940, plans were implemented to establish some 50 Emergency Coast Defence Batteries around the coast, with 6in guns taken from First World War battleships supplementing the permanent batteries that defended ports and naval bases. This system of emergency batteries was extended during the following year.

However, it was with the Dunkirk defeat at the end of May and the return to Britain of some 300,000 troops (including 100,000 French), that a co-ordinated central programme of defence construction was begun. On 27 May, General Ironside replaced General Kirke as Commander-in-Chief Home Forces, and he set out his plans to the War Cabinet for the defence of the country at the beginning of June. One of the major problems Ironside confronted was the loss of so many guns and so much equipment at Dunkirk, and the weakness of the divisions available to him until men could be retrained and re-equipped. He had only some 170 2pdr anti-tank guns, with another 100 6pdr Hotchkiss guns of First World War vintage, as well as a fraction of the field artillery he should have commanded and two weak armoured divisions with which to engage the German Panzer columns. His troops were also deficient in infantry weapons – in the Bren guns, Vickers medium machine guns, Boys anti-tank rifles, and 2in and 3in mortars that should have been their mainstay.

Throughout the summer and autumn of 1940, and into the spring of 1941, the strategies of defence that are considered below were developed. Ironside was replaced on 19 July 1940 by General Brooke (later Lord Alanbrooke), and a fresh focus was gradually given to the defence as new supplies of weapons became available, retrained men returned to front-line service, and new tactics and strategies were devised.

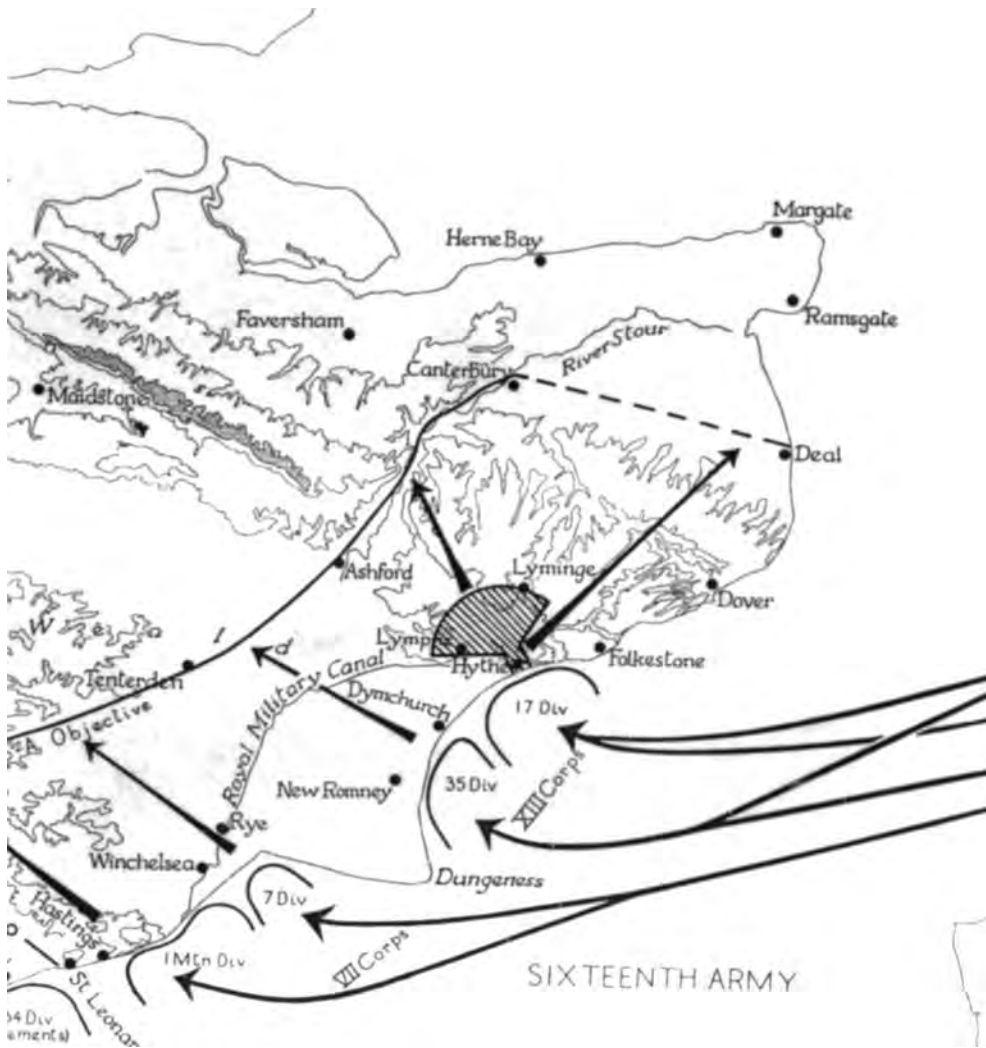
Strategies of Defence

The principal purposes of the anti-invasion defence as built between 1940 and 1941 were:

- to prevent the enemy landing by sea by defending the coastline;
- to prevent the enemy landing by glider or powered aircraft;
- to prevent the capture of ports through which supplies and reinforcements could be brought;
- to prevent enemy armoured columns breaking out along roads or other communication routes;
- to protect vulnerable points, such as reservoirs, war production factories, radar stations, and airfields; and
- to provide a defence in depth based on the all-round defence of important communications centres.

The various strategies of defence were designed to meet these purposes, each one involving a range of different types of defence works. It is important to note, however, that the emphasis on particular strategies changed with time, notably with stop lines which had largely been abandoned by 1941 in favour of a greater concentration on coastal and area defence, with an increasingly powerful mobile force ready to move to any threatened point.

FIGURE 2 Portion of a map produced in 1954 by the Historical Section of the Cabinet Office illustrating the German Operation Sealion plans. (THE NATIONAL ARCHIVES: PRO CAB 146/6)



Coastal Defence

A continuous coastal defence of the south and east coasts, as well as of many parts of the west coast where an invasion through Ireland was feared, was made up of fixed defences (permanent coast batteries) and emergency batteries, with hardened field defences consisting of weapon emplacements and concrete anti-tank obstacles, as well as minefields, anti-tank scaffolding, anti-tank ditches, fire trenches, weapon pits, and other earthworks, and barbed wire entanglements. Beach defence guns were mounted along the shoreline, and Royal Artillery field guns positioned to the rear with fire tasks on the most vulnerable parts of the shore. The coastal front-edge defence was normally backed by a stop line (see below) that itself joined with other inland stop lines.

Particular emphasis was placed on the all-round defence of ports, which had encircling perimeters consisting of hardened field defences, earthworks, and barbed wire. A main danger was perceived as special assault troops landing on parts of the coast that were

FIGURE 3 Coast defences at Tentsmuir in Fife under construction by Polish troops, November 1940. This photograph shows anti-tank cubes set corner to corner, pillboxes, camouflage netting, and a glacis constructed by timber revetting and sandbagging. Further timbers are being inserted in a trench by a relaxed-looking group of soldiers. (PHOTOGRAPH COURTESY OF THE IMPERIAL WAR MUSEUM, LONDON IWM: H4879)



considered to be less vulnerable to attack – in areas of cliffs, for example – and then moving to attack a port from the flank or rear.

Stop Lines

A system of stop lines was established to contain enemy armoured forces, these being in essence anti-tank lines with a continuous anti-tank obstacle formed by a waterway, an artificial ditch, a line of concrete obstacles, or a railway embankment. The principal stop line was the GHQ [General Headquarters] Line running from the North Somerset coast, to the south and east of London, and then parallel with the east coast to Richmond in Yorkshire. A further series of defence lines, some not actually built in strength, continued into Scotland. Several branches linked with the principal course of the GHQ Line, and also with a complex hierarchy of Command, Corps, and Division stop lines that themselves, in the most vulnerable parts of the South East, were connected with a grid-pattern of ‘fences’ dividing up the countryside into boxes. Stop lines were also complemented by demolition belts where bridges and other important communication points were prepared for destruction.

The stop line was a prepared battlefield, its defences being infantry field fortifications, including pillboxes, section posts, and fire trenches, with anti-tank gun emplacements manned by the Royal Artillery at the principal crossing points of roads and railways, themselves blocked with concrete and steel obstacles.

Area Defence

Throughout all regions of the country, a system of defence of communication points, based largely on towns, villages, and other settlements, forming a defence in depth, was established. These were known variously, in accordance with their precise defence requirements, as anti-tank islands, fortresses, nodal (or focal) points, centres of resistance,



FIGURE 4 Length of anti-tank ditch on the GHQ Line near Farnham in Surrey, 24 July 1940. The vertical wall of the ditch on the defended side has been revetted with timber stakes, and the sloping face on the attack side broadens the width of the obstacle. The anti-tank cube may be the first of a line supporting the ditch or possibly protecting its junction with a road (out of view). Fieldwork should enable the exact location of this photograph to be determined. (PHOTOGRAPH COURTESY OF THE IMPERIAL WAR MUSEUM, LONDON IWM: H2473)

defended villages, and defended places. Each of these terms involved the provision of all-round defence, although the defence itself was of differing degrees of strength. Anti-tank islands had an anti-tank capability provided by lengths of artificial ditch or lines of concrete obstacles. Nodal points were categorised 'A', 'B', and 'C' according to how many days they were required to hold out without being re-supplied.

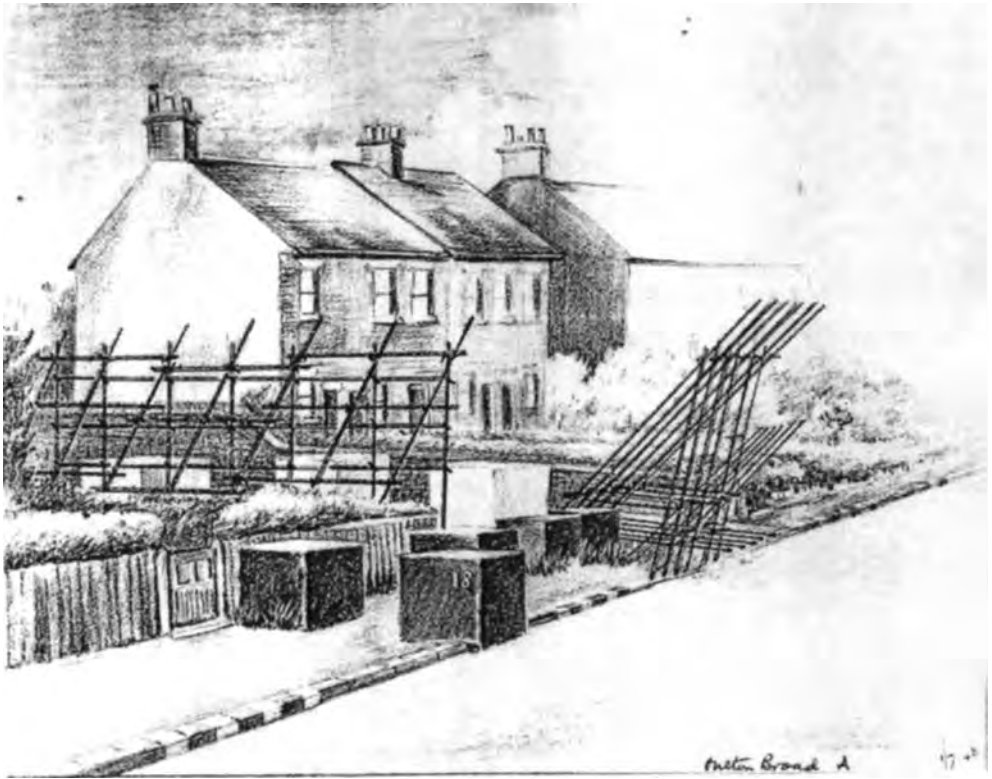
Airfields and Vulnerable Points

Airfields received all-round defence controlled from a battle headquarters. (These defences were not assessed for the Defence Areas Project and fall beyond the scope of this book.) Searchlight sites, with their accommodation huts, generator, and light, were usually defended by a solitary pillbox. A system of Vulnerable Points was established, which consisted of key communication points, such as bridges and viaducts, or key services, such as gasworks, electricity generators, sewage works, and reservoirs, but could also be factories producing war materials, or key defence sites, such as radar stations. These were all categorised and referenced for defence, usually by the Home Guard.

Open Areas

All open areas with a straight length in one direction of 500 yards (c 457m) or more (including some roads, as well as beaches uncovered at low tide), within five miles (8km) of the coast, an airfield, or a Vulnerable Point, were required to be blocked against enemy aircraft landing. The particular concern was to stop powered transport aircraft landing,

FIGURE 5 Drawing dated 1.7.1940 amongst the papers of Henry Wills showing perimeter defences of the Category 'A' nodal point of Lowestoft at Oulton Broad. The picture shows how a defence line was carried through a built-up environment making use of anti-tank blocks and scaffolding to block gaps between buildings. A vivid picture of life in wartime Lowestoft can be gained from Michael Foreman's illustrated book, *War Boy*, published in 1989. (WILLS COLLECTION, NMR)



and taking off again to bring in further men and supplies. The blocking was done either by machine-dug (and even hand-dug) trenches set out in a grid pattern, or by obstacles, such as old cars, sections of concrete pipe, or wooden and concrete posts, arranged across the open space. The trenches did great damage to agriculture so blocking by obstacles became the preferred method. The deep ploughing of fields in the autumn of 1940 was also considered a sufficient obstacle.

The Landscape of Defence

When looking at defence areas that complied with one (or more) of the above strategies, it is important to bear in mind that the defence structures that can be seen on the ground today, although often complete for the concrete weapon emplacements that were constructed, generally lack the more transitory components that accompanied them. Earthworks, for example, have been filled in, barbed wire taken down, land mines removed, roadblock supports demolished, and anti-tank scaffolding dismantled. Consequently, to understand how and by what exact strategy and tactics of deployment an area was defended, it is necessary to establish, as far as possible, the totality of what was built, using the resources that are set out elsewhere in this book.

Secondly, it is essential to repopulate the defended landscape with the troops that served there at one or more periods, and to understand the system by which the British Army operated in defence. The various defence strategies involved a complex structure of

military organisation. In 1940, Home Forces was made up of five Army Commands within England: Northern, Western, Southern, Eastern, and Aldershot. From February 1941, a further Command – South East – was created, largely out of Eastern Command. London formed a separate independent District directly under GHQ Home Forces.

Each Command was divided by a system of Areas, Sub-Areas, Sectors, and Sub-Sectors; by 1942, the former Areas were generally termed Districts. Area Command was responsible for the overall local area defence, in particular defence in depth, using Home Guard troops, based upon a system of roadblocks and defended places, as well as the defence of vulnerable points and airfields. It was also responsible for matters such as camp sites and accommodation, and administrative matters involving the interaction of the military with the civilian population. Regular troops of the Field Army based within the military area might also have a role as Area Troops, and could be allocated in an emergency to the defence of a nodal point, a section of stop line, or an airfield.

Field Army troops formed the core of Home Forces, being allocated to definite defensive positions, usually on the coast, or forming a mobile reserve. In September 1940, for example, XII Corps was positioned in South East England, II Corps in Cambridgeshire and Norfolk, XI Corps in Essex and Suffolk, and I Corps in Lincolnshire, East Yorkshire, and the East Midlands. Infantry brigades of the Field Army were the principal tactical units defending the coastline, usually with three battalions forward manning the front-edge defences. In May 1941, for instance, nineteen brigades defended the east coast of England, from the Scottish border to the River Thames.

The landscape defended by the Field Army was divided into designated defence areas, in a system that gave specific area defence responsibility from the highest to the lowest unit. This system, based on the defending Corps, was separate from that of the Command military areas (see above), although confusingly using some of the same terms.

The defence area terms and definitions generally applied were:

Sector: area occupied by a division;

Sub-Sector: area occupied by an infantry brigade;

Area: area occupied by a battalion;

Sub-Area: area occupied by a company;

Locality: area occupied by a platoon;

Post: area occupied by a section.

In Eastern Command, however, in particular in the part later to become South East Command, the terms *Sector* and *Area* were reversed, an *Area* being occupied by a division and a *Sector* by a battalion.

In addition to the above designations, stop lines were divided into referenced sectors. All pillboxes and other defence works along their lengths were numbered, these numbers being referred to in documents and also painted onto the interior walls of structures where some can still be seen today. The shoreline was also divided into beach sectors referenced by letters and numbers.

The stop lines, in particular the GHQ Line, have sometimes been considered as an attempt to create ‘a Maginot Line’, a system of fixed concrete defences, in a recreation of the battlefields of the First World War, at a time of new mobile warfare using tanks and aircraft – the blitzkrieg of the German Army. General Ironside is thought of as a commander operating by First World War principles who had to be replaced by General Brooke, a soldier more in tune with modern warfare. The evidence, however, does not support these views.

An army operating in defence in mid-20th-century warfare did so by creating a continuous anti-tank obstacle along its front. It was accepted that this alone would not stop a determined attacker, but a system of obstacles would delay him, placing him at a disadvantage, and would channel his directions of attack. It was a principle that all anti-tank obstacles should be covered by fire from weapons sited in earthwork or concrete field defences that themselves formed part of anti-tank localities. Each such locality, with all-round anti-armour capability, should interlink with its neighbour. It was expected that the enemy would penetrate between these localities, the defenders staying put as the 'tide of battle' flowed past them until mobile reserves were able to confront the enemy and turn a 'defensive' into an 'encounter battle'.

The most important feature in the consideration of ground for such a prepared battlefield was the main anti-tank obstacle, which could be a natural feature such as a river or an existing man-made feature such as a railway embankment, but would otherwise be artificially created. Wooded areas, villages, and groups of houses should be linked into defensive perimeters, forming centres of resistance that could break up an attack. Woods in particular formed a natural obstacle against armoured warfare and provided cover from the air as well. It was vital to block access to roads and railway lines as these routes provided the best opportunity for rapid enemy armoured advance. All defending troops should be entrenched with clear fields of fire, and with defence posts camouflaged and linked to their neighbours by continuous fire trenches. Field fortifications might also consist of deep dugouts and concrete weapon emplacements.

The stop lines built at General Ironside's instigation from June 1940 can be seen to fall into the strategy of army defence outlined above. They were not an attempt to create an impregnable barrier – a 20th-century Hadrian's Wall – but a continuous series of prepared positions mainly centring on a pre-placed linear anti-tank obstacle that could either be natural or artificial. However, some stop lines were designed as well to protect principal strategic targets; for example, the GHQ Line acted as an outer defence for London and the industrial Midlands while GHQ Line Green swung in an arc around the important port of Bristol. Command, Corps, and Division stop lines were concerned with the more immediate strategy behind the army's deployment rather than the broader question of the protection of cities and industry; for example, the Southern Command Taunton Stop Line cut off the waist of the South West Peninsula while the XII Corps Dover to Whitstable Stop Line divided the eastern areas of Kent from the hinterland. In general terms, however, it is a mistake to think of stop lines as fixed fortified lines, such as the Germans themselves erected later in the war. Far from being immured in First World War concepts, General Ironside had been one of the few senior commanders to predict that Germany would attack through the Ardennes in May 1940 on a battlefield dominated by armour and air power, and it was precisely because he foresaw similar blitzkrieg tactics being used in Britain that he implemented the policy of stop lines.

Given the resources available to him in June 1940, there was little else Ironside could have done other than strengthen the coastal defences and put in place the system of stop lines (or prepared positions) to try and contain the German forces if they had landed. However, it was clear that a reliance on linear defence alone would not eventually beat the enemy's forces even if it temporarily contained them. Certainly, the building of large numbers of concrete emplacements was creating a 'bunker' or 'siege' mentality in the British Army. Some commanders were becoming 'obsessed with concrete', to the neglect of

other aspects of field defence. It was all very well to use reinforced concrete for pre-placed weapon emplacements on a prepared battlefield, but there should not be an over-reliance on these to the neglect of other principles of defence: a line of fixed positions could, of course, be easily penetrated and outflanked. What were needed were more weapons, and stronger mobile forces with well-equipped armoured divisions, which could move to any threatened point. When General Brooke replaced General Ironside in mid-July 1940, he brought with him new ideas and a purpose that coincided with Britain's gradual recovery from the losses of the Dunkirk defeat and the retraining and re-equipping of her home defence Field Army. His first task was to strengthen the coastal defences further, and then abandon the stop lines, except where sections could be converted to an area defence based on the all-round defence of communication centres, as happened on the Taunton Stop Line (see Ilton defence area). This, in fact, was a development of the original system of anti-tank islands and nodal points that had been set up by Ironside. Brooke's main achievement, however, was in the building up of a much stronger mobile reserve, with the strength to meet the attacking German armies and destroy them.

These principles of a defensive battle fought on a prepared battlefield can still be understood by viewing surviving defence works on the ground, for example by tracing the anti-tank obstacle of a stop line, in particular if it was an artificial construction formed by a machine-dug ditch or lines of concrete blocks. Anti-tank gun emplacements can be seen to cover road bridges and roadblocks with fire, and pillboxes to be grouped within anti-tank localities (or defended localities) which were also generally close to vulnerable crossing points of the anti-tank obstacle.

Plans were drawn up for the occupation of stop lines by troops from the Field Army. However, even in the key invasion danger period of August to September 1940, it is unlikely that their pillboxes and other defence works, apart from those at roadblocks, were ever fully manned or armed. Many anti-tank emplacements are also unlikely to have received the 2pdr or 6pdr guns which they were built to hold. Later, where defence works of stop lines were incorporated into area defence, they became the responsibility of the Home Guard.

The infantry method of defending the coast was by establishing a series of Forward Defended Localities (FDLs) at those points considered most vulnerable to attack (for example, at exits from a beach). Each FDL aimed to cover the beach by fire interlocking with that of its neighbour. It was usually occupied at platoon strength, with its own command post (possibly set up within a pillbox or a purpose-built sunken structure), and was ringed with coils of barbed wire. FDLs were manned on a 24-hour basis, with regular patrolling. Troops either slept in the field or were billeted in local buildings: sometimes Nissen huts were erected for accommodation (see, for example, Freiston Shore defence area).

Home Guard troops were largely responsible for the defence of nodal points, defended villages, and centres of resistance, although anti-tank islands and Category 'A' nodal points usually had a garrison of regular troops drawn from Area Command. Particularly in coastal areas, the Home Guard played an important role in supporting the front-line Field Army troops, by occupying defence positions to their rear, by manning roadblocks, and by acting as a mobile force to counter enemy parachutists. The role of the Home Guard was generally written into division, brigade, and area defence schemes.

While the stop lines were still retained as part of the defence strategy, the local Home Guard unit was responsible for maintaining pillboxes and ensuring they were kept supplied

with food, water, and ammunition. Some pillboxes had locked doors to ensure stores were not pilfered. Home Guard troops were also designated as guides to Field Army units if an emergency demanded that a stop line be defended. The particular value of the Home Guard lay in its knowledge of its local landscape, much of which in front-line areas was prepared and measured for defence.

Field Fortifications

Anti-invasion defence works of the Second World War (in particular those concrete weapon emplacements more popularly termed pillboxes) are arguably the most readily identifiable 20th-century military works in the English landscape. Despite the clearance of many thousands of them over the past 65 years, very many survive, prolific in the case of some types, rare in others. Examples of standardised types of pillboxes, as developed and drawn by the Directorate of Fortifications and Works of the War Office, can be found widely. However, many variations on a standard design will be noticed, partly on account of particular ideas prevalent within an Army Command or because of the construction techniques of an individual Royal Engineers field company or a civilian contractor, and partly because of the needs of defence to adapt a defence work to its topographic surroundings. The tables below set out the various categories of defence works, and the types of structures falling within these. On the mapping accompanying the series of defence area reports, the positions of individual structures are indicated by symbols, these symbols often utilised for groupings of related types according to the table (see Map Legend).

FIGURE 6 Type 24 pillbox [12995] on the banks of the River Chelmer near Hartford End, Essex. It has 42in (1.1m) thick 'shell-proof' walls, and chamfered roof edges to deflect in-coming shells. The doorway is protected by twin embrasures intended for light machine gun or rifle fire.

(PHOTO: THE AUTHOR, 14 MAY 2002)





FIGURE 7 Anti-tank
pimples at Chafford
Bridge on the River
Medway south of
Penshurst, Kent. These
concrete obstacles,
known popularly as
'dragon's teeth', would
have supported a
roadblock at the bridge.
Together with pillboxes,
'dragon's teeth' are the
defence work most
synonymous in the
public mind with the
events of 1940.
(PHOTO: THE AUTHOR,
1998)

Types of anti-invasion defence works

(with notes on the application of certain terms)

For certain selected types of defence works, the numbers of surviving examples recorded on the Defence of Britain Project Database (DoB), which include the figures of those recorded during the Defence Areas Project (DA), are given. The numbers and percentage for the Defence Areas Project are also shown separately. Some types have been combined with others where they fall within a similar category: where this has been done, an indication is given. If there are no figures against a defence work type, the statistics have not been calculated.

HARDENED FIELD DEFENCES: Weapon emplacements				
Type	Description	DoB extant	DA extant	% DA to DoB
Pillbox	Infantry field fortification, principally for light machine gun and rifle fire. The term is used if the precise type is not known.	1106	35	3.16%
Pillbox (Variant)	A pillbox of a non-standard type, often favoured by a particular Army Command (Lincolnshire three-bay pillboxes or Northern Command 'eared' machine gun emplacements are examples) or one built specifically to suit its site.	569	128	22.50%
Pillbox (Type 22)	Small hexagonal pillbox.	1033	68	6.58%
Pillbox (Type 23)	Rectangular pillbox with attached open section for anti aircraft fire.	114	7	6.14%
Pillbox (Type 24)	Hexagonal pillbox, often strengthened with thickened walls and roof to make shell-proof. The most commonly found pillbox in southern England.	1533	232	15.13%
Pillbox (Type 25)	Small circular pillbox, also known as the Armco, the name given by the company manufacturing it.	39	5	12.82%
Pillbox (Type 26)	Square pillbox.	145	12	8.28%
Pillbox (Type 27)	Octagonal pillbox with central open well for anti aircraft fire.	82	21	25.61%
Anti Tank Gun Emplacement (Type 28)	Artillery emplacement with a single chamber to mount a 2pdr or 6pdr anti tank gun.	127	14	11.02%
Anti Tank Gun Emplacement (Type 28A)	As the Type 28, only with one (or more) additional side chambers for infantry fire. Some examples have two main embrasures set at right angles.	212	38	17.92%
Anti Tank Gun Emplacement	An emplacement for anti tank gun fire, the exact type of which is not known.	11	2	18.18%

HARDENED FIELD DEFENCES: Weapon emplacements: Continued

Type	Description	DoB extant	DA extant	% DA to DoB
Pillbox (Norcon)	Small circular pillbox named from the company manufacturing it.	14	2	14.29%
Pillbox (Prefabricated)	Pillbox, usually rectangular, shuttered with prefabricated walls brought to the site and bolted in place.			
Ruck Machine Gun Post	Pillbox with a curving concrete-shingled roof on a pre-cast concrete frame, built over a rectangular pit and covered with turf and sandbags.	2	1	50.00%
Allan Williams Turret	Pillbox formed of a revolving metal turret set above a steel and brick-lined pit.	28	1	3.60%
Tett Turret	Two-man pillbox with a revolving concrete turret set above a cylindrical concrete pit.			
Machine Gun Emplacement	Pillbox, usually square, with wide embrasures for medium machine gun fire.	30	10	33.33%
Vickers Machine Gun Emplacement	Square, thick-walled pillbox with large main embrasure (occasionally two embrasures) for the fire of the Vickers medium machine gun.	76	23	30.26%
Section Post	A development from the revetted infantry earthwork (see 'Earthworks'), forming an elongated rectangular concrete pillbox, with embrasures to front and rear, sometimes built with two wings extending at an angle from the centre.	10	9	90.00%
Gun Emplacement	Emplacement for artillery gun whose precise type is not known.	108	11	10.19%
Spigot Mortar Emplacement	Unroofed emplacement, often concrete but sometimes a revetted earthwork, with a central concrete pedestal (or 'thimble') for the fire of the Spigot Mortar (Blacker Bombard) anti tank and anti personnel weapon used predominantly by the Home Guard.	234	29	12.39%

HARDENED FIELD DEFENCES: Weapon emplacements: Continued				
Type	Description	DoB extant	DA extant	% DA to DoB
Fortified House	A house that has been converted for defence by the addition of concrete ceilings and walls, the latter loopholed for infantry fire.	Statistics combined with 'Defended Building'		
Defended Building	A building other than a house that has been adapted for defence with loopholed firing positions.	46	11	23.91%
Loopholed Wall	A wall, not part of a building, which has been loopholed for rifle and light machine gun fire.	87	2	2.30%

HARDENED FIELD DEFENCES: Concrete and Metal Obstacles				
Type	Description	DoB extant	DA extant	% DA to DoB
Cube	Concrete anti tank obstacle in the shape of a cube, often with a pyramidal top. Can stand as high as 7ft (c 2m). Often placed in one or more lines as a continuous anti tank barrier.	240	48	20%
Cylinder	Anti tank obstacle made from a drainage pipe filled with concrete. Usually 4ft (1.2m) in diameter and 5–6ft (1.5–1.8m) high. Often placed in one or more lines as a continuous anti tank barrier.	151	18	11.92%
Pimple	Concrete anti tank obstacle in a pyramidal shape, otherwise known as a tetrahedron, usually placed in lines or groups at roadblocks, bridges, or other defended gaps in a stop line. Popularly termed ‘dragons’ teeth’, or, at the coast, ‘sharks’ teeth’. Usually stands c 3ft (0.9m) high.	102	9	8.82%
Anti Tank Block	Anti tank obstacle whose form is not certainly known, but probably a Cube.	165	12	7.27%
Anti Tank Wall	Continuous concrete anti tank barrier built as a wall.	42	2	4.76%
Anti Tank Hairpin	Bent steel rail anti tank obstacle with one end set into concrete sockets in a road surface. Also placed beside railway lines.			
Anti Tank Horizontal Rail	Anti tank obstacle, usually forming a roadblock, consisting of one or more steel rails (or RSJs) placed horizontally between supporting slotted concrete blocks.	6	5	83.33%
Anti Tank Vertical Rail	Rails (or sometimes wooden posts) set vertically into concrete sockets in a road or bridge surface to form a block.	57	5	8.77%

HARDENED FIELD DEFENCES: Concrete and Metal Obstacles: Continued				
Type	Description	DoB extant	DA extant	% DA to DoB
Roadblock	The site of the blocking of a road where the exact form of the obstacles used is not known.	63	6	9.52%
Railblock	The site of the blocking of a railway line where the exact form of the obstacles used is not known.	12	6	50.00%
Anti Tank Scaffolding	Anti tank obstacle known as a '2.1 Obstacle' formed from tubular building scaffolding, usually erected in continuous lengths at the head of a beach.	Statistics combined with 'Beach Scaffolding'		
Beach Scaffolding	As anti tank scaffolding, but erected at the high water mark against the landing of enemy invasion craft.	6	1	16.67%
Barbed Wire Entanglement	Usually three coils of barbed wire (Dannert wire), laid one above the other and fixed by metal picket posts, around a defended position such as a pillbox or a defended locality.			
Barbed Wire Fence	Fence formed of several lengths of barbed wire affixed to posts surrounding a defended position, and most commonly used at the coast as part of the linear beach-front defence or forming the perimeter of a minefield.			
Anti Landing Obstacle	Obstacles such as wooden or concrete posts, or sometimes miscellaneous objects such as old cars or tree trunks, placed in fields or other open spaces to prevent enemy powered aircraft landing and taking off again, or gliders landing without crashing.	13	1	7.70%

EARTHWORK FIELD DEFENCES

Type	Description	DoB extant	DA extant	% DA to DoB
Anti Tank Ditch	Machine-dug ditch of sufficient depth and width to prevent the crossing of enemy armoured vehicles. Usually dug in continuous, angled lengths.	51	9	17.65%
Anti Tank Ditch (Natural Improved)	Anti tank ditch formed by a natural waterway, the banks of which have been artificially steepened, and possibly revetted, as a more effective anti tank obstacle.	Statistics combined with 'Anti Tank Ditch'		
Slit Trench	Infantry firing position for two or three men, usually dug in short, narrow angled lengths.	48	7	14.58%
Fire Trench	Infantry trench, usually larger than a slit trench, with communicating trenches.	Statistics combined with 'Slit Trench'		
Trench	Trench whose precise form and purpose is not known.			
Section Post	Deep revetted trench, dug in angled lengths, providing fire positions for an infantry section (see also Weapon Emplacements).	For statistics, see under 'Weapon Emplacements'		
Infantry Post	Sandbagged or earthwork position for two or three men.	Statistics combined with 'Machine Gun Post'		
Machine Gun Post	Sandbagged or earthwork position for infantry troops with a light or medium machine gun.	24	2	8.33%
Weapon Pit	Small rectangular or circular earthwork, often revetted, within which a machine gun, mortar, or other weapon is positioned.	9	4	44.44%
Artillery Gun Position	Earthwork for the siting of an artillery gun, often as a prepared secondary position.			
Anti Tank Gun Position	Earthwork for the siting of an anti tank gun, often as a prepared secondary position.			

EARTHWORK FIELD DEFENCES: Continued				
Type	Description	DoB extant	DA extant	% DA to DoB
Anti Landing Trench	Trench dug across open land, usually in short lengths as part of a grid pattern with the mounds of earth left as extra obstacles, intended to prevent enemy powered aircraft landing and taking off again, or to cause gliders to crash on landing.	16	0	0.00%

SITES WITH EXPLOSIVES				
Type	Description	DoB extant	DA extant	% DA to DoB
Mined Bridge	A bridge prepared for demolition, the explosives often being placed in specially prepared detonation chambers.			
Depth Charge Crater	Prepared site with buried explosives, to be blown up to form a deep crater as an anti tank obstacle. In Eastern Command, popularly called 'Bosche Bumps'.			
Canadian Pipe Mine	A particular method developed by Canadian Engineers of preparing a Depth Charge Crater site by a bored pipe packed with explosives. Also called a McNaughton Tube.			
Minefield	A set area laid with anti tank or anti personnel mines, most commonly found as part of coastal defences but also on interior stop lines or as part of anti tank island or nodal point defences.			
Petroleum Warfare Site	A site on the coast where a petroleum mixture was piped to the shore to be ignited in the event of invasion.	5	2	40.00%
Barrel Flame Trap	A site prepared for petroleum to be discharged from a barrel, usually across a road, and then ignited.			
Flame Fougasse	A barrel filled with a mixture of petrol, oil, and rubber to be fired by an explosive charge. Usually dug into roadside banks.			

COMMAND AND OBSERVATION				
Type	Description	DoB extant	DA extant	% DA to DoB
Army Headquarters	The location, usually in a large house or other building, of the headquarters of an army unit, whether Command, Corps, Division, Brigade, Battalion (or other).			
Army Battle Headquarters	Prepared locations for the headquarters of an army unit under battle conditions. Those for higher units, from Command down to Brigade, were often placed in specially bored underground tunnels.			
Home Guard Headquarters	The headquarters location of a Home Guard unit, often in a village hall or public house.			
Command Post	Usually a hardened field work, often a pillbox, serving as the command post for a particular sector or defended locality. Found most commonly at the coast.			
Observation Post	Observation position on a high point of land or making use of a tall structure such as a church tower.	44	4	9.09%
Coastal Observation Post	Purpose-built roofed structure on the coast, with wide viewing apertures.	Statistics combined with 'Observation Post'		
Home Guard Observation Post	As 'Observation Post', but used specifically by the Home Guard.			
Beach Defence Light	Searchlight set at the head of the beach to illuminate the shoreline at night.	7	0	0.00%
Lyon Light Emplacement	A square concrete structure housing a beach defence light of a particular type. Often used by Emergency Coast Batteries before the introduction of coast artillery searchlights (CASLs).	Statistics combined with 'Beach Defence Light'		

MISCELLANEOUS SITES

Type	Description	DoB extant	DA extant	% DA to DoB
Home Guard Shelter	Usually a rectangular brick building, with a concrete roof and set with benches, for the temporary shelter of a Home Guard unit, perhaps during an air raid.			
Home Guard Store	Usually a square brick building with a locked door for the storage of Home Guard equipment and provisions.			
Defence Work	A structure likely to have had an anti invasion defence role, but the exact purpose of which is not known.			
Defence Site	A site involved with some aspect of anti invasion defence, the exact function of which cannot be determined.			
<p>NB: The sites of airfields, coast batteries, and structures connected with the Auxiliary Units [secret resistance army] were excluded from this study, but where they are known and lie within defence areas, they are usually referred to. Symbols that represent these sites and structures are included in the Map Key.</p>				

Survival

A total of 832 surviving sites (from 1791 identified defence structures) were located during the fieldwork for the Defence Areas Project. Of all the calculated types of surviving structures given in the tables above, the Defence Areas Project represents 12.01% of the Defence of Britain Project database total of extant sites. Of the principal pillbox categories, the figure is 11.92%, rising to 12.73% for structures clearly identified by their type.

With hardened field defences (which include all concrete weapon emplacements, but exclude the fixed defences of coast batteries), it is estimated from the DoB data, augmented by the DA data, that some 28,000 individual structures were constructed in the United Kingdom, of which about 6500 (23%) survive. The equivalent figures for England alone are around 23,000 built, of which some 5500 (24%) survive.

Hardened weapon emplacements, in fact, represent by far the best overall category of survival. The other categories survive much less well, with 'Sites with Explosives' almost not at all⁶. The great majority of earthworks were infilled many years ago (even before the end of the war), but some do survive, mainly because of their position in woodland, or on moorland and rough grazing. Concrete obstacles, particularly those beside roads and railways, are relatively easy to displace. This is the category of defence work that is most vulnerable to further loss.

Anti-invasion structures are placed at risk by the clearance of agricultural land, by the development of roads, railways, and buildings, by deliberate vandalism, and by natural erosion. With the latter, structures on the east coast of England, in particular in Norfolk and in East and North Yorkshire, are especially threatened, most of the front-edge defences having long been lost and the second line now in immediate danger. (See, for example, the reports on Atwick and Cayton Bay and the note on the recent destruction at Winterton-on-Sea.)

Condition

For the purposes of this study, a defence structure is adjudged to be in 'Good' condition if it survives intact as a clear example of its type, is largely clear of vegetation, and is in a reasonably clean condition internally. Occasionally, structures that are more heavily overgrown are also rated as 'Good', where it can be seen that, with the removal of the vegetation around them, they would appear clean and undamaged; in such cases the overgrowth has often acted as a protection.

It is estimated that of the *c* 5500 pillboxes surviving in England, *c* 2000 are in 'Good' condition (8% of the total built). Of this last figure, some 350 in 'Good' condition (1.5% of those built) lie within the 67 Defence Areas covered by this survey, out of a total of 628 surviving in all conditions within those areas (11% of the total surviving for England).

The condition of a very high proportion (up to 75%) of defence structures is overgrown. In many cases, the overgrowth is such that the site cannot be approached at all, in summer or winter, being surrounded by impenetrable thickets of thorn and bramble. Some structures are so covered in vegetation that they can scarcely be made out, not even at close range. Such overgrowth disguises the historic value of the structure: its form cannot be made out or its purpose appreciated. The neglected condition of many of the works, particularly when despoiled internally as well by the attention of vandals or by their use as rubbish dumps, does not help their preservation. Landowners see little to commend in

structures so evidently abandoned by responsible authority, and will be unconcerned about their future survival: indeed, just the opposite, they may be motivated to remove them.

Access

Although a large number of defence works stand on, or immediately adjacent, to public rights of way, the majority lie on private land to which there will be no access without prior permission. Because of the widespread nature of anti-invasion defence sites, and because of the popular interest in the subject, the question of access is probably as pertinent for these sites as for any other type of archaeological site. In many cases, viewing from a distance without the need for close inspection is an acceptable alternative. In the course of the surveys for this Project, landowners were without exception helpful and interested. However, that situation could well change if thoughtless individuals abuse the rights of private owners, or large numbers arrive to stare across a hedge. The whole question of the publicity of sites hinges upon correct behaviour being shown.

Resources Available for Study

The resources available for the identification and study of anti-invasion defences are as follows:

- Documents (including contemporary maps)
- Ordnance Survey plans
- Air photographs
- Previous surveys
- Publications
- Photographs and moving film
- Oral testimony

Documents

The National Archives (previously Public Record Office)

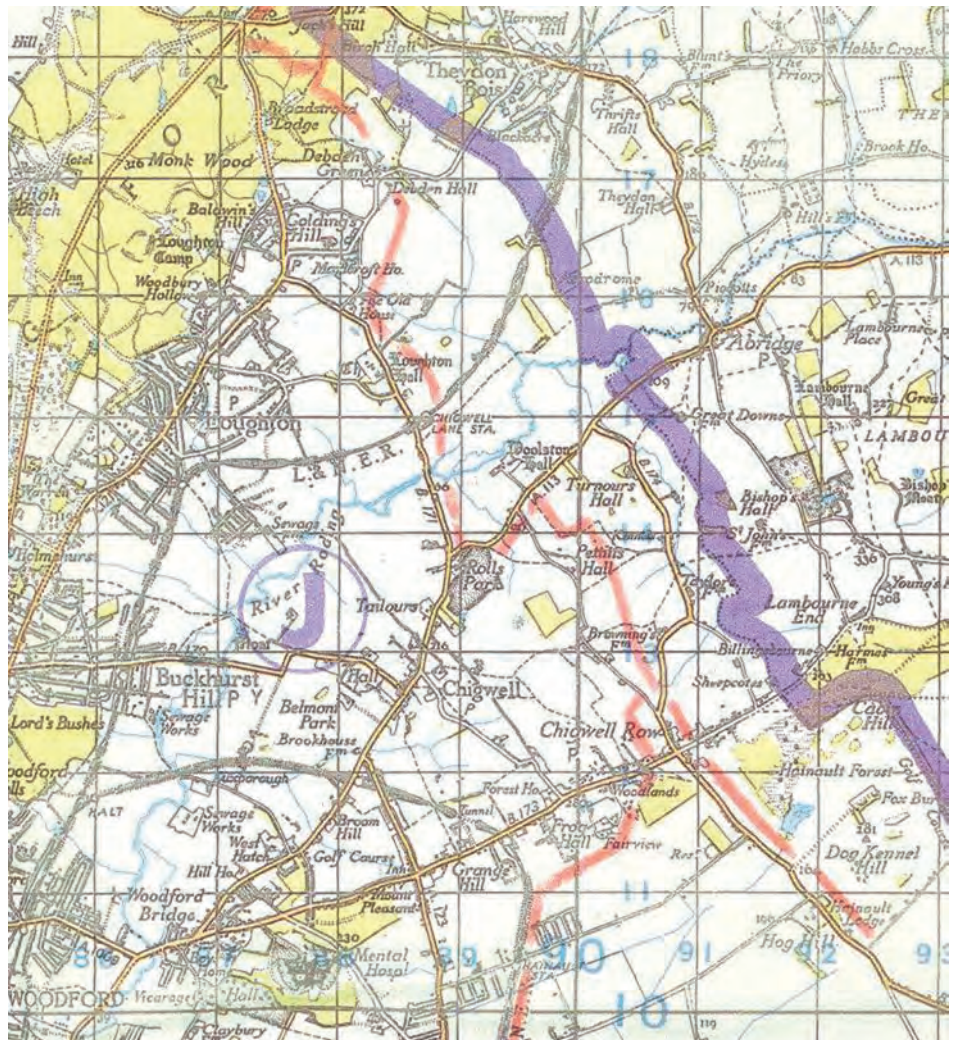
Relevant documentation held by The National Archives is extensive. Of the greatest value for the identification of individual sites and the units manning them, together with the overall strategy of the defence, are the Home Forces Unit War Diaries (Record Class WO 166). Many of these contain Operational Instructions and Defence Schemes which provide detailed information on the defence positions occupied by a unit, with lists of the positions of defence works given using six-figure (and sometimes eight-figure) references from the military [Cassini] grid. Some War Diaries also contain maps, some printed but others hand-drawn, often with exceptional detail. A number of War Diaries of Royal Engineers companies were located that provided documentation on the progress of construction works, showing the extent of the records that were kept but which are now largely lost. Corps, Division, and Brigade War Diaries in Record Class WO 166 often contain Location Lists that provide the names of all units making up a higher echelon unit. In addition, documents within a War Diary, such as a Defence Scheme, usually have distribution lists that can provide the same information.

Colin Dobinson, in his report on anti-invasion defences for English Heritage, stated that ‘a co-ordinated programme of study, extraction and processing remains a pressing need’ amongst War Diaries of lower order echelons from brigades to companies (Dobinson 1996). To a limited degree, it is hoped this study has achieved that purpose.

An invaluable document at The National Archives is an unpublished monograph entitled, ‘Defence Plans for the United Kingdom 1939–45’, produced by the Historical Section of the Cabinet Office in 1948 (TNA: PRO WO 277/37). This includes maps of the disposition of Home Forces in 1940 and 1941, enabling Corps, Divisions, and Brigades to be determined for particular areas at different periods. Important files are also to be found in the Record Class WO 199 – Home Forces Headquarters Papers.

The National Archives’ references for the documents used in the study of each defence area are given at the end of each section.

FIGURE 8 Portion of a map showing the course of the artificial anti-tank ditch of the Outer London Anti-Tank Line (the red line) through south Essex. The map was drawn up specifically to show the lengths of anti-tank ditch remaining to be infilled in August 1944. (THE NATIONAL ARCHIVES: PRO HLG 7/973)



Imperial War Museum

The Department of Documents holds papers and maps pertaining to Operation Sealion, as well as copies of German mapping at the 1:50,000 and 1:25,000 scales (on an Ordnance Survey base) of the results of the Luftwaffe's reconnaissance of British defences in the south of England. It also has German manuals on the British defences and on the economic and strategic geography of Britain.

British Library Map Library

Holds German mapping of British defences at the 1:100,000, 1:50,000, and 1:25,000 scales; the series of maps is more complete than that held by the Imperial War Museum. It also has a copy of the German Army handbook, *Militärgeographische Angaben über England*, with separate volumes for the south, east, and west coasts, and for London.

Bodleian Library

Holds German mapping of British defences at the 1:100,000 and 1:25,000 scales.

Royal Air Force Museum

Holds 1:50,000 scale German mapping (in four parts) of the defences of the South-East coast from Margate to Selsey.

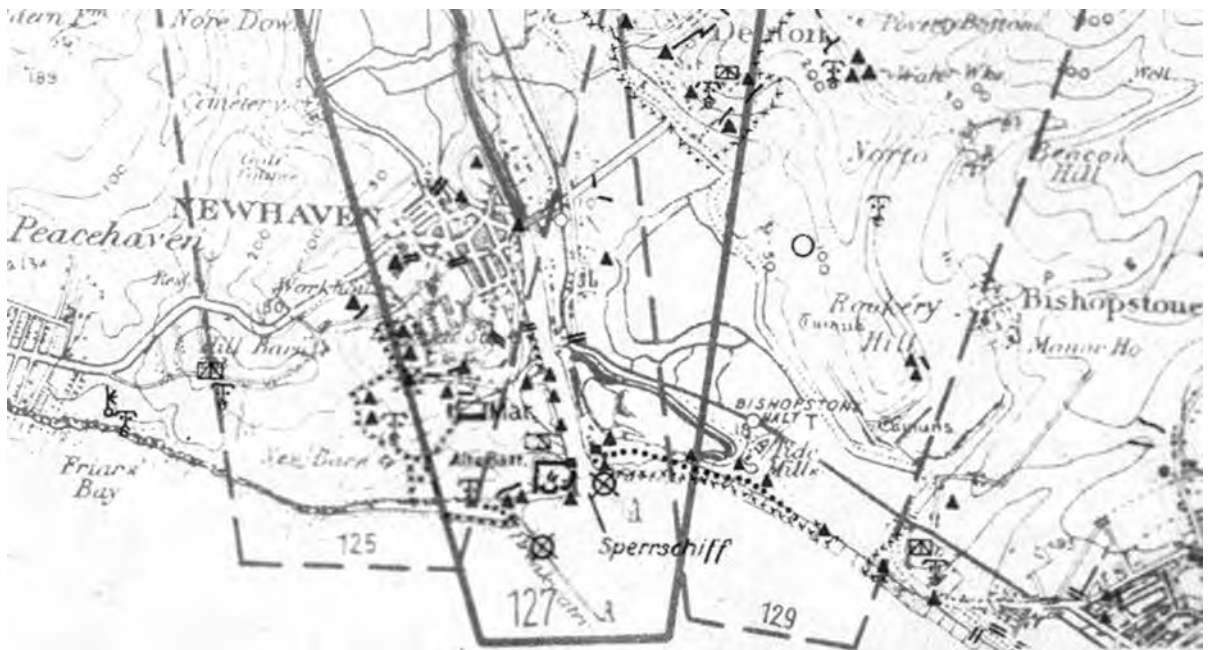


FIGURE 9 Portion of a German map on an Ordnance Survey base showing details of the defences around Newhaven in November 1940. The triangles represent pillboxes, the dots, anti-tank blocks, and the crosses, barbed wire perimeters. Other symbols are defined in the legend accompanying the map.

(COURTESY OF RAF MUSEUM, HENDON)

Local Record Offices

Local record offices often hold relevant documentation, in particular concerning the Home Guard and the clearance of defence works after the war.

Bundesarchiv-Militärarchiv, Freiburg (German military archives)

Holds German mapping of British defences at the 1:100,000, 1:50,000, and 1:25,000 scales, including certain sheets not available at the British Library Map Library.

Ordnance Survey Plans

Post-war Ordnance Survey mapping at the 1:2500 scale, issued from the late 1950s and throughout the 1960s and 1970s, can be very useful in showing the positions of pillboxes and other defence works because their sites, and plan form, were often (but not always) included by the surveyors. Hexagonal pillboxes are straightforward to spot, and very often their direction of fire can also be determined. Square and rectangular defence structures are more difficult to identify as they can easily be confused with other free-standing buildings, such as sheds and barns. Lines of anti-tank blocks are sometimes shown, usually being termed 'stones'.

The British Library Map Library holds all published Ordnance Survey mapping, although large-scale plans can also be consulted in local record offices and libraries.

Air Photographs

National Monuments Record

The National Monuments Record at Swindon has the principal holding of air photographs of England. Of exceptional value are the series of wartime RAF verticals and obliques, largely covering coastal areas, which sometimes show defence works under construction. Comparison between photographs for 1940 and 1941 can also often determine the period when certain works were built, for example anti-tank scaffolding erected from the early spring of 1941.

The vertical photographs are particularly useful for determining the courses of anti-tank ditches, as well as lines of concrete anti-tank obstacles. Earthworks such as slit trenches, and barbed wire perimeters, also show clearly. Photographs of 1945–47 can sometimes show defence works at a time shortly before these were cleared away, for example concrete blocks on bridges or anti-tank pimples at the road crossings of stop lines. Anti-tank ditches filled in before the end of the war can still show clearly as soil marks in photographs as late as the 1960s, and sometimes as cropmarks in very recent air photographs. Photographs of the 1950–60 period can also sometimes reveal pillboxes that up to that time were still hidden by their original camouflage.

Air photographs are also important for an evaluation of the topography of a defence area, and for enabling an assessment to be made of landscape change since the war. More recent photographs allow the dates, for example, of road construction and housing development to be determined.



FIGURE 10 Air photograph in the series of war time military obliques held by the NMR. This example, from July 1941, shows the River Lark close to Worlington in Suffolk. A temporary bridge is being erected by a detachment of Royal Engineers. The course of the River Lark here was an Eastern Command stop line and it is possible that the activity represents training in bridge building. In the background, to the right of Worlington church, a detached building with a pitched roof standing in front of trees is a camouflaged pillbox (see River Lark: Jude's Ferry Bridge defence area, site [6392]). (ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY MSO 31234/ HHO-18 TL 6974/2)

Imperial War Museum

Holds a volume of annotated German air reconnaissance photographs ('Taktisches Luftbildbuch': AL 2902), and various German Army and Luftwaffe handbooks relating to Operation Sealion at its Duxford Airfield site.

National Archives at College Park, Maryland [United States archives]

Has the main holding of captured German Luftwaffe photographs, including a substantial number for Britain. The extent of this holding, and its exact composition, is not currently known, but it is potentially a most important source.

Previous Surveys

Defence of Britain Project

Records of the surveys carried out for the Defence of Britain Project are held at the National Monuments Record, Swindon. Eventually records created by the Defence Areas Project will also be lodged there. The databases of the two projects are available on-line

FIGURE 11 Portion of a German map showing the extent of the Luftwaffe's reconnaissance of British defences in South-East England as at 10 October 1940.

The thick lines represent linear anti-tank obstacles supported by field fortifications. (TAKTISCHES LUFT P 38; COURTESY OF THE IMPERIAL WAR MUSEUM, LONDON, DUXFORD: AL 2902)



(see p xxix). Eventually records created by the Defence Areas Project will also be lodged there. The papers of the Henry Wills Collection, including the surveys for his book, *Pillboxes*, are also held at the National Monuments Record. Forming part of this Collection are the only known surviving Royal Engineers large-scale record plans of anti-invasion defences – those for the Taunton Stop Line and its related anti-tank islands.

Local surveys

Other surveys of anti-invasion defences have been carried out in various parts of the country since the 1970s. Of especial note are those in Essex, Worcestershire, Herefordshire, Surrey, Cornwall, Berkshire, Norfolk, and Hampshire, the records of which have fed both into the Defence of Britain Project database and also the county Sites and Monuments Records (SMRs; now referred to as Historic Environment Records (HERs)), which will hold the most complete records for the particular county.

Publications

Despite the general interest in this subject, there have been few publications for either popular or academic interest, although three recent works represent a considerable advance. Works which provide an overall background are given in the Bibliography, and those which have been consulted for each defence area are included in the 'Published Sources' section of each relevant report. Books on the Home Guard, individual regimental histories, local histories, and topographical works can also sometimes provide useful information. The library of the Imperial War Museum has a comprehensive holding of

books, pamphlets, leaflets, and maps on every aspect of the Second World War. The Royal Engineers Library, Chatham has copies of War Office training pamphlets on field fortifications (see Bibliography).

Photographs and Moving Film

The photographic collection of the Imperial War Museum provides a vast resource of visual evidence for the subject, which has yet to be fully exploited. Moving film has also been little researched. Other major picture libraries, including those of both national and local newspapers, should be consulted additionally.

Oral Testimony

The recording process for the Defence of Britain Project involved at times the gathering of oral testimony, the result of which was built into the database and used, where available, for the defence area surveys. Other oral testimony was obtained during the course of the Defence Area Project's programme of fieldwork. Much more, from army veterans, construction workers, and local residents, remains to be gathered. This precious resource is steadily diminishing as the months go by, and will be extinguished within a few years. In any local study, a determined effort to take advantage of this surviving resource should be made.

Fieldwork

Fieldwork, in particular for some of the larger areas, was often a lengthy and difficult process. Time and travel constraints meant that many areas had to be field checked within a day, although in several cases return visits were possible. Local knowledge in the identification and interpretation of sites, often gained by amateur recorders over a period of years, is an important resource, and much has been learnt from such individuals. Where available, this was built into the reports after the main fieldwork was carried out. However, it is recognised that sites will have been missed, and errors made. The author would be grateful to receive any further information to amend the records of the 67 defence areas.

While identification and recording of sites was possible at all seasons, it was found that, because of the overgrown condition of many sites, late autumn through to spring when vegetation is lower, is the optimum time of year for effective fieldwork. Most defence areas were approached without any prior access permission, this often being obtained during the course of the work as necessary. In certain cases it was impossible to obtain permission because there was no clear evidence of the landowner or time to seek him or her out. Some structures could be adequately recorded from a distance, in particular where a previous fuller record had been obtained from Defence of Britain Project data. For certain areas where full access was essential, permission was sought in writing – for example, at Bawdsey Manor, Audley End, St Michael's Mount, and Breamore Mill.

Many landowners and occupiers, and other local residents, showed considerable interest in the survey, and were helpful with information on sites and local wartime history. No one showed any hostility to the defence structures, seeking their removal, although it was clear in some areas that destruction had been carried out recently, mainly by farmers for field

clearance. A local pride in the defence works was met with in some areas, with the view expressed that it was good to know that ‘something was going to be done about them’.

A ten-figure grid reference for a defence work was obtained using a hand-held GPS receiver. Each defence structure was recorded by its type, its main direction of fire (if relevant), size, construction materials, any interior fittings, condition, public accessibility (externally and internally), and by any unusual features. Considerable efforts were made to locate structures known only from documentary sources, sometimes with success.

The Defence Areas

The defence areas were selected using the Defence of Britain Project data to identify discrete areas of good anti-invasion defence survival. An initial list of some 300 such areas was identified to which the following English Heritage criteria were then applied:

- Areas representing a particular coherent defence construction, eg the GHQ Line
- Areas with good surviving documentary (or published) sources
- Areas with good inter-visibility, where the defence works can be seen within clear viewsheds
- Areas with very good survival of defence works, enabling them to be understood easily in their landscape context
- Areas with differing types of defence works
- Areas including rare types of defence works
- Areas representing the different strategies of anti-invasion defence.

The project was also interested in creating a selection of areas that included different regions of England; different types of landscape and topography; and those with good public access.

The result was a list of 78 areas selected for provisional documentary analysis and field survey, during the course of which a further eleven were removed as not, in fact, satisfying the criteria for which they had been initially selected. This left 67 areas to receive full analysis and survey. The reports on these areas follow, grouped by the principal defence strategy to which they relate.

Coastal Defence Areas (20)

Cuckmere Haven, East Sussex
Freshwater Bay, Isle of Wight
Abbotsbury, Dorset
Studland Bay, Dorset
Hollicombe Beach, Torbay
Porthcurno, Cornwall
St Michael’s Mount, Cornwall
Dunster Beach, Somerset
Barrow Island, Cumbria
Bawdsey Point, Suffolk
Walberswick, Suffolk
Winterton-on-Sea, Norfolk

Weybourne, Norfolk
Lawyers' Creek, Holbeach, Lincolnshire
Freiston Shore, Lincolnshire
Saltfleetby, Lincolnshire
Atwick, East Yorkshire
Cayton Bay, North Yorkshire
Speeton, North Yorkshire
Druridge, Northumberland

Defence Areas on Stop Lines and Other Defence Lines (33)

Farthingloe, Dover, Kent
Bramling – Ickham – Wickhambreaux, Kent
Royal Military Canal: Bilsington – Ruckinge, Kent
Weycroft, Devon
Wadbrook, Devon
Pawlett Hill, Somerset
River Brue: Cripp's Bridge, Somerset
Godney, Somerset
Hog Wood, Bath & North East Somerset
Avening, Gloucestershire
Semington – Whaddon, Wiltshire
Dunmill Lock, Berkshire
Frilford – Fyfield, Oxfordshire
Sulham Valley, Berkshire
Chequers Bridge, Hampshire
Waverley Abbey, Surrey
Dorking Gap, Surrey
Sidlow Bridge, Surrey
Barcombe Mills, East Sussex
Old Lodge Warren, East Sussex
Penshurst, Kent
River Medway: Maidstone, Kent
Deangate Ridge, Hoo, Kent
Hartford End, Essex
Audley End, Essex
Littleport, Cambridgeshire
Drift Bridge, Surrey
Cheshunt, Hertfordshire
Wakes Colne Viaduct, Essex
Sudbury, Suffolk
River Lark: Jude's Ferry Bridge, Suffolk
Hopwas Bridge, Staffordshire
Leeds & Liverpool Canal, Burscough, Lancashire

Area Defence (14)

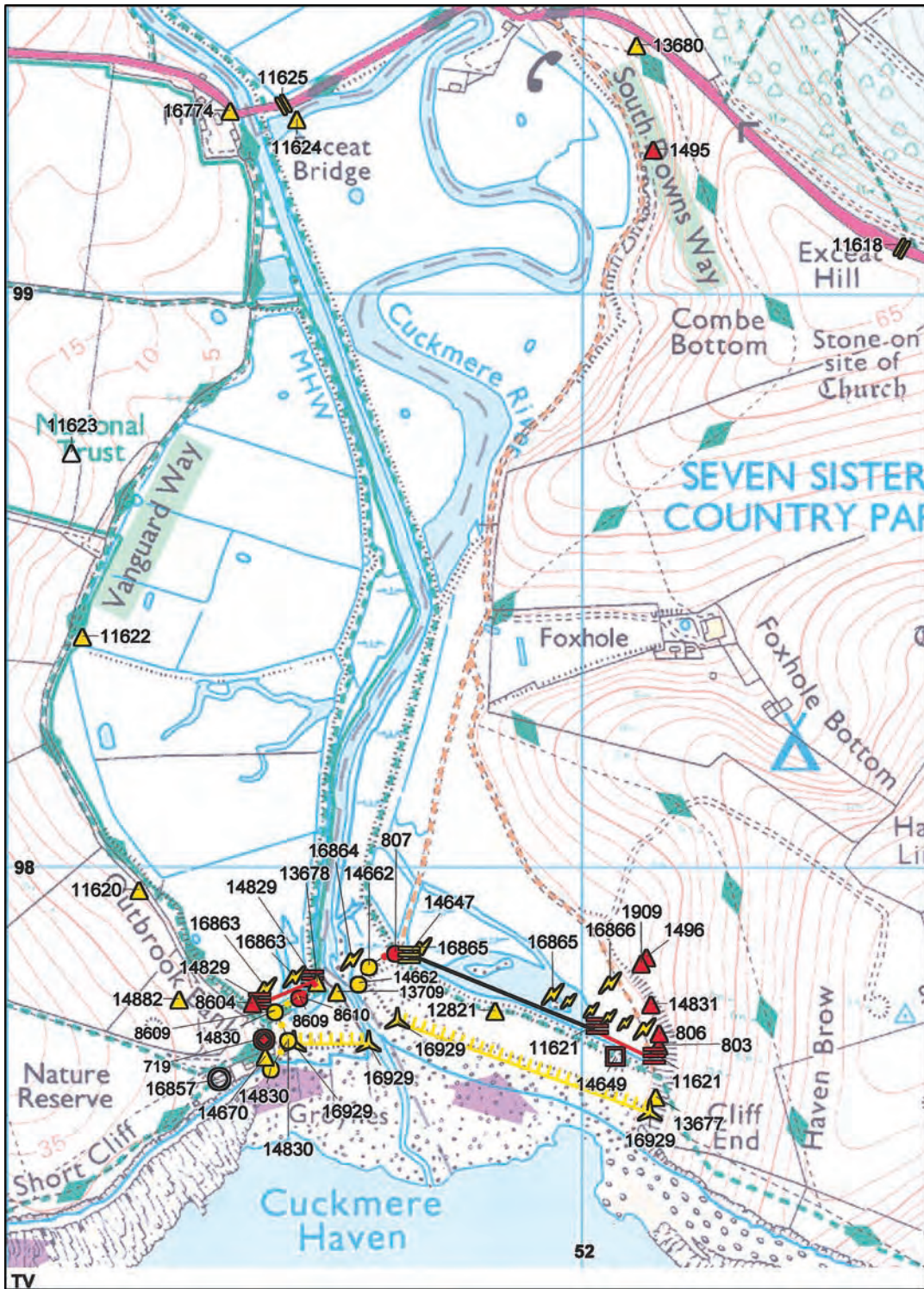
Ilton, Somerset
Pevensey Castle, East Sussex
Cripp's Corner, East Sussex
Sarre, Kent
Ewshot, Hampshire
Acle, Norfolk
Ludham Bridge, Norfolk
Canewdon, Essex
Persnore Bridges, Worcestershire
Breamore Mill, Hampshire
Wooler, Northumberland
Bromborough Pool, Wirral
Greatham Creek, Stockton-on-Tees
Kirkleatham, Redcar & Cleveland

With certain of the areas representing linear defence it has been hard to define boundaries. With sections of stop lines, in some cases the defence works continue beyond the selected borders of the defined areas and the continuing sites are shown on the maps. However, these may not have been field surveyed with the same accuracy as those within the more detailed study areas.

Notes

- ¹ One of these lists – or probably a secondary form of it – has survived with Essex County Council.
- ² Maps from such a survey of the Norfolk coastline survive at the Norfolk Record Office, Norwich.
- ³ In Surrey, a record was made in the 1960s of defence works surviving in Areas of Outstanding Natural Beauty within the county with a view to their removal. This does not appear to have been carried out. A map showing the sites is held at the Surrey Record Office, Woking.
- ⁴ His papers, including the expanded gazetteer, are in the Wills Collection at the National Monuments Record, Swindon.
- ⁵ <http://ads.ahds.ac.uk/catalogue/resources.html?dob>
- ⁶ At the time of writing (January 2005), a flame fougasse site complete with its drum of petroleum and explosive charge is said to have been located in Sussex. In recent years, a bridge at Sarre was also discovered with its detonation explosives still in place. Such was the quantity of explosives laid down in the 1940/41 period that other examples are almost certain to remain unrecognised.

The Defence Areas: Coastal Defence



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Cuckmere Haven

Coastal Defence

Location Details

2½ miles (4km) E of Seaford and 6 miles (9.5km) W of Eastbourne

County: East Sussex

Parishes: Seaford/Cuckmere Valley

National Grid Reference (beachfront): TV 516977

Landscape

The defence area consists of the Cuckmere Valley south of Exceat Bridge, passing between high chalk downland to west and east and reaching the English Channel at Cuckmere Haven, a seafront of broad shingle banks backed by tidal pools and river meadows seamed by waterways. On the east side of Cuckmere Haven, the downland ends in the famous Seven Sisters white cliffs. The Cuckmere River follows a winding course from north to south, accompanied on its west side for part of the distance to Exceat Bridge by a canalised branch of the river. At Exceat is the visitor centre of the Seven Sisters Country Park, which manages the land to the east of the river; the land to the west is owned by the National Trust. Exceat Bridge carries the A259 Seaford to Eastbourne road over the river, and on its south-west side is the Golden Galleon public house.

Air photographs show that the area remains substantially as it was in 1940. A light railway running along the valley to bring shingle from the beaches was closed in the 1960s and its route converted to a path. An area of open water to the east of the river, close to the beachfront, was formed in the 1980s. There are currently (2005) proposals by the Environment Agency to flood parts of the Cuckmere estuary in a project to reinstate saltmarsh and mudflats. It is believed such flooding would submerge the anti-tank defences on the west bank of the river.

Defences

From June 1940 work was put in hand to defend the East Sussex coast against the threat of German landings by sea and air. Cuckmere Haven was a specific assault target under the plans for Operation Sealion, being one of the landing beaches for the 6th Division of the German 9th Army. For defence purposes, it fell within the Seaford Sub-Sector of 'C' Sub-Area defended by 45th Division, replaced in 1941 by 55th Division. The Cuckmere River marked a brigade boundary, with troops from different brigades on either side of the river. The principal Cuckmere Garrison positions, however, defended at company strength with two 2pdr beach guns, were on the west bank, with the Coastguard Cottages serving as a headquarters. In March 1941 the troops were from the 9th Bn The King's Regiment. A further company covered the exits to the Cuckmere Valley, manning positions to

the west of Exceat Bridge and on Cradle Hill further north. A defended locality was also formed at Exceat Bridge, its defences being manned by the 'B' (Seaford) Company of the 16th (Lewes) Bn, Sussex Home Guard.

The defence of the coast at Cuckmere Haven was backed by a system of defence in depth which made use of a grid-pattern of lettered defence lines or 'fences' that themselves joined up with Corps and Division stop lines on the north side of the South Downs. One such fence, WS–WT, followed the course of the river from Cuckmere Haven to a point north-west of Hailsham. Nodal points, based on the all-round defence of communication points at towns and villages, supplemented this system. The Downs themselves were patrolled by a mobile unit known as Downsforce consisting of 120 riflemen with an anti-tank battery.

Defence works were built at Cuckmere Haven from June 1940. In mid-July, the War Diary of the 562nd Field Company Royal Engineers records the unit siting pillboxes on the west side of the river. By August, a German air-reconnaissance photograph shows an extensive concentration of defences. They ran on either side of the valley south from Exceat, being concentrated principally on the seafront. An anti-tank ditch was cut on the east side of the river to the foot of the cliffs: part is still open although heavily silted [11621]. The ditch was continued to the bank of the river by a line of concrete anti-tank blocks, some of which survive [14662]. On the west bank of the river was a further length of anti-tank ditch constructed from a pre-existing waterway and fronted by massive concrete blocks and an anti-tank wall [14829, 8609, and 8610]. To the east, a cluster of pillboxes and machine gun emplacements, enfiling the beachfront, were built at the foot of the



FIGURE 12 Post-war photograph (c 1950) accompanying an Admiralty report on the beach at Cuckmere Haven. The wartime defences on the west side of the river are particularly clear. Two pillboxes are positioned at each end of a line of anti-tank blocks near the river, while an adjoining anti-tank wall and more blocks are protected by watercourses to front and rear. A double line of pimples runs towards the seafront. Surviving pillbox [8604] is in the central foreground. (THE NATIONAL ARCHIVES:PRO ADM 326/162)

steeply rising land, their positions being surrounded by long perimeters of barbed wire. From 1941, anti-tank scaffolding was placed in a continuous run at the head of the beaches on both sides of the river. Extensive minefields were also in place, in particular beneath the cliffs to the east. On the flanking downland, trenches were dug against enemy aircraft and gliders landing, and, on the west side of the Cuckmere, the valley floor itself, both north and south of Exceat Bridge, was extensively blocked by posts and other obstacles.

The pillboxes below the heights to the east, and the anti-tank ditch and the lines of blocks, are the most visible remains today. Two Type 25 pillboxes can also be seen [1495 and 1496]. On the west bank are the remains of a First World War gun emplacement and a cable station built in 1917. The Cuckmere Valley had several other military uses during the Second World War: a decoy with lights to simulate Newhaven Harbour and an artillery range occupied different parts of the valley. At Cuckmere Haven itself, the beachfront was used to practise assault landings for D-Day.

Significance

Cuckmere Haven provides a very good example of coastal defence in a location that has excellent public access. Pillboxes, anti-tank blocks, an anti-tank wall, and an open section of anti-tank ditch all survive. The good documentary evidence enables the positions of many defence works, long since cleared away, to be determined.

An examination of the topography of the area shows how the defences were sited to best advantage, making use of the natural features of the landscape, largely unaltered today. As an assault objective for the German Army, Cuckmere Haven had a front of only 850 m. The defences concentrated on the beachfront would have made the task of getting ashore and establishing a bridgehead exceedingly difficult. Very likely, the German seaborne

FIGURE 13 Type 23 pillbox [803] dug into the rising downland on the east side of Cuckmere Haven. (PHOTO: THE AUTHOR, 28 JUNE 2001)





FIGURE 14 The surviving section of the eastern anti-tank ditch [11621], with pillboxes (from left to right, [806] and [803]) at the foot of the cliffs beyond positioned to enfilade it.

(PHOTO: THE AUTHOR, 28 JUNE 2001)

assault would have been assisted by airborne troops seizing the high downland on either flank. The 1.6km long funnel of the Cuckmere Valley would also have presented severe difficulties for an advance inland, being intersected by many waterways and drainage ditches, and dominated by the heights on either side. Enemy armoured fighting vehicles would have found it hard to manoeuvre in such terrain.

Pillboxes and other gun positions were sited on the lower slopes of the cliffs to the east of the beachfront, enabling the shoreline to be covered by enfilading fire. Pillboxes on the high land to the west of the river would have laid down an additional crossfire. Defences were also built taking advantage of existing sea banks: the eastern length of anti-tank ditch was dug to the rear of one such bank, and a line of anti-tank blocks laid along another to the river's edge [14662]. On the west side of the river, anti-tank blocks and a wall ran beneath another bank, which effectively doubled the height and width of the concrete obstacle [8610]. On the far side of this bank, a length of anti-tank ditch was formed from an existing waterway.

Gaps in the network of waterways close to the seafront were blocked with minefields. Further north, there is some air-photographic evidence that water channels were 'improved' as anti-tank ditches, being widened with steepened banks and rounded

FIGURE 15 Anti-tank blocks and anti-tank wall [8609 and 8610] on the west side of the Cuckmere River. The wall was continued at the far end by a line of blocks at an angle to the river bank, supported by two pillboxes (demolished) (see also Fig 12). Behind the bank to the left is the water-course forming the western anti-tank ditch.

(PHOTO: THE AUTHOR, 28 JUNE 2001)



terminals. The natural topography of the valley assisted its defence, overlooked by hills on either flank and with the valley floor criss-crossed by a network of ditches. Pillboxes were positioned on these heights and amongst the drainage banks and ditches. Exceat Bridge across the Cuckmere River was a vital point where the enemy would have hoped to have broken out of the valley, moving west and east along the line of the A259 road. The defences of a defended locality at the bridge, and an additional roadblock to the east, were designed to prevent this.

The surviving defence works at Cuckmere Haven can be seen within the landscape setting that determined the defence strategy here. This is an area where both the attack purpose, and that of its counter defence, are particularly clear. It is a well-known and much-visited landscape, with the surrounding downland and white cliffs iconic of Britain's defiance in 1940. Any flooding of the southern part of the valley would not only submerge many of the defence works but would also remove much of their landscape context.

Access

Cuckmere Haven is very popular with day visitors to the Seven Sisters Country Park and with school parties who use the resources of the valley for adventure training and other outdoor activities. A network of public footpaths runs on the east side of the valley and the designated Vanguard Way crosses National Trust land to the west. The downland heights above the Coastguard Cottages – one of the most photographed viewpoints in England – are a nature reserve.

Car parking is best made at the Seven Sisters Country Park, a visit to which is recommended for its displays and general information on the area. For a visit to the land on the west bank, parking might be made at the Golden Galleon public house.

Published Sources

Longstaff-Tyrrell, P, 2000 *Front-Line Sussex*. Stroud: Sutton Publishing

Longstaff-Tyrrell, P, 2001 *Operation Cuckmere Haven*. Polegate: Gote House Publishing

Documentary Sources

135th Infantry Brigade HQ War Diary, 1940 – TNA: PRO WO 166/990

136th Infantry Brigade HQ War Diary, 1940 – TNA: PRO WO 166/992

562nd Field Company Royal Engineers War Diary, 1940 – TNA: PRO WO 166/3800

‘Einzelheiten und technische Angaben über die englischen Befestigungen’, August 1940 (IWM Duxford: AL 2901)

‘List of Nodal Points in Eastern Command’, September 1940 (from General Headquarters Papers, Home Forces) – TNA: PRO WO 199/544

Befestigungskarte Großbritannien: 1:100,000 (Sheet 39), 3.9.1940 – BLML Y.336

‘45 Division Defence Scheme’, October 1940 (from 45 Division ‘G’ Branch HQ War Diary) – TNA: PRO WO 166/536

‘Taktisches Luftbildbuch’, 23.10.1940 – IWM Duxford: AL 2902

Südostküste England – Schrägbildreihe IV: Selsey – ostw Seaford, 20.11.1940 – RAF Museum, Hendon AC 95/130/1

‘C’ Sub-Area Defence Scheme’, December 1940 (from 219th Infantry Brigade War Diary) – TNA: PRO WO 166/1072

‘Seaford Defence Scheme’, 24.2.1941 (from 9th Bn The King’s Regiment War Diary) – TNA: PRO WO 166/4354

‘Operation Instruction No 22’, 15.3.1941 (from 164th Infantry Brigade War Diary) – TNA: PRO WO 166/1037

‘Operation Instruction No 1’, 20.3.1941 (from 165th Infantry Brigade War Diary) – TNA: PRO WO 166/1038

Befestigungskarte Großbritannien: 1:50,000 (Sheet 134), 1.6.1941 – BLML 1305(13)

Admiralty Beach Intelligence Records: Cuckmere Haven, 1952 – TNA: PRO ADM 326/162

Note: The components tables at the end of each section (as on opposite page) provide a summary. Full descriptions of these sites are available through the Archeology Data Service at <<http://ads.ahds.ac.uk/catalogue/resources.html?dob>>

Cuckmere Haven: Defence components

Database site reference	NGR	Defence work type	Survival status
719	TV 51469771	DEFENCE WORK	E
803	TV 5213597690	PILLBOX (TYPE 23)	E
806	TV 5213697711	PILLBOX (VARIANT)	E
807	TV 5167697852 – TV 5163097828	CUBE	E
1495	TV 5212099249	PILLBOX (TYPE 25)	E
1496	TV 5211397844	PILLBOX (TYPE 25)	E
1909	TV 5210497833	PILLBOX (VARIANT)	E
8604	TV 5142897763	PILLBOX (VARIANT)	E
8609	TV 5146797750 – TV 5150997774	CUBE	E
8610	TV 5150997774 – TV 5155797800	ANTI TANK WALL	E
11618	TV 52569909	ROADBLOCK	R
11620	TV 51239796	PILLBOX	R
11621	TV 5202897727 – TV 5212797675	ANTI TANK DITCH	E
11622	TV 51139840	PILLBOX	R
11623	TV 51119872	PILLBOX	U
11624	TV 51509930	PILLBOX	R
11625	TV 51489934	ROADBLOCK	R
12821	TV 51859775	PILLBOX	R
13677	TV 52139760	PILLBOX	R
13678	TV 51549780	PILLBOX	R
13680	TV 52099943	PILLBOX	R
13709	TV 51569777	PILLBOX	R
14647	TV 51709785 – TV 52029772	ANTI TANK DITCH	I
14649	TV 52069767	DEFENCE WORK	E
14662	TV 5163097828 – TV 51609779	CUBE	R
14670	TV 51459767	PILLBOX (TYPE 24)	R
14829	TV 5153297809 – TV 51449777	ANTI TANK DITCH (NATURAL IMPROVED)	E
14830	TV 5146797750 – TV 51499770 – TV 51469765	PIMPLE	R
14831	TV 5213297766	PILLBOX	E
14882	TV 51309777	PILLBOX	R
16774	TV 51389933	PILLBOX	R
16857	TV 51379763	ARMY BATTLE HEADQUARTERS	U
16863	TV 51459779 – TV 51509781	MINEFIELD	R
16864	TV 51609784	MINEFIELD	R
16865	TV 51729786 – TV 51959778 – TV 52119772	MINEFIELD	R
16866	TV 52059780	MINEFIELD	R
16929	TV 51509769 – TV 51639769 – TV 51689773 – TV 52129757	BEACH SCAFFOLDING	R

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Freshwater Bay

Coastal and Stop Line Defence

Location Details

3½ miles (5.5km) E of The Needles and 10 miles (16km) W of Newport

County: Isle of Wight

Parish: Freshwater

National Grid Reference (seafront): SZ 347857

Landscape

The defence area lies partly on the coast at Freshwater Bay and partly inland in the valley of the River Yar, as far north as the crossing of the river known as The Causeway, east of the town of Freshwater. The course of the River Yar, which rises near Freshwater Bay and reaches the sea on the north coast to the west of Yarmouth, creates a virtual island of the western peninsula of the Isle of Wight.

Freshwater Bay is a small semicircular bay with a shingle beach between the high chalk upland of Tennyson Down (National Trust) to the west and the heights of Afton and Compton Downs to the east. It is approached from Freshwater town by the A3055 Afton Road which runs along the Yar valley. The valley itself is marshy and full of reed beds. Afton Marsh Nature Reserve lies just north of Freshwater Bay. Above the cliffs at the western end of the Bay is a mid-19th-century fort known as Fort Redoubt. This passed into private hands in the late 1920s and is now a residence.

Although there has been some housing development in the Afton Marsh valley and in Freshwater town, little of this intrudes on the defence area. The Freshwater Bay seafront has received little or no commercial development.

Defences

The Isle of Wight formed a Sub-Area within the Hampshire Area, being divided into several defence sectors. Freshwater Bay fell within the Rear Boundary Outpost Sector. From August 1941, a stop line known as the Yar Line was built following the River Yar from Freshwater Bay to Thorley, south of Yarmouth. This defence line protected the western peninsula of the Isle of Wight, where five coast batteries were situated on the north coast between The Needles and Cliff End covering the approaches to the naval base at Portsmouth; the majority of these batteries were situated at recommissioned Victorian forts. The principal defence work built on the Yar Line was the Type 22 infantry pillbox, but there were undoubtedly additional earthwork defence posts as well as blocks on all routes crossing the line. At The Causeway, the crossing of the River Yar had both a



FIGURE 16 Air photograph taken 27 January 1971 showing Freshwater Bay. Fort Redoubt is at the left edge of the picture, with the Albion Hotel above it at the western end of the beach. Afton Marsh crossed by the River Yar can be seen towards the centre top. (MAL/71003 fr1.46. ENGLISH HERITAGE (NMR))

roadblock and a railblock, the latter on the railway (now disused) running between Yarmouth and Freshwater town.

A 6pdr gun emplacement, and other defence works, were constructed in a field towards the west end of Freshwater Bay below Tennyson Down, while the seafront itself was protected by anti-tank scaffolding and other obstacles, and covered by fire from at least two pillboxes. An observation post that still survives [12105] stood in the grounds of

FIGURE 17 Freshwater Bay, looking east from Tennyson Down.

(PHOTO: THE AUTHOR, 27 AUGUST 2003)



Fort Redoubt, which otherwise does not appear to have been refortified. A German defence map, however, shows a ‘Fort Freshwater’ above Highdown Cliffs to the west, although it has not been possible to confirm this site. On Tennyson Down, trenches, dug both parallel with the cliff edge and at right angles to it, blocked the open grassland against the landing of enemy aircraft.

FIGURE 18 Cylindrical concrete obstacles [16750] now used as sea defences.

(PHOTO: THE AUTHOR, 26 AUGUST 2003)





FIGURE 19 Type 22 pillbox [12109] at The Causeway, Freshwater. (PHOTO: THE AUTHOR, 26 AUGUST 2003)

In 1940, 12 Infantry Brigade had responsibility for the defence of the Isle of Wight, being replaced early in 1941 by 214 Brigade. In July 1940, troops from the 2nd Bn Royal Fusiliers were manning the defences at Freshwater Bay, their place being taken in September (the key invasion danger period) by the 50th Bn Hampshire Regiment. The 19th Bn Hampshire Home Guard also played a role in the manning of the pillboxes and roadblocks of the Yar Line. The main task of the defending troops was to deny the beaches to an enemy seaborne landing and to protect the fixed defences to the west.

Significance

The defence area provides a good example of coastal defence combining with an inland stop line in a most important defence sector of the Isle of Wight. Of prime importance here was the protection of the various coastal batteries on the West Wight peninsula from both seaborne and airborne assault. Their seizure would have been essential to the Germans in order to control the approaches to Portsmouth Harbour.

Individual pillboxes on the Yar Line were positioned to defend road crossings of the line, being situated on the west bank of the broad, marshy river valley. The seafront at Freshwater Bay remains largely as it was 65 years ago, and the positions of the defence works that have long since been removed can be determined. Fort Redoubt, which commands the bay, surprisingly does not appear to have been refortified in 1940, although an observation post was erected in its grounds. The 6pdr gun emplacement in the field below Tennyson Down [16671] could not have fired out to sea, but would probably have commanded roadblocks on Gate Lane close to the seafront. To its west, anti-landing trenches criss-crossed Tennyson Down to try and prevent an airborne assault seizing the high ground on the flank of the bay. The hollow of some of these trenches can be seen today.

Although the surviving defence works are not great in number, they do provide a coherent pattern of coastal and stop line defence. This is amplified by the documentary and

air-photographic research included in this report. It can be seen how the topography, with its areas of river and marsh, assisted the defence of this area and caused the stop line to be placed here. Its defences linked with those of Freshwater Bay itself, which protected its left flank.

Access

A boarded footpath has been laid out through Afton Marsh Nature Reserve, and the visitor can walk from Freshwater Bay to Black Bridge (where pillbox [12107] can be seen) and then further north to Freshwater town where it would be a short diversion to see pillboxes [12108] and [12109]. Car parking near the latter pillbox is very limited, and the road is narrow.

There is no public access to Fort Redoubt, which includes the observation post [12105]. However, details of the Victorian defences can be seen from a distance, and the observation post viewed from the path by the Albion Hotel. Tennyson Down is National Trust land and can be roamed freely. There is a public car park at Freshwater Bay.

Documentary Sources

12th Infantry Brigade War Diary, 1940 – TNA: PRO WO 166/917

2nd Bn Royal Fusiliers War Diary, 1940 – TNA: PRO WO 166/4532

Befestigungskarte Großbritannien: 1:100,000 (Sheet 38), 8.8.1940 – BLML Y.336

‘Operation Instruction No 13’, 23.10.1940 (from Hampshire Area War Diary) – TNA: PRO WO 166/1206

Befestigungskarte Großbritannien: 1:50,000 (Sheet 141), 1.6.1941 – BLML 1305(13)

‘Scheme for Defence of Isle of Wight’, 24.8.1941 (from 214th Infantry Brigade War Diary) – TNA: PRO WO 166/1067

‘Plan to Defeat the Enemy’, 1.9.1943 (from Isle of Wight Sub-District War Diary) – TNA: PRO WO 166/10970

‘List of Railway Blocks in Hampshire and Dorset District’, 14.12.1943 (from Hampshire and Dorset District HQ War Diary) – TNA: PRO WO 166/10843

Freshwater Bay: Defence components

Database site reference	NGR	Defence work type	Survival status
12105	SZ 3455785677	COASTAL OBSERVATION POST	E
12106	SZ 34928610	PILLBOX	R
12107	SZ 3457986321	PILLBOX	E
12108	SZ 3441086963	PILLBOX (TYPE 22)	E
12109	SZ 3478787173	PILLBOX (TYPE 22)	E
16640	SZ 34858713	RAILBLOCK	R
16642	SZ 34568578	ROADBLOCK	R
16665	SZ 34448688	ROADBLOCK	R
16666	SZ 3462085740	PILLBOX	R
16668	SZ 34488577	DEFENCE WORK	R
16671	SZ 34458579	GUN EMPLACEMENT	R
16672	SZ 34888712	ROADBLOCK	R
16673	SZ 34538580	ROADBLOCK	R
16674	SZ 34658635	ROADBLOCK	R
16707	SZ 34658572 – SZ 34758572	ANTI TANK SCAFFOLDING	R
16708	SZ 34728576	ROADBLOCK	R
16709	SZ 34778576	ROADBLOCK	R
16710	SZ 34708570 – SZ 34868563	ANTI BOAT LANDING OBSTACLE	R
16712	SZ 34278555 – SZ 34418571 – SZ 34418582 – SZ 34478584 – SZ 34508579	BARBED WIRE FENCE	R
16713	SZ 33428553 – SZ 3361285566	ANTI LANDING TRENCH	I
16714	SZ 34558565	PILLBOX	R
16749	SZ 3430285567	DEFENCE WORK	E
16750	SZ 3446685566	CYLINDER	E

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Abbotsbury

Coastal Defence

Location Details

9 miles (14.5km) WSW of Dorchester

County: Dorset

Parish: Abbotsbury

National Grid Reference (Reeds End): SY 569840

Landscape

The defence area consists of the Abbotsbury coastal frontage west of the point where the lagoon of the West Fleet behind the shingle bank of Chesil Beach ends, together with the hills beyond the beach, and the village of Abbotsbury itself.

The steep hills rising from the coastal fringe are crowned with woods, their sea-facing slopes being seamed with medieval strip lynchets. Abbotsbury Castle, a walled and wooded enclosure, stands on the hills west of Buller's Way. To the east, Chapel Hill is crowned by the battlemented St Catherine's Chapel. There are extensive reed beds and marshes around Reeds End. The area here is part of the Chesil Bank and Fleet Lagoon Nature Reserve, and a little further east is Abbotsbury Swannery. To the north-east of the area lies Abbotsbury village.

Some field divisions on the southern slopes of the hills facing the beach have been removed to create larger fields, and a car park has been created on the seafront off Buller's Way.

Defences

Under the plans for Operation Sealion, the Dorset coast from Weymouth to Lyme Regis, including the Abbotsbury area, was to be a secondary area of attack by the German 6th Army consequent upon the success of the main landings on the Kent and Sussex coasts.

In 1940, the defence of the Dorset coast was the responsibility of V Corps. Its 50th Division had its headquarters at Blandford Forum, with three infantry brigades forward to defend the coastline. The Abbotsbury sector was considered to be one of the most vulnerable areas in the South West for a German landing. In the critical invasion danger period from July to October 1940, it was 151 Infantry Brigade that was defending this sector, with 150 Brigade to its left.

In July 1940, the infantry battalion at Abbotsbury was the 6th Bn Durham Light Infantry, with two platoons from each of three companies distributed along its front at Forward Defended Localities (FDLs) on the high water mark of the beach. Half-section posts were set up at 200 yard (185m) intervals, and pillboxes were constructed every 500 yards (460m), with each of the three forward companies having six each. Dummy



FIGURE 20 The great anti-tank barrier at the north-west end of the Chesil Bank. It ran out into the Fleet lagoon, and crossed the hump of the shingle bank to the sea edge. This RAF air photograph is dated 5 August 1940, so the obstacle is likely to have been built, and completed, during the month of July. The anti-tank ditch to the west of the Fleet has not yet been dug. (ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY: RAF/225A/BR252 fr6)

pillboxes were also built every 100 yards (92m). By 1 September 1940, twelve of the planned pillboxes had been completed. On the slopes of Chapel Hill two pillboxes of identical square design survive, with embrasures for the fire of medium machine guns [3112 and 3113].

By December 1940, the 50th Division had been replaced by the 3rd (Dorset) Division, and it was now 210 Infantry Brigade that was responsible for the Abbotsbury coastline. The 8th Bn Essex Regiment, which had replaced the Durham Light Infantry, held the beachfront localities, with all automatic weapons, including Vickers medium machine guns and Lewis guns, set on fixed lines to fire along the beach. Behind the front-line troops, Abbotsbury itself was organised as a ‘defended locality’ manned by both the Weymouth and the Dorchester Battalions of the Dorset Home Guard.

Behind the beachfront defences, artillery was positioned on the hills to the rear. A coast battery of Fixed Defences Portland, with two 4in naval guns, was established on the hillside to the east of Buller’s Way (behind the current car park), being at first manned by 51/B Heavy Battery RA, and then, from December 1940, by the 387th Coast Battery RA [16256]. Reinforced concrete gun pits, shelters, and an observation post were completed by early September 1940. Nothing survives on the site today other than a circular Norcon pillbox [3116]. A further gun position, for a 6pdr, was built within Abbotsbury Castle, and at least two more 6pdr positions established further to the rear. A battery of 25pdr field artillery was also in support. Two additional 6pdr, and one 4pdr, beach defence guns were manned by the infantry.

Where Chesil Beach joined the mainland at the western end of the Fleet Lagoon, a massive anti-tank obstacle was constructed [12099]. It consisted of two lines of 4ft (1.2m) concrete cubes set on a thick concrete base that crossed the width of the shingle bank from the lagoon to the sea’s edge. It survives in good condition, although the blocks on the sea-facing side of the bank have been largely destroyed. Originally four pillboxes were built adjacent to it, of which two survive [3114 and 3115]. From close to this point, running

FIGURE 21 The double line of cubes forming the anti-tank barrier [12099] crosses the northern slope of the Chesil Bank and extends into the waters of the West Fleet. Pillbox [3114] is now half-buried by shingle. (PHOTO: THE AUTHOR, 18 JANUARY 2003)



behind the beach in various sections as far as the old Coastguard Station to the west, an anti-tank ditch was also dug to prevent German tanks getting off the beach. Minefields were laid further to the rear to block the gaps between the hills that led inland. From May 1941, tubular steel scaffolding (known as a ‘Z.1 Obstacle’) was erected along the head of the beach as far as the lagoon.

Significance

The area provides a good illustration of the intensity of the coastal defence at a point recognised to be vulnerable to assault, where the Germans were indeed planning an attack. Although the great majority of the defences have long since been removed, enough survive to give an indication of the defence dispositions, and their relationship to each other, particularly when viewed in conjunction with the air-photographic and documentary evidence.

The defences can be understood within a landscape that has received few physical changes since the Second World War. East of Reeds End, German forces landing on Chesil Bank would have had difficulty crossing the lagoon behind, commanded by fire from pillboxes on its banks. The intention was to prevent the traversing of the Bank to the west, where dry land came up to the head of the beach enabling enemy armoured fighting vehicles to get ashore, by the construction of the double line of anti-tank blocks that is still such a feature of the landscape today. This anti-tank obstacle [12099] is a major monument, which stands as an evocative statement of the 1940/41 defences. In terms of its size and setting, it is one of the most dramatic anti-invasion structures still to be found in England.

Once ashore, and across an anti-tank ditch that ran parallel with the head of the beach, the enemy forces would have attempted to move inland along one or more of the steep-sided passes between the hills above Abbotsbury village. These were defended by pillboxes on their flanks and by minefields laid at their mouths. The strip lynchets that are



FIGURE 22 Square pillbox [3112] with large front embrasure for medium machine gun fire. This pillbox has been scheduled as an ancient monument with the strip lynchet on Chapel Hill which served as a platform for it.

(PHOTO: THE AUTHOR, 18 JANUARY 2003)

so prominent on the hillsides provided platforms on which to construct and camouflage many defence works, including the gun emplacements and associated structures of a coast battery. Although the latter have been removed, their former position is still clear on the hillside above the Buller's War car park. A pillbox on the southern slopes of Chapel Hill is scheduled as an ancient monument with the lynchets on which it stands [3112]. Other pillboxes still crest the hills to the west.



FIGURE 23 Square pillbox [3113] on the western slopes of Chapel Hill. The bush growing against it bears mute testimony to the direction of the prevailing wind.

(PHOTO: THE AUTHOR, 18 JANUARY 2003)

The Second World War defences form part of a well-known historic landscape, including the much-visited monuments of St Catherine's Chapel and St Peter's Abbey Barn. The preservation of the remaining components of its Second World defence is vital to represent these later historic additions.

Access

Many of the defence sites can be viewed from the beachfront adjacent to the car park at Buller's Way. Footpaths cross the slopes of Chapel Hill enabling the pillboxes there to be viewed close-up and providing an excellent view of the great anti-tank obstacle on the beach below. This can only be reached by walking along the beach itself from the car park.

Published Sources

Murphy, J, 1979 *Dorset at War!* Sherborne: Dorset Publishing Company
Pearce, R T, 1999 *Dorset Attacked, Dorset Defended*. Beaminster: Hamblin Books
Pomeroy, C A, 1995 *Military Dorset Today*. Wadenhoe: Silver Link Publishing

Documentary Sources

50 Division 'G' War Diary, 1940 – TNA: PRO WO 166/605
9th Infantry Brigade War Diary, 1940 – TNA: PRO WO 166/912
387th Coast Battery War Diary, 1940 – TNA: PRO WO 166/1851
Abbotsbury Battery Fort Record Book, 1940–43 – TNA: PRO WO 192/140
'Operation Instruction No 1' and 'Operation Instruction No 3', July 1940 (from 6th Bn Durham Light Infantry War Diary) – TNA: PRO WO 166/4220
'Defence Instruction No 1', 9.7.1940, 'Defence Instruction No 2', 21.9.1940, and 'Operation Order No 1', 2.10.1940 (from 150th Infantry Brigade War Diary) – TNA: PRO WO 166/1018
'Operation Order No 17', 5.8.1940 (from 151st Infantry Brigade War Diary) – TNA: PRO WO 166/1020
'Operation Instruction No 41', 5.9.1940 (from V Corps War Diary) – TNA: PRO WO 166/249
'Operation Order No 2', 8.9.1940 (from 1st Bn South Lancashire Regiment War Diary) – TNA: PRO WO 166/4677
'Taktisches Luftbildbuch', 23.10.1940 – IWM Duxford: AL 2902
'210th Infantry Brigade Defence Scheme', 6.3.1941 (from 210th Infantry Brigade War Diary) – TNA: PRO WO 166/1063
'Operation Order No 1', 21.3.1941 and 17.5.1941 (from 8th Bn Essex Regiment War Diary) – TNA: PRO WO 166/4276
'Operation Order No 3', 4.7.1941 (from 226th (Ind) Infantry Brigade War Diary) – TNA: PRO WO 166/1079
'Standing Operation Instruction', 1943 (from Dorset Sub-District War Diary) – TNA: PRO WO 166/10955
'Standing Operation Instruction', 1943 (from Hampshire & Dorset District HQ War Diary) – TNA: PRO WO 166/10842
'Locations and Armament of Coast Artillery', 1944 (from Hampshire & Dorset District War Diary) – TNA: PRO WO 166/14398

Abbotsbury: Defence components

Database site reference	NGR	Defence work type	Survival status
3108	SY 58278348	PILLBOX (TYPE 22)	E
3109	SY 5782183597	PILLBOX (TYPE 22)	E
3110	SY 57798345	PILLBOX (TYPE 26)	E
3111	SY 57648364	PILLBOX (TYPE 22)	E
3112	SY 5728884505	PILLBOX (TYPE 26)	E
3113	SY 5695184612	PILLBOX (TYPE 26)	E
3114	SY 5684483960	PILLBOX (TYPE 26)	E
3115	SY 5681083935	PILLBOX (TYPE 26)	E
3116	SY 5609784677	PILLBOX (NORCON)	E
3117	SY 55938458	PILLBOX	R
3118	SY 55588508	PILLBOX (TYPE 22)	E
3121	SY 55488488	PILLBOX (TYPE 26)	R
3122	SY 5573784721	PILLBOX	E
7803	SY 55438522	PILLBOX	E
12099	SY 56788390 – SY 56808393 – SY 5681283950 – SY 5682583966 – SY 5689583991 – SY 56938400	CUBE	E
15635	SY 57308399	OBSERVATION POST	E
16256	SY 56288465	COAST BATTERY	R
16257	SY 55828474 – SY 56128457 – SY 56358450	MINEFIELD	R
16258	SY 56608447 – SY 56738447	MINEFIELD	R
16259	SY 56808420 – SY 57088416	MINEFIELD	R
16260	SY 56148493	MINEFIELD	R
16261	SY 56528548	GUN EMPLACEMENT	R
16262	SY 57158537	FLAME FOUASSE	R
16306	SY 56338460	PILLBOX	R
16307	SY 56678467	PILLBOX	R
16308	SY 57668475	PILLBOX	R
16309	SY 56778391	PILLBOX	R
16310	SY 56838398	PILLBOX	R
16311	SY 55798477	PILLBOX	R
16312	SY 55898485	GUN EMPLACEMENT	R
16313	SY 56228464	PILLBOX	R
16314	SY 56228467	DEFENCE WORK	R
16315	SY 55758470	DEFENCE WORK	R

Abbotsbury: Continued

Database site reference	NGR	Defence work type	Survival status
16316	SY 55938475	PILLBOX	R
16406	SY 56158508	GUN EMPLACEMENT	R
16407	SY 55408495	MINEFIELD	R
16408	SY 57148536	ROADBLOCK	R
16409	SY 57758507	ROADBLOCK	R
16410	SY 57858529	ROADBLOCK	R
16411	SY 58118523	ROADBLOCK	R
16412	SY 55518499	CANADIAN PIPE MINE	R
16413	SY 55968462	CANADIAN PIPE MINE	R
16414	SY 56398441	CANADIAN PIPE MINE	R
16415	SY 57738505	FLAME FOUASSE	R
16416	SY 55408495 – SY 56858400	BEACH SCAFFOLDING	R
16417	SY 55858525	ANTI TANK GUN POSITION	R
16422	SY 56578423	VICKERS MACHINE GUN EMPLACEMENT	R
16423	SY 57648539	ARMY HEADQUARTERS	U
16427	SY 56148492	GUN EMPLACEMENT	R
16451	SY 55558491 – SY 55808483 – SY 55848471 – SY 56248443 – SY 56358442 – SY 56358440 – SY 56678423 – SY 57008414	ANTI TANK DITCH	I

E = Extant; R = Removed; I = Infilled; U = Unknown.



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 Scale 1:15,000

Studland Bay

Coastal Defence

Location Details

3½ miles (5.5km) N of Swanage and 5 miles (8km) E of Corfe Castle

County: Dorset

Parish: Studland

National Grid Reference (Redend Point): SZ 038828

Landscape

The defence area consists principally of the coastline of Studland Bay north of the village of Studland. High cliffs at Redend Point give way to a landscape of sandy beaches and dunes to the north, backed by woodland and the remote expanses of Studland Heath to the west. Between the dunes and the heathland is an extensive stretch of inland water known as Little Sea. To the south are the houses of Studland village. A road crosses the area taking traffic north to the ferry crossing to Poole.

The beachfront and the sand dunes, together with Studland Heath, are all National Trust land, large areas of which fall within a National Nature Reserve.

Defences

Studland Bay was one of two stretches of Dorset coastline where a German invasion was considered most likely, the other being Lyme Bay, which was targeted by the German 6th Army under the Operation Sealion plans. In 1940, the defence of the Dorset coast was the responsibility of V Corps, the 50th Division of which had its headquarters at Blandford Forum, with three infantry brigades forward to defend the shore. During the critical months of invasion danger from June to October 1940, first 150 Infantry Brigade and later 210 Brigade defended the Studland Sub-Sector. Apart from the defence of the beaches, a principal task was to protect the crossing of the River Frome east of the anti-tank island of Wareham. The aim was to keep any invading German forces contained on the Isle of Purbeck until reinforcements arrived to drive them back into the sea. Patrols were also mounted to combat possible airborne landings to the rear. In October 1940, the infantry battalion in the Studland Sub-Sector was the 7th Bn Suffolk Regiment; by April 1941, it had been replaced by the 1st Bn Coldstream Guards. The unit of the Dorset Home Guard also manning defences at Studland was No 2 (East Purbeck) Company, 7th (Wareham) Battalion.

Forward Defended Localities (FDLs) were established on the line of the beach, and pillboxes constructed with extensive systems of connecting trenches. Anti-tank cubes blocked exits from the beach and minefields were laid amongst the sand dunes. Most of these



FIGURE 24 Oblique air photograph taken 16 August 1941 showing the defences around Redend Point. Tubular steel scaffolding and barbed wire line the beach, and a side valley is blocked by anti-tank cubes. Amongst various buildings on the beachfront are probably camouflaged gun positions. Fort Henry on wooded Redend Point has yet to be built, although the 4in gun emplacement behind its future site can just be made out. (ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY: MSO 31243/PO-046 SZ 0382/3)

defences were in place by early August 1940. From mid-1941, a double line of anti-tank scaffolding was erected along the entire length of the beach, and was positioned additionally below the cliffs of Redend Point. This scaffolding was supplemented by barbed wire entanglements.

At Redend Point, a 4in gun was sited in a concrete emplacement, with the task of combating enemy tanks landing on the beach beneath [7717]. Nearby was a 6pdr gun intended to fire against infantry landing craft. Other 6pdr gun positions lay on the coast to the north and the south.

Studland Bay was also the scene of a major experiment, known as Project Fougasse, to test the effectiveness of burning oil as a defence against a German seaborne invasion. It involved piping oil to the sea and firing it by explosive charges. Three sites connected with these petroleum warfare trials survive within the defence area: two, with remains of pipelines, in the vicinity of The Warren Wood at the south-east of the area [13749 and 16939], and the other, a pumping station, at Knoll House Hotel [16452].

From the autumn of 1943, Studland Bay became an amphibious assault training area as part of the preparations for D-Day. Sections of the anti-tank scaffolding were removed so that exercises could take place, although some were left in place as obstacles for the practice assaults. Battle training was also carried out using the anti-invasion period pillboxes as targets. Inland, Studland Heath, which was a training area from 1942, was set with range observation bunkers.

FIGURE 25

Emplacement for a 4in naval gun [7717] in which information boards are displayed today by the National Trust. The gun must have been dismantled by the time Fort Henry was built in 1943 as the emplacement was partly obscured by the later structure. (PHOTO: THE AUTHOR, 19 JANUARY 2003)



In 1943, a large reinforced concrete bunker, with a horizontal observation slit facing the sea, was constructed on Redend Point [16328], partly obscuring the earlier 4in gun emplacement. This was called Fort Henry after the home base of the Canadian Royal Engineers who built it. Its purpose was to allow the viewing of the amphibious assault training exercises being held with live ammunition. Many famous commanders, and dignitaries, came here, including Eisenhower, Montgomery, Churchill, and King George VI.

FIGURE 26 The observation bunker, Fort Henry, with its narrow viewing aperture [16328]. Military commanders, political leaders, and royalty gazed out from here. (PHOTO: THE AUTHOR, 19 JANUARY 2003)





FIGURE 27 Medium machine gun pillbox [7716]. It shows damage probably caused during assault training in 1943/44. (PHOTO: THE AUTHOR, 19 JANUARY 2003)

Below Redend Point to the north is a short line of anti-tank cubes in good condition [7719], and south of Redend Point, built on rocks beneath the cliffs, a Type 25 circular pillbox stands raised on a 4½ft (1.3m) thick concrete base [7718]. This pillbox has survived in good condition despite being washed by the sea. Further north along the beachfront are three surviving pillboxes of a variant form, each with a large embrasure for a medium machine gun in a projecting front face [7704, 7716, and 7723]. Various bunkers connected with the training area can be found on Studland Heath.

Significance

The defence area played an important role during the Second World War, and all aspects of that role are represented by the surviving material evidence: anti-invasion defence, petroleum warfare experiments, and assault training. Apart from some minor housing development within Studland village, there has been remarkably little change to this landscape over the past 65 years. Although many of the defence works have long since been cleared away, enough survive, with excellent documentary and air-photographic evidence, for the strategy of defence, and the function of its various components, to be appreciated.

The sites around Redend Point, which commanded the curving shoreline of Studland Bay to the north, make a significant group, with the 4in gun emplacement, the anti-tank cubes, and the Type 25 pillbox outstanding survivals. The defences were organised around Forward Defended Localities (FDLs), situated principally around possible exit points from the beachfront, and one of these can be seen north of Redend Point where a small side valley is still blocked by a line of concrete cubes. Another strongly defended position was at Knoll Beach where a pillbox, and a solitary 4ft (1.2m) anti-tank cube, close to the National Trust visitor centre mark the site of the FDL.

FIGURE 28 Type 25 pillbox [7718], shuttered with corrugated iron, in an exposed position beneath the cliffs of Redend Point. Its 54in (1.4m) thick base anchoring it in position has led to its remarkable survival.
(PHOTO: THE AUTHOR, 19 JANUARY 2003)



The bunkers on Studland Heath, together with bullet and blast damage evident on certain of the coastal pillboxes, provide a tangible record of the use of the defence area later in the war for assault training. The undergrowth of the Heath, in fact, conceals a network of unfilled fire trenches dug by troops on exercise, and a project to locate and survey these would undoubtedly provide much additional information.

Of the other sites within the defence area, Fort Henry is a structure of interest given its role in the preparations for D-Day and the army commanders and national leaders who visited it. Of importance also are the sites associated with petroleum warfare, a category of defence provision for which nationally there is little surviving physical evidence.

Access

Three separate car parks have been established by the National Trust to allow access to different points of the beaches. For the purpose of visiting the area around Redend Point, the Middle Car Park should be used, but to see the pillboxes further north in the Knowl Hill area, the Knoll Beach Car Park, with its adjacent National Trust visitor centre, is more convenient.

Fort Henry is well presented by the National Trust, with information boards on its history placed in the adjacent gun emplacement. Access to most of the defence sites is possible by using a number of tracks and footpaths, and by walking on the beach itself. The sites on Studland Heath are more difficult to locate, many being submerged in gorse and bracken, and surrounded by hidden pits and trenches.

Published Sources

Murphy, J, 1979 *Dorset at War!* Sherborne: Dorset Publishing Company
Pearce, R T, 1999 *Dorset Attacked, Dorset Defended*. Beaminster: Hamblin Books
Pomeroy, C A, 1995 *Military Dorset Today*. Wadenhoe: Silver Link Publishing
Popplewell, L, 1974 Fort Henry, *Dorset: The County Magazine*, 35 (April), 44–7

Documentary Sources

50 Division 'G' War Diary, 1940 – TNA: PRO WO 166/605
'Defence Instruction No 1', 9.7.1940 (from 150th Infantry Brigade War Diary) – TNA: PRO WO 166/1018
'Operation Instruction No 41', 5.9.1940 (from V Corps War Diary) – TNA: PRO WO 166/249
'Operation Order No 2', 8.9.1940 (from 1st Bn South Lancashire Regiment War Diary) – TNA: PRO WO 166/4677
'Operation Order No 1', 21.10.1940 (from 7th Bn Suffolk Regiment War Diary) – TNA: PRO WO 166/4710
'210th Infantry Brigade Defence Scheme', 6.3.1941 (from 210th Infantry Brigade War Diary) – TNA: PRO WO 166/1063
'1 Coldstream Guards Defence Scheme', 14.4.1941 (from 1st Bn Coldstream Guards War Diary) – TNA: PRO WO 166/4091
'Standing Operation Instruction', 1943 (from Dorset Sub-District War Diary) – TNA: PRO WO 166/10955.
Amphibious assault training areas, Studland: correspondence, 1943–44 – TNA: PRO ADM 179/341

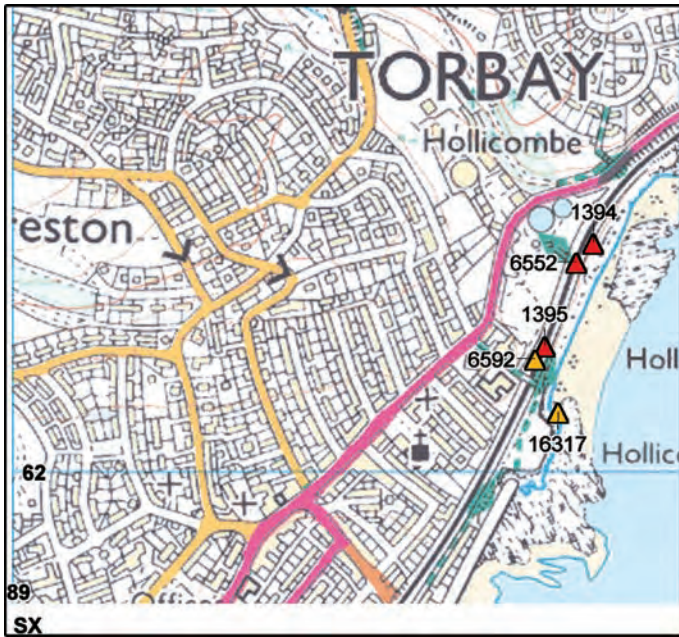
Studland Bay: Defence components

Database site reference	NGR	Defence work type	Survival status
7704	SZ 0325583589	PILLBOX (VARIANT)	E
7705	SZ 0260583308	PILLBOX (VARIANT)	E
7706	SZ 0256383467	PILLBOX	E
7707	SZ 02808406	GUN EMPLACEMENT	E
7708	SZ 0244583810	PILLBOX (VARIANT)	E
7709	SZ 02408435	PILLBOX	R
7711	SZ 02798363	PILLBOX	E
7714	SZ 03238462	GUN EMPLACEMENT	R
7715	SZ 033838	PILLBOX	R
7716	SZ 0336683331	PILLBOX (VARIANT)	E
7717	SZ 0376982852	GUN EMPLACEMENT	E
7718	SZ 0384982830	PILLBOX (TYPE 25)	E
7719	SZ 03558301	CUBE	E
7723	SZ 0315783406	PILLBOX (VARIANT)	E
7724	SZ 0370882875	PILLBOX	R
13749	SZ 04148226	PETROLEUM WARFARE SITE	E
16263	SZ 03358385 – SZ 03358400	MINEFIELD	R
16264	SZ 04258229 – SZ 04408233	MINEFIELD	R
16265	SZ 03308358	GUN EMPLACEMENT	R
16281	SZ 03668462 – SZ 03408400 – SZ 03448373 – SZ 03508345 – SZ 03658310 – SZ 03678295 – SZ 03808290 – SZ 03878282 – SZ 04118248	BEACH SCAFFOLDING	R
16282	SZ 03398403	ANTI TANK OBSTACLE	R
16283	SZ 03268221	ROADBLOCK	R
16284	SZ 02498447	ROADBLOCK	R
16324	SZ 03508440 – SZ 03558439 – SZ 03608449 – SZ 03558450	BEACH SCAFFOLDING	R
16326	SZ 03228349 – SZ 03238352 – SZ 0324683524 – SZ 03268358	CUBE	R
16327	SZ 03388388 – SZ 03468382	ANTI TANK BLOCK	R
16328	SZ 0378082840	OBSERVATION BUNKER	E

Studland Bay: Continued

Database site reference	NGR	Defence work type	Survival status
16329	SZ 03168337 – SZ 03298338	SLIT TRENCH	I
16424	SZ 04098249	GUN EMPLACEMENT	R
16425	SZ 02478449	MINEFIELD	R
16426	SZ 03658295 – SZ 03408368 – SZ 03708480	MINEFIELD	R
16437	SZ 0370782873	CUBE	E
16452	SZ 03238335	PETROLEUM WARFARE SITE	U
16933	SZ 03188466	DEFENCE WORK	R
16934	SZ 03358445	ALLAN WILLIAMS TURRET	E
16935	SZ 02298414	DEFENCE WORK	R
16936	SZ 02708409	DEFENCE WORK	R
16937	SZ 03208348	FIRE TRENCH	E
16938	SZ 04128246	MACHINE GUN POST	E
16939	SZ 04248236	PETROLEUM WARFARE SITE	E
16973	SZ 03648288 – SZ 03578298	FIRE TRENCH	I
16974	SZ 03598284	DEFENCE WORK	R

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Hollicombe Beach

Coastal Defence

Location Details

$\frac{3}{4}$ mile (1km) N of Paignton centre and 4 miles (6.5km) S of Torquay

Unitary Authority: Torbay

Parish: Paignton

National Grid Reference: SX 898623

Landscape

The defence area consists of the foreshore of Hollicombe Beach with its red sandstone cliffs, a coastal strip that fronts an area of suburbs to the north of Paignton. The cliffs are some 10m high above the ruddy-brown sands of the beach. Running parallel with the cliffs, close to their edge, is the Kingswear to Newton Abbot railway line, which enters a cutting to the south of the study area. Behind the railway is Hollicombe Park, opened in 1979 on the site of the former Hollicombe Gas Works, one of the gas holders of which is still standing on the far side of the A3022 road. The pedestrian subway from Hollicombe Park to the beachfront was a former effluent discharge tunnel of the gas works.

The area is much changed since the Second World War due to the demolition of the gas works. The suburbs of Paignton have now spread to the north of the Torbay Road. The beach and the park behind it now provide a secluded amenity for local residents.

Defences

Hollicombe Beach, lying within Tor Bay, together with Preston and Paignton Sands to the south, was a 'classified beach', considered in 1940 vulnerable to a German landing. From June 1940 through to 1941, the area was defended by troops from 209 Infantry Brigade, with defences manned as well by the 10th (Torbay) Battalion, Devon Home Guard. Paignton was a designated 'defended locality' within the perimeter of which were the Hollicombe Gas Works, a Vulnerable Point demanding special protection, with its various gas holders and other buildings camouflaged against air attack. Beyond the north of the area at Corbyn's Head, a coast artillery battery, with two 4.7in naval guns, commanded the northern end of Tor Bay.

Pillboxes were built at the top of the cliffs and on the embankment of the railway, both to defend the beach against a landing and to prevent the line being used as a route for an enemy advance. One pillbox at least, now removed, was also built on the rocks below Hollicombe Head [16317]. The air-photographic evidence, however, shows no form of defence obstruction on the beach itself, although it was likely that it was mined. It was



FIGURE 29 Hollicombe Beach in an oblique air photograph taken 28 August 1941. The camouflaged gas holders and buildings of the Hollicombe Gas Works can be seen to the right. (ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY: MSO 31287/PO-052 SX 8962/9)

probably thought that the cliffs of Hollicombe Beach might be scaled by special German assault troops in order to outflank Preston and Paignton Sands to the south where landing craft could be much more easily beached and exits found inland.

At the northern end of the area is a hexagonal pillbox faced with the local stone, with an attached entrance porch and blast wall [1394]. It stands in an area of light woodland on the cliff top. Above the tunnel from Hollicombe Park, on the side of the railway embankment, is an uncertain defence structure whose overgrown state and inaccessibility prevent it from being more securely identified. It appears to be the remains of a pillbox, now in a somewhat unsafe position from the point of view of the pedestrian tunnel beneath. An air photograph taken in 1958 shows a large structure with a pitched roof at this location, perhaps a signal box but possibly the pillbox with its camouflage cladding surviving at that date [6552].

On the top of the cliffs at the southern end of Hollicombe Beach is a further pillbox, rectangular in shape and stone-faced, also very much overgrown [1395]. It faces north-east to provide enflading fire along the beach. Close to this pillbox was a further pillbox set into the east side of the railway cutting: this has been removed in recent years. This is

FIGURE 30 Hollicombe
Beach looking
north-east.
(PHOTO: THE AUTHOR,
22 JANUARY 2003)



an unfortunate loss as such pillboxes are becoming increasingly rare with the widening of tracks and the removal of lineside structures perceived as dangers to the travelling public.

Significance

The defence area is important as it provides an illustration of how beaches were defended in 1940 even where backed by cliffs, the threat being perceived as attack by special assault troops to outflank more open beaches to the south. The defence of the large gas works would have been an additional consideration.

The area provides an interesting example of how defence works can survive in close relation to a built-up environment. The importance of their survival is augmented by the fact that almost all the defence works built to protect the sands further south have now been removed.

The demolition of the gas works on the south side of Torbay Road and the creation of the park has radically altered the 1940 landscape, but the immediate cliff-edge environment where the pillboxes are situated remains unchanged.

Access

The beach can be accessed either by a flight of steps at its southern end near Hollicombe Head, or through a tunnel under the railway from Hollicombe Park. At high tide the sands are covered to the base of the cliffs. A bridge carries a trackway over the railway near the Chadwell Centre (an NHS facility), close to Hollicombe Head. There is a convenient lay-by for car parking on the Torbay Road close to the gates to the park.



FIGURE 31 Hexagonal pillbox [1394] faced with the local sandstone. Its small embrasures overlook Hollicombe Beach and the waters of Tor Bay.

(PHOTO: THE AUTHOR, 22 JANUARY 2003).

Documentary Sources

'Southern Command Home Defence Programme, 1940' (map from General Headquarters Papers, Defence Works) – TNA: PRO WO 199/48

'List of Coast Artillery Batteries in SW District', 1943 (from South Western District War Diary) – TNA: PRO WO 166/10904

'Devon Sub-District Defence Scheme', 1943 (from Devon Sub-District War Diary) – TNA: PRO WO 166/10953

Hollicombe Beach: Defence components

Database site reference	NGR	Defence work type	Survival status
1394	SX 8987062345	PILLBOX (VARIANT)	E
1395	SX 8979962190	PILLBOX (VARIANT)	E
6552	SX 8984562316	PILLBOX	E
6592	SX 8978562170	PILLBOX	R
16317	SX 89826209	PILLBOX	R

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Porthcurno

Coastal and Vulnerable Point Defence

Location Details

9 miles (14.5km) SW of Penzance and 3 miles (5km) from Land's End

County: Cornwall

Parish: St Levan

National Grid Reference (cable station): SW 384227

Landscape

The defence area consists of a steep-sided valley containing the village of Porthcurno and its cable station (now a museum), as well as the small sandy beach to the south (Porth Curno) overlooked by high cliffs. A road runs down the valley to the village, before turning west towards St Levan. From this road, the well-known Minack Theatre, standing on cliffs to the south-west of Porth Curno, is reached. The north boundary of the area is at Bodellan, marked by a bend in the road just north of the village. To the west and the east are the steep sides of the valley, while to the south are sea, sand, and cliffs.

Defences

Porthcurno lay within No 3 Sector of the military Land's End District. The presence there of the transatlantic cable station, which was almost certainly a designated Vulnerable Point, resulted in the Porthcurno area being divided up into a number of 'defended localities': one at Porth Curno beach, another at the cable station itself, and probably another to the north at Bodellan. In October 1940, detachments from 'D' Company of the 11th Bn West Yorkshire Regiment were defending the area, with, later in 1941, additional troops from the 7th Bn Duke of Cornwall's Light Infantry. One NCO and seven men were stationed on the east beach at Porth Curno, with the same number on the west beach. The beach may also have been defended by a petroleum warfare beach barrage controlled from pillboxes on the east and west beaches. Seventy-four rifles, two Bren guns, one anti-tank rifle, one 2in mortar, and 17,560 rounds of .303 ammunition were available for the defence of Porthcurno. On the cliffs a little to the east of the study area, eight projectors of the 102nd Anti-Aircraft 'Z' Battery RA were positioned.

Porthcurno cable station was a vital centre of communications, the start point of a physical electronic link connecting with North America and all the countries of the British Empire. Its security was so important that, not only was special attention given to its ground defence against possible enemy raiding parties or from aircraft attack, but the station's critical components, with its operations room, were placed underground in purpose-bored tunnels.



FIGURE 32 Air photograph taken in 2004 showing the steep-sided Porthcurno valley culminating in the sands of Porth Curno beach. Porthcurno village stands at the head of the valley with the cable station perched on the valley side below. In the foreground, the Minack Theatre occupies the western cliffs above Porth Curno.
(© ENGLISH HERITAGE. NMR: 23757 02)

FIGURE 33 The cable station of Cable and Wireless Ltd at Porthcurno, now preserved as a museum. During the Second World War, the landlines and vital instruments were placed in tunnels bored into the rock of the hillside behind. These were constructed between June 1940 and May 1941.
(PHOTO: THE AUTHOR, 20 JANUARY 2003)



Despite the removal of the majority of the defence works from the area, six pillboxes survive. Of particular importance is the highly unusual curved pillbox [3272] on the western slopes above Porth Curno beach. Despite its vulnerable position at the very edge of an eroding slope, it is still in excellent condition. A square pillbox [3271] just forward of it is also at the edge of a steep slope and vulnerable to a landslide; local information states that this pillbox was one of two controlling a petroleum warfare ‘burning beach’ installation.

At Percella Point, on the eastern cliffs above the beach, is a pillbox with an open-roofed chamber at the rear where a machine gun was mounted for anti-aircraft fire [3191]. Close by are inscriptions in cement daubed on a rock made by troops in 1940, several of which can still be read. To the north of Percella Point, two rectangular pillboxes stand side by side with a footpath passing between them [3280 and 3282]. To the north of the defence area, at Bodellan, there was a group of three Type 24 hexagonal pillboxes, of which only one now survives. The other two were removed in recent years to facilitate road widening.

A number of other pillboxes have long since been removed. A photograph survives in the archives of the Museum of Submarine Telegraphy showing a pillbox disguised as a bus stop shelter. A recent removal is that of a Type 24 pillbox that stood alongside the Minack Theatre; for years it served as the box office for the theatre but it has now been destroyed and a purpose-built construction has taken its place.

Significance

Porthcurno provides an important example of the defence of a coastal Vulnerable Point in conjunction with the overall anti-invasion defence of the area. Although there have been some small changes to adapt to the needs of tourism, essentially this small settlement, with its cliffs and beach, has changed little since the war.



FIGURE 34 Looking at the east-facing embrasures of the unusual curving pillbox [3272], built of concrete blocks. It stands on the western slopes above Porth Curno sands. (PHOTO: THE AUTHOR, 20 JANUARY 2003)



FIGURE 35 Pillbox [3191] on Percella Point. (PHOTO: THE AUTHOR, 20 JANUARY 2003)

FIGURE 36 The open bay for anti-aircraft fire at the rear of pillbox [3191].
(PHOTO: THE AUTHOR, 20 JANUARY 2003)



The organisation of the defences into defended localities is instructive, and the positions of these three localities can still be determined by surviving defence works. At Bodellan, one pillbox of an original three shows where the Porthcurno valley was defended at its northern extent, with a further pillbox (removed) extending the defence into Porthcurno village itself. At the cable station further to the south there are no surviving defence works, but the existence of underground tunnels by the cable station buildings serves as a reminder of the defence that would have been required at this important locality. The defences overlooking Porth Curno beach were positioned to give all-round protection to the narrow

FIGURE 37 The best-preserved of the inscriptions in cement daubed on rocks adjacent to pillbox [3191]: '11.9.40 D Stewart 11th A & SH'.
(PHOTO: THE AUTHOR, 20 JANUARY 2003)



beachfront and to protect the approaches to the cable station from the east. Fire could have been laid down to enfilade the beach from the heights to both west and east, while the pillbox high on Percella Point would also have served as an important observation point. The remaining defence works form a coherent overall pattern of defence protecting Porthcurno and its cable station from attack overland and from the sea.

Individual defence works include examples of unusual types in good surviving condition. In particular, the curved pillbox [3272] and the polygonal-sided pillbox [3191], with its open rear bay, are rare variant types, both in an excellent state of preservation. Close to [3191], the surviving inscriptions serve as a reminder of the historic context of these defences. The Museum of Submarine Telegraphy, with its galleries set in the wartime tunnels, also serves to emphasise the importance of the area during the Second World War and the reasons for its defence.

Access

All the pillboxes in the area can be approached from public paths. The cable station has been converted into a museum, with the underground wartime tunnels open to the public. There is a large car park adjacent to the museum.

Published Sources

Bell, W F A, 2000 *Porthcurno in Wartime*. Porthcurno: Museum of Submarine Telegraphy
Hancock, P, 2002 *Cornwall at War, 1939–45*. Tiverton: Halsgrove

Documentary Sources

‘Operation Instruction No 9’, 28.7.1940 (from South Western Area War Diary) – TNA: PRO WO 166/1252
‘Operation Order No 1’, 13.10.1940, and ‘Operation Instructions No 5’, 18.1.1941 and 15.3.1941 (from 11th Bn West Yorkshire Regiment War Diary) – TNA: PRO WO 166/4732
‘Battle Order’, 4.6.1941 (from 203rd Infantry Brigade War Diary) – TNA: PRO WO 166/1056

Porthcurno: Defence components

Database site reference	NGR	Defence work type	Survival status
3191	SW 3882022354	PILLBOX (VARIANT)	E
3263	SW 38212327	PILLBOX	R
3266	SW 38182316	PILLBOX	R
3269	SW 3823523174	PILLBOX (TYPE 24)	E
3270	SW 38702205	PILLBOX (TYPE 24)	R
3271	SW 3865222276	PILLBOX (VARIANT)	E
3272	SW 3863822295	PILLBOX (VARIANT)	E
3275	SW 3867922332	PILLBOX	R
3280	SW 3885422456	PILLBOX (VARIANT)	E
3282	SW 3885322451	PILLBOX (VARIANT)	E
16439	SW 3866622350	PILLBOX	R
16440	SW 3860022335	PILLBOX	R
16441	SW 38182305	PILLBOX	R

E = Extant; R = Removed; I = Infilled; U = Unknown.



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St Michael's Mount

Coastal Defence

Location Details

2½ miles (4km) E of Penzance and 12 miles (19.5km) from Land's End

County: Cornwall

Parishes: St Michael's Mount; Marazion

National Grid Reference: SW 515300

Landscape

The defence area consists of the detached rocky promontory of St Michael's Mount in Mount's Bay, connected by a causeway (The Causeway) at low tide to the small town of Marazion. St Michael's Mount is crowned by the remains of a 12th-century monastery, upon which later a castle and residence were built, with terraced gardens descending the slopes to the sea. On its north side, where The Causeway joins the promontory, is a small harbour and a settlement of a few houses. Close to the Marazion end of The Causeway, a high area of detached rocks, Chapel Rock, stands clear of the sea even at high tide. St Michael's Mount is in the care of the National Trust in conjunction with the owner of the estate, Lord St Levan.

Marazion is a busy town, full of visitors in the holiday season. Behind it, steep slopes rise to a landscape of small fields. To the west, the sweep of the sandy beach of Mount's Bay stretches as far as Penzance. To the east, the rugged coastline of rocks and cliffs continues towards the Lizard Point.

Defences

The beach of Mount's Bay stretching to Penzance was a 'classified beach', considered in 1940 to be vulnerable to an enemy landing. St Michael's Mount was an important defended locality protecting the western sea approaches to the Bay, which were also commanded by the two 4in naval guns of Penzance Battery. Other adjacent defended localities were The Causeway, at the point where it passed Chapel Rock to join the Marazion shoreline, Marazion Station, further west beyond the borders of the study area, and Top Tieb, a small harbour and battlemented tower on the eastern side of Marazion.

At the height of the invasion danger of 1940/41, it was 203 Infantry Brigade from 48th Division that was responsible for the defence of the St Michael's Mount and Marazion area. One company of the 11th Bn West Yorkshire Regiment was stationed here to defend the Marazion beaches, with a platoon manning the defences of St Michael's Mount itself (one NCO and nine men). For the overall defence of the defended localities within the area in 1941, the West Yorkshire Regiment had 78 rifles (with more than 14,000 rounds of



FIGURE 38 Loophole for a 6pdr gun [11821] set into the harbour wall at Marazion beneath the Yacht Club. Chapel Rock is in the mid-distance with St Michael's Mount behind.
(PHOTO: THE AUTHOR, 21 JANUARY 2003)

ammunition), five Bren guns, two anti-tank rifles, one 2in mortar, and a 6pdr gun. The 6pdr was almost certainly positioned at the Marazion Yacht Club where the embrasure for it can be seen today at the top of the harbour wall [11821]. A 4in naval gun was also sited on Rosehill [16418] and manned at first by the 209th Medium Battery RA, then later by the 952nd Battery. The local Home Guard unit would also have had a role in the defence of the area.



FIGURE 39 Hexagonal Type 24 pillbox [151] at the southernmost point of St Michael's Mount.
(PHOTO: THE AUTHOR, 21 JANUARY 2003)

FIGURE 40 Trapezoidal-shaped pillbox [153], built to fit in a cleft in the rocks. It is made of concrete blocks and has very small embrasures. The entrance at the rear can be accessed with difficulty through a narrow gap in the rocks.
(PHOTO: THE AUTHOR, 21 JANUARY 2003)



Three pillboxes, which all survive, and an emplacement for a light anti-aircraft battery, were constructed on St Michael's Mount. Two of the pillboxes are of a Type 24 design [150 and 151], but the third [153] is an interesting variant form built to fit its position amongst the rocks. A line of pillboxes ran around Mount's Bay to Penzance, all of which have now been removed, although several remained until the 1960s.

Significance

St Michael's Mount provides a dramatic setting for the 1940 defence works that once protected it. There have been very few changes over the past 65 years, and the pillboxes can still be seen positioned on terraces or amongst rocks at the edge of the sea. The Marazion seafront is also little changed, and the Yacht Club gun embrasure, a rare survival, still shows how it was constructed to cover an arc from The Causeway to the eastern Marazion beaches. The Mount's strategic importance over the centuries protecting Mount's Bay, in particular during the 17th-century Civil Wars when new fortifications were built, gives a broader chronological significance to the surviving Second World War defences.

The pillboxes are all in good condition, and show variations from standard types, both in terms of their form and their method of construction. The trapezoidal-shaped pillbox [153] is of particular interest, and is an excellent example of how a defence work was designed for its site and built to blend with its surroundings.

Access

Crossings to St Michael's Mount by The Causeway can be made on foot at low tide, and at high tide, in spring and summer, by boat. The castle is open at times advertised by the National Trust, but the gardens, containing the pillboxes, are only opened on certain days

by courtesy of the Levan Estate. Car parking in the summer is difficult in Marazion, but there are large car parks further west on the beachfront.

Documentary Sources

'Southern Command Home Defence Programme, 1940' (map from General Headquarters Paper, Defence Works) – TNA: PRO WO 199/48

'Operation Instruction No 9', 28.7.1940 (from South Western Area War Diary) – TNA: PRO WO 166/1252

'Operation Order No 1', 13.10.1940, 'Operation Order No 3', 11.1.1941, and 'Operation Instructions No 5', 18.1.1941 and 15.3.1941 (from 11th Bn West Yorkshire Regiment War Diary) – TNA: PRO WO 166/4732

'Battle Order', 4.6.1941 (from 203rd Infantry Brigade War Diary) – TNA: PRO WO 166/1056

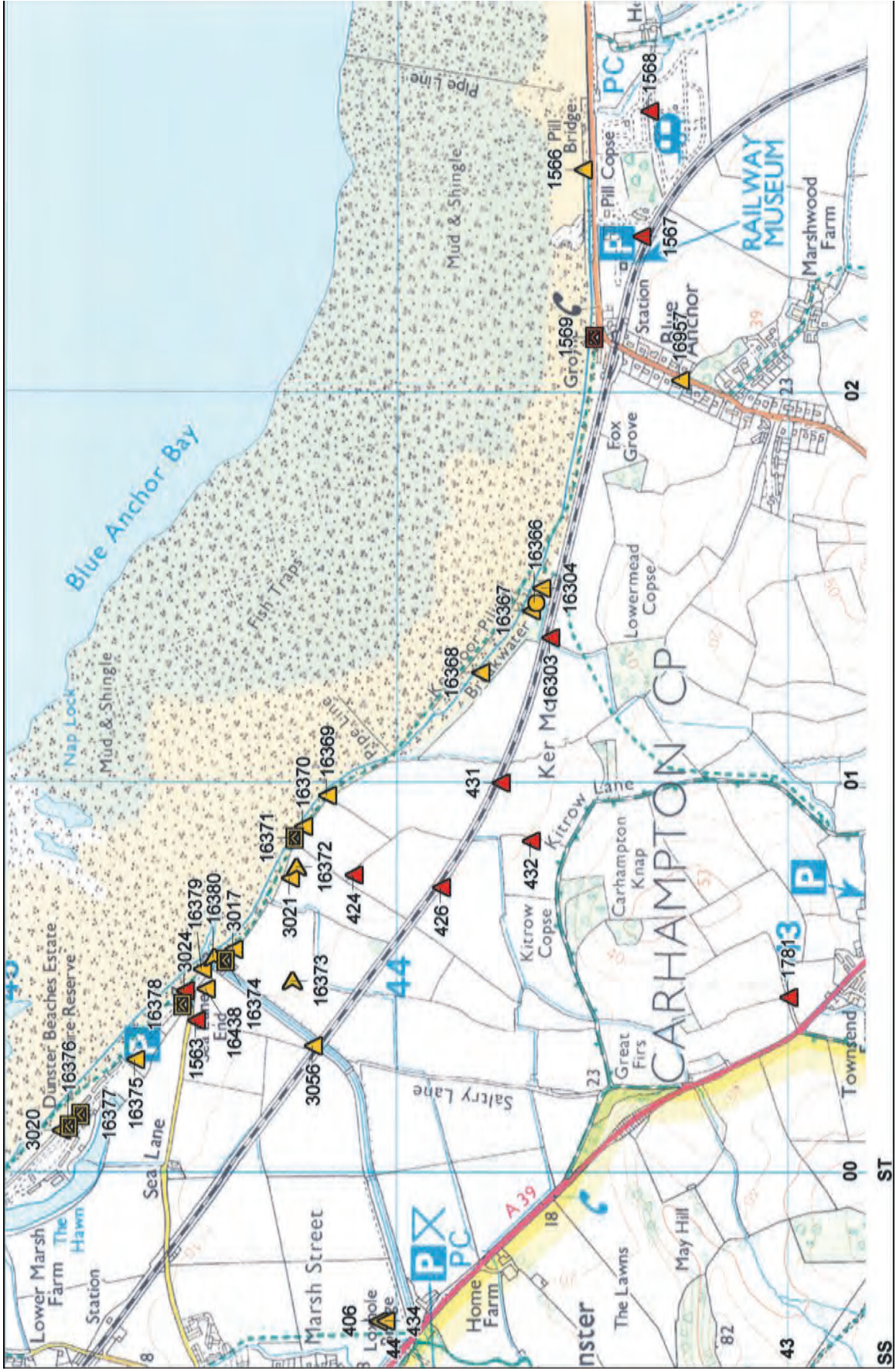
'List of Coast Artillery Batteries in SW District', 1943 (from South Western District War Diary) – TNA: PRO WO 166/10904

Cornwall Sub-District War Diary, 1943 – TNA: PRO WO 166/10949

St Michael's Mount: Defence components

Database site reference	NGR	Defence work type	Survival status
150	SW 5156629824	PILLBOX (TYPE 24)	E
151	SW 5139529770	PILLBOX (TYPE 24)	E
153	SW 5133429852	PILLBOX (VARIANT)	E
11821	SW 5170530609	GUN EMPLACEMENT	E
16418	SW 51803118	GUN EMPLACEMENT	R
16442	SW 5154329828	ANTI AIRCRAFT GUN POST	R

E = Extant; R = Removed; I = Infilled; U = Unknown.



Dunster Beach

Coastal Defence

Location Details

1 mile (1.5km) N of Dunster and 2 miles (3km) E of Minehead

County: Somerset

Parishes: Dunster; Carhampton

National Grid Reference (Sea Lane End): ST 005445

Landscape

The defence area consists of the foreshore and immediate hinterland of Dunster Beach within the western half of Blue Anchor Bay. Crossing the area parallel with the coast is the line of the West Somerset (Taunton to Minehead) Railway. South of the railway, and beyond the study area, is the A39 road running at the foot of the hills where the small town of Dunster itself is situated.

At the western end of the area lies Dunster holiday village (requisitioned by the Army in 1940 as an army camp) and the Dunster Beach car park. These are reached by Sea Lane, which meets the shoreline at Sea Lane End. Further east, the railway runs close to the beach, and is crossed by the B3191 road to Blue Anchor, which lies beyond the defence area in the eastern half of the bay. The beach is a flat expanse of shingle and sand at low tide. Behind it is farmland – a mixture of arable and pasture fields with the occasional clump of woodland – with the hills rising beyond.

Tourism has had an impact upon the character of the defence area, particularly at its western boundary with the further development of the holiday village used during the war as an army camp. However, except for this and the car park, there has been little development. The West Somerset Railway, a preserved steam railway, remains a single track as it was at the time of the Second World War.

Defences

During the Second World War, Dunster Beach was part of the responsibility of Southern Command in its defence of the North Somerset coast. However, in a defence scheme dated 23 June 1941, it was stated that ‘the north coast of Somerset is *not* at present considered to be a likely initial objective of an enemy seaborne attack’. The reasons for this were given as the long distances involved from enemy ports and the difficulties of navigation in the Bristol Channel. Notwithstanding, considerable defences were erected along the coastline in 1940/41.

The Blue Anchor Bay defences, which included Dunster Beach, fell within the Dunster Sector. This consisted of six defended localities that in December 1940 were garrisoned by the 12th Defence Regiment RA, with 20 officers and 67 other ranks. Also operational here



FIGURE 41 Dunster Beach looking east across Blue Anchor Bay. The flat shingle and sand expanses of the beach would have made it particularly vulnerable to a German seaborne landing. (PHOTO: THE AUTHOR, 16 JANUARY 2003)

was the Dunster Battalion of the Somerset Home Guard, with four officers and 161 other ranks.

The defence responsibilities within the Dunster Sector were not confined to coastal protection. A fear was that German airborne troops would land on the uplands of North Somerset and Devon, and combine with a seaborne landing on the Dorset coast to cut off the South West peninsula. Patrols were sent into the Brendon and Quantock Hills to watch for this danger.

Air photographs and surviving field evidence show that the coastline was heavily defended. After Dunkirk, the area of pre-war holiday chalets at the western end of the defence area was requisitioned by the Army for a camp, which was surrounded by a number of pillboxes and fire trenches. It is perhaps surprising that there appears to have been little attempt to camouflage this site from aerial observation as it is in an open, exposed position.

A major area of defences was around Sea Lane End, almost certainly one of the defended localities, where several pillboxes and other defence works were erected. Air photographs show that amongst the pillboxes was an unusual type of structure that is probably a type of concrete section post. It takes the form of a rectangular pillbox with two wings, each with four forward-facing embrasures, the central core of the pillbox being unroofed, probably for anti-aircraft fire, and with one or more embrasures. Six of these structures have been plotted from air photographs within the study area. None of these is present today, but just beyond the eastern edge of the area there is a surviving example at Blue Anchor, now built into the sea wall [1569], the plan of which matches that seen in the air photographs.¹ Section posts were generally earthworks, but concrete versions exist elsewhere (see, for example, Greatham Creek defence area).

Behind the pillboxes on the beachfront was a further line of pillboxes, set against the embankment of the railway or positioned amongst the pattern of small fields stretching from the top of the beach to the hills behind. Many of these pillboxes were camouflaged,

FIGURE 42 The position of pillbox [424] can be seen in the right foreground of this oblique air photograph taken 27 June 1941. Slit trenches run along the hedgerow to the beach where there are pillboxes, fire trenches, and a section post. Pillbox [426] stands by the railway line disguised as a platelayers' hut with a pitched roof and chimney stack.
(ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY: MSO 31206/PO-049 ST 0044/6)



with beach pebbles applied to the external concrete surfaces. The camouflage scheme of pillbox [3024] included heaps of stones piled up against the forward faces of the pillbox leaving only the embrasures clear. A chimney, from a more elaborate camouflage scheme, is still affixed to railside pillbox [426]. Just west of the defined study area at Higher Marsh Farm (SS 99364460), a Type 24 pillbox still has its pitched roof camouflage in place, one of only two known sites in England where this survives. The pillboxes were particularly well fitted out, being furnished with steel surrounds and visors to their embrasures, several of which are still in place [424 and 431].

FIGURE 43 Type 24 pillbox [3024] with a detached blast wall, and with entrance and embrasures now blocked. The extensive use of beach pebbles as camouflage cladding is clear. The pillbox has become a feature in the Dunster Beach car park with signs placed against it.
(PHOTO: THE AUTHOR, 16 JANUARY 2003)





FIGURE 44 Pillbox [431] by the railway line: it is believed to have been camouflaged as a signal box. Pillbox [432] stands by the hedgerow in the distance.

(PHOTO: THE AUTHOR, 16 JANUARY 2003)



FIGURE 45 Pillbox [426] by the railway line. Its camouflage scheme was a platelayers' hut from which the chimney stack survives (see also Fig 42).

(PHOTO: THE AUTHOR, 16 JANUARY 2003)

FIGURE 46 Steel
embrasure surround
in position on
pillbox [424].
(PHOTO: THE AUTHOR,
16 JANUARY 2003)



Unlike the eastern and southern coasts of England, no anti-tank scaffolding was erected along the beach. Air photographs, however, show barbed wire fences at the head of the beach, and zig-zag slit trenches running along the hedgerows of fields behind. At one point at the eastern edge of the area there was a row of anti-tank blocks. Additionally, minefields may have been laid behind the beachfront.

Significance

The Dunster Beach area provides an excellent illustration of the detailed organisation and construction of coastal anti-invasion defence, even on a sector of coast where a German landing was considered unlikely. The excellent 1941 oblique air-photographic evidence enables defence positions to be determined where other documentary sources are lacking and where structures themselves have long since been removed. The defences can be seen to have been arranged in three lines, at the head of the beach, along the line of the railway, and at the foot of the hills behind. The fact that these dispositions can still be seen on the ground today makes the area of exceptional interest.

To the east of a drainage channel (built 1962–1964), the landscape remains much as it was in 1940. There has been a certain measure of coastal erosion indicated by the fact that pillboxes which were built at the edge of the fields immediately behind the shoreline now lie in fragments on the beach. Several of the fields between the beach and the railway have had hedgerows removed to make them larger, leading to the isolation of pillbox [424] in the centre of a field whereas originally it stood at a junction of hedgerows.

The area provides a coherent, articulated pattern of coastal defence, with an excellent survival of individual pillboxes, most of which still stand in relation to the landscape features that determined their siting. A number of the pillboxes are outstanding examples,

and have features, such as the metal embrasure surrounds and remains of camouflage schemes, that rarely survive elsewhere. Section post [1569] is the only known surviving example of its type.

Access

Many of the defence structures can be reached by walking on the beachfront from the car park. However, there is no public access to the pillboxes by the railway line.

Note

¹ A plan of the section post has been made recently and can be found with Somerset Historic Environment Record Site 35367 - <http://webappl.somerset.gov.uk/her/>

Documentary Sources

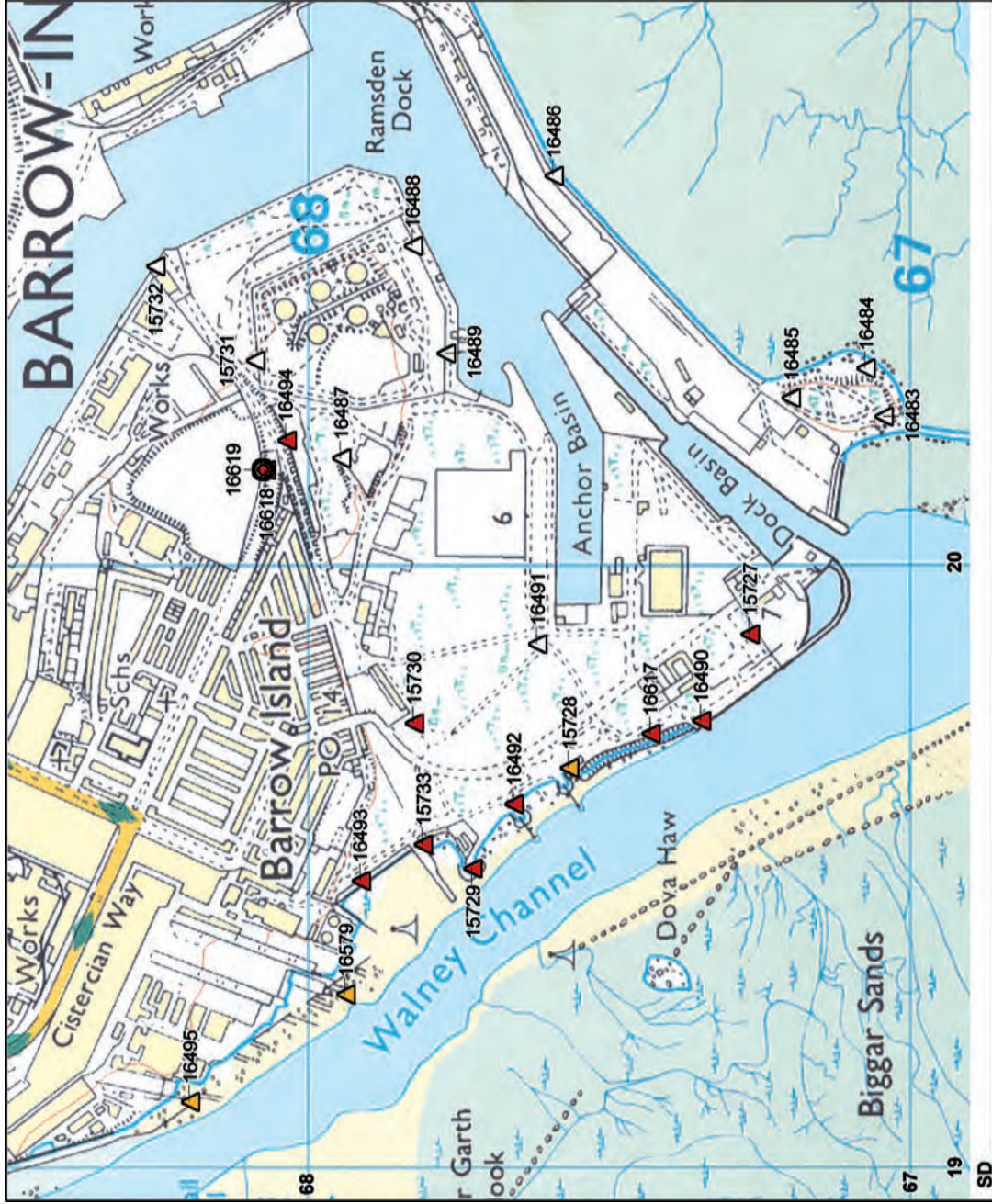
'Somerset Sub-Area Defence Scheme', August 1940 (from Somerset Sub-Area HQ War Diary) – TNA: PRO WO 166/1317

'Western Area Defence Scheme', 23.6.1941 (from Western Area HQ War Diary) – TNA: PRO WO 166/1251

Dunster Beach: Defence components

Database site reference	NGR	Defence work type	Survival status
424	ST 0076244113	PILLBOX (VARIANT)	E
426	ST 0073043889	PILLBOX (TYPE 24)	E
431	ST 0099943737	PILLBOX (TYPE 24)	E
432	ST 00854366	PILLBOX	E
1563	ST 0039044515	PILLBOX (TYPE 24)	E
1569	ST 02144350	SECTION POST	E
3017	ST 0057144420	PILLBOX	R
3020	ST 00114486	PILLBOX	R
3021	ST 00754426	PILLBOX	R
3024	ST 0046644544	PILLBOX (TYPE 24)	E
3056	ST 00324421	PILLBOX	R
16303	ST 0137143611	PILLBOX	E
16304	ST 0149843634	PILLBOX	R
16366	ST 01464365	ANTI TANK BLOCK	R
16367	ST 01444366	PILLBOX	R
16368	ST 01284379	PILLBOX	R
16369	ST 0096644181	PILLBOX	R
16370	ST 0088744242	PILLBOX	R
16371	ST 0085744264	SECTION POST	R
16372	ST 00784425	SLIT TRENCH	I
16373	ST 00494427	TRENCH	I
16374	ST 00544444	SECTION POST	R
16375	ST 00294467	PILLBOX	R
16376	ST 00124484	SECTION POST	R
16377	ST 00154481	SECTION POST	R
16378	ST 00434455	SECTION POST	R
16379	ST 00524450	PILLBOX	R
16380	ST 00554447	SLIT TRENCH	I
16438	ST 0044644515	PILLBOX	R
16957	ST 02034328	PILLBOX	R

E=Extant; R=Removed; I=Infilled; U=Unknown.



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Barrow Island

Coastal and Vulnerable Point defence

Location Details

On the S side of the town of Barrow-in-Furness

County: Cumbria

Parish: Barrow-in-Furness

National Grid Reference: SD 196677

Landscape

Barrow Island is the docks area of the town of Barrow-in-Furness, which has been a shipbuilding port since the mid-19th century. A severe decline in shipbuilding since the Second World War has led to the abandonment of many of the former docks, although others have been modernised and now serve both merchant and naval ships. Former dockyard buildings are occupied by the defence technology company, BAE Systems, and an oil storage depot also stands on part of the former docks. However, a large expanse of Barrow Island that fronts the Walney Channel has been cleared of its dockside buildings, equipment, and infrastructure and is currently lying derelict.

The borders of the study area to which there is public access are the BAE works on the shore of the Walney Channel to the north-west and the lines of neat terraced houses (once occupied by the families of dockyard workers) to the north. Also at the north, and to the east, are allotment gardens, which are cut by the lines of former dockyard roads and railway lines. At the far east of the area is an oil storage depot overlooking Ramsden Dock, and at the south are modern docks administered by Associated British Docks. The area is traversed by Ramsden Dock Road, which runs parallel with the Walney Channel that forms the western boundary. Across the Walney Channel are the flat, marshy expanses of Biggar Sands.

Defences

Barrow Island, with the rest of Barrow-in-Furness, formed Sector No 10 within the Lancaster and Barrow military Sub-Area. Sector No 10 was made up of two defended localities, one at Vickerstown on Walney Island and the other at Barrow-in-Furness town and docks. Barrow Island was part of 'P' Zone, which was responsible, amongst other tasks, for denying the enemy the crossing of the Walney Channel in an attack coming from the west. Should the enemy penetrate into 'P' Zone, the line north of Cavendish, Buccleuch, and Devonshire Docks was to be held 'at all costs'. A main seaborne landing at Barrow, in fact, was thought very unlikely, 'unless Ireland is first occupied', and the principal danger was considered to be an attack by airborne troops to seize the docks in support of operations elsewhere.



FIGURE 47 Air photograph (24 March 1946) of Barrow Island showing the docks on the Walney Channel. Ramsden Dock Road runs across the centre of the picture as it still does today, although much of the area is now derelict. The central area of water north of Anchor Basin was filled in during the 1960s.

(ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY: RAF/-106G/UK/1277 fr6048)

To defend Barrow Island, a line of pillboxes, including some for anti-aircraft fire, was built on the west side of Barrow Island. Other pillboxes were placed towards the centre of the docks area, as well as on the north and the south sides of the Dock Basin and Ramsden Dock. A searchlight (one of ten in the Barrow-in-Furness area) was also positioned on the south arm of Ramsden Dock. Towards the north of Walney Island was the RAF station at Walney airfield, and towards the south, Fort Walney, originally built in 1910 but in 1940 mounting two Mk VII 6in guns.

The defences of 'P' Zone were manned by detachments from the 8th Bn The Border Regiment, as well as by the Vickers Armstrong Company, Home Guard. Amongst other troops available to the sector commander were the 562nd Coast Regiment, a company from the Pioneer Corps, a mobile reserve of three platoons from the 11th Bn Manchester Regiment, and the 1st Bn Lancashire Home Guard, with detachments from the GPO Home Guard.

A number of very good examples of infantry pillboxes, some with unusual additional features, survive in the defence area. Most common is the Type 24 hexagonal pillbox with two projecting walls either side of the doorway. Six examples of this type can be found within the publicly accessible part of the defence area, all in positions to fire across the Walney Channel, some at the water's edge, with others set further back. One of the Type 24 pillboxes overlooking the Walney Channel has a brick observation tower, possibly for a Royal Naval Minewatcher's Post, placed on its roof [15729].

Nearby is a Type 23 pillbox with an open court at the rear to mount a machine gun for anti-aircraft fire [16617]. Another Type 23 is dug in at the top of the cutting of a former railway line towards the east side of Barrow Island [16618]. The unusual pillbox type with embrasures cut additionally across the angle of each loopholed face that can be found to the north-east as part of the surviving defences of the town of Barrow-in-Furness is not present on Barrow Island (Osborne 2004, 38, 249).

FIGURE 48 Pillbox [15729] with a brick observation tower on its roof, possibly a minewatchers' post. (PHOTO: THE AUTHOR, 21 MAY 2003)





FIGURE 49 The Walney Channel shoreline where boats are still beached. Pillbox [15733] stands amongst the fishermen's huts. (PHOTO: THE AUTHOR, 21 MAY 2003)

Significance

The Barrow Island area is important in illustrating the defence of major docks, which were not only part of a defended locality in the overall defence of Barrow-in-Furness and its surrounding region, but a Vulnerable Point in their own right. The defences were constructed in 1940 as part of an overall plan for anti-invasion defence, but were



FIGURE 50 The concrete post for mounting an anti-aircraft gun in the open rear bay of Type 23 pillbox [16618]. (PHOTO: THE AUTHOR, 21 MAY 2003)

undoubtedly maintained after the immediate invasion threat receded as a protection against the danger of enemy raids with the intent of destroying port facilities and shipping.

Despite the immense changes to the landscape of the defence area since the Second World War, with the clearance of many of the former docks areas, the infilling of a central lake, and the building of modern docks facilities and an oil storage depot, the layout of the defended docks of 1940/41 remains substantially clear. The surviving pillboxes indicate the positions of former harbour-front works and piers which have either been cleared away or have assumed a different function. Many stand exposed today whereas they were originally constructed close to buildings and docks equipment. Several stood beside railway lines that have since been dismantled. Two pillboxes that stood on the sandy foreshore of the site now occupied by BAE Systems have been removed. Other pillboxes, plotted from air photographs, may survive within the modern dock areas, and permission would need to be obtained from Associated British Docks to make a further survey.

The defence works form a significant group, largely in good condition, allowing external and internal inspection of both infantry and anti-aircraft pillboxes, many with local variations unique to the area. They provide a valuable legacy of the Second World War history of Barrow-in-Furness. With any planned regeneration of the area, it will be important to ensure their continuing preservation. Many would seem to be vulnerable to destruction given the extensive ground clearance that would presumably be necessary.

Access

Much of the study area on either side of Ramsden Dock Road can be accessed from the streets of houses fronting the former dockland. The area is much visited by local residents, and fishing boats are beached on part of the foreshore.

Published Source

Osborne, M, 2004 *Defending Britain: Twentieth-Century Military Structures in the Landscape*. Stroud: Tempus Publishing

Documentary Sources

Fort Record Book: Fort Walney Battery, 1909–55 – TNA: PRO WO 192/318

'Lancaster and Barrow Sub-Area Defence Scheme', 1941 (from Lancaster and Barrow Sub-Area War Diary) – TNA: PRO WO 166/1299

Barrow Island: Defence components

Database site reference	NGR	Defence work type	Survival status
15727	SD 1988767267	PILLBOX (TYPE 24)	E
15728	SD 1966667568	PILLBOX	R
15729	SD 1949967729	PILLBOX (VARIANT)	E
15730	SD 1974167826	PILLBOX (TYPE 24)	E
15731	SD 2034568090	PILLBOX	U
15732	SD 2051468262	PILLBOX	U
15733	SD 1953967811	PILLBOX (TYPE 24)	E
16483	SD 2024967045	PILLBOX	U
16484	SD 2032967075	PILLBOX	U
16485	SD 2028067199	PILLBOX	U
16486	SD 2065167594	PILLBOX	U
16487	SD 2018267947	PILLBOX	U
16488	SD 2053567828	PILLBOX	U
16489	SD 2035667773	PILLBOX	U
16490	SD 1973267348	PILLBOX (TYPE 24)	E
16491	SD 1987267621	PILLBOX	U
16492	SD 1960667660	PILLBOX	E
16493	SD 1947567914	PILLBOX (TYPE 24)	E
16494	SD 2021268038	PILLBOX (TYPE 22)	E
16495	SD 1911268198	PILLBOX	R
16579	SD 19296794	PILLBOX	R
16617	SD 1972267432	PILLBOX (TYPE 23)	E
16618	SD 2016368072	PILLBOX (TYPE 23)	E
16619	SD 2016368079	DEFENCE WORK	E

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Bawdsey Point

Coastal and Vulnerable Point Defence

Location Details

2 miles (3km) SW of Bawdsey village and 3 miles (5km) NE of Felixstowe

County: Suffolk

Parish: Bawdsey

National Grid Reference (Bawdsey Quay): TM 331379

Landscape

The defence area lies on the Suffolk coast at the southernmost point of the Bawdsey peninsula, bordered to the west by the River Deben and to the south by open sea. It consists of marshland to the north, and sand and shingle beaches to the west and south. The central part is taken up by the estate of Bawdsey Manor, a mansion built in a highly ornate style in the late 19th century for Sir Cuthbert Quilter. This property was purchased by the Air Ministry as an Experimental Station in the mid-1930s. Lately it has been an international school, but is believed currently to be unoccupied. A row of houses stands just north of Bawdsey Quay, from which a small ferry carries foot passengers to the west (Felixstowe) bank of the Deben.

Bawdsey Point is a popular location for day visitors, and a Suffolk Coastal District Council picnic site, with car parking, is provided. Money has recently been granted to Suffolk County Council by the East of England Development Agency to regenerate the Bawdsey Quay area.

Defences

During the Napoleonic Wars, a number of Martello Towers were built adjacent to Bawdsey, several of which survive in good condition. In the First World War, Bawdsey Manor was requisitioned, with troops from the Devonshire Regiment stationed there.

In the Second World War, there was a dual need to protect both the coastline of the Bawdsey peninsula and to provide a defence for the top-secret radar establishment that had developed at Bawdsey Manor out of the Air Ministry Experimental Station. It had become the first Chain Home Radar Station, classified by XI Corps as a Vulnerable Point (VP124).

It was considered that a German landing on this stretch of coast would probably result in the capture of the ports of Harwich and Lowestoft, and be followed by an advance on London. Bawdsey formed a Sub-Area within No 4 Sub-Sector, the defence of which in 1940/41 was the immediate responsibility of 46 Infantry Brigade. The Bawdsey Sub-Area was held from April 1941 by the right forward company (D Coy) of the 11th Bn Highland

Light Infantry, which also manned other Sub-Areas at Alderton and Hollesley. Mobile anti-paratroop columns patrolled throughout the Sub-Area.

An XI Corps Stop Line followed the course of the River Deben to Woodbridge, and then ran via Wickham Market and Framlingham to Harleston in Norfolk. Nodal points were established at Ipswich, Grundisburgh, and Wickham Market to provide a defence in depth, and the coastal Sub-Sector was backed by a further stop line (the 'Back Line') that formed a continuous obstacle belt along the road and railway between Ipswich and Wickham Market.

Anti-tank armament defending Bawdsey consisted of 2pdr and 6pdr guns, and anti-tank obstacles were constructed around each company Sub-Area. Supporting arms were one platoon of medium machine guns (from 1/7 Bn Middlesex Regiment), one battery of field artillery, one troop of medium artillery, one battery of heavy artillery, and a section of super-heavy artillery. Two gun sites to the west across the Deben near Kirton (TM 276393) were armed with 6in howitzers, and two 12in railway guns on the Ipswich to Felixstowe line were also positioned to defend the Sub-Area. To the north stood Bawdsey Emergency Coast Defence Battery of which the two gun houses and the battery observation post survive (TM 358401).



FIGURE 51 Oblique air photograph taken 5 July 1940 showing Bawdsey Point and the site of the Chain Home Radar Station at Bawdsey Manor. Lines of anti-tank cubes run around Bawdsey Point as well as north and south of defences at the Quay. (ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY MSO 31032/PO-2048 TM 3337/2)

All defended localities were protected by triple-wire obstacles, and the beaches were defended by machine gun flanking fire. Pointed steel rails (here known as ‘dragon’s teeth’)¹, tubular scaffolding, and concrete blocks, provided a front-edge defence on the beaches. Roadblocks were set up, and minefields and cratering charges laid. All bridges over water obstacles on the defensive lines were prepared for demolition.

RAF Bawdsey itself was ringed with pillboxes, gun emplacements, anti-aircraft gun positions, and anti-tank obstacles. Cratering charges were placed in the grounds of Bawdsey Manor and slit trenches dug. An open area between the Manor and Bawdsey Point was trenched against enemy aircraft landing. As the immediate invasion danger period of 1940/41 passed, the main threat was of a German raid on the radar station, and its defences, against both a seaborne and an airborne attack, were further strengthened. In 1942, a defensive ditch, covered by additional pillboxes, was dug parallel with Ferry Road on its north side. After the war, the radar station was expanded and became part of the Cold War ROTOR programme, remaining operational until 1972. A new site for Bloodhound Mk II surface-to-air missiles was then developed to the north, opened in 1979 and active until 1990.

During the war the shores of Bawdsey Point were lined with beach scaffolding and anti-tank blocks. By 1955 the only continuous length of blocks that remained lay north of the Quay, a small section of which survives today [16123]. A further surviving line of some sixteen anti-tank blocks lies within the grounds of Bawdsey Manor above the sea beach [6064]. The base framework of beach scaffolding was visible on the beach north of the Quay as late as 1992.

Most of the surviving defence structures lie within the grounds of Bawdsey Manor, but several also survive close to the foreshore where there is public access. A Type 22 pillbox can be seen from the southern beach [7476], and another Type 22 pillbox stands on the

FIGURE 52 The western end of a defensive ditch [16146], possibly dug in 1942, which ran in a straight line north of RAF Bawdsey connecting with loops of an existing water channel. (PHOTO: THE AUTHOR, 25 JULY 2002)





FIGURE 53 Topped anti-tank cubes [16123] on the Bawdsey foreshore north of the Quay. (PHOTO: THE AUTHOR, 3 JULY 2002)

marshes north of Bawdsey Quay [6083]. Near Bawdsey Point is the concrete structure of a gun platform, now badly cracked and covered by vegetation [16110]. Within the Bawdsey Manor estate, there are a number of unusual examples of pillboxes and other defence works amongst the surviving architecture of the radar station. Many of the pillboxes are Type 24s which have been surrounded by a distinctive ‘skirt’ of brick and concreted sandbags, presumably to keep an attacker at bay.

Also of interest are the defence works built into the cliffs overlooking the southern beach: one of these is a gun chamber with a loopholed concrete face built around a sunken feature of the landscaped grounds [7483], while another is a purpose-built pillbox with an anti-aircraft gun platform on its roof [7484]. Another anti-aircraft gun position stands on the cliff top further to the north [16143].

Significance

This part of the Suffolk coastline has been considered vulnerable to invasion over many centuries and has a long history of defence construction along its shores. Physical evidence survives in the chain of Martello Towers that were erected against the threat from Napoleonic France, one complete example of which can be seen across the River Deben

FIGURE 54 Type 24
pillbox [6061] seen
from Ferry Road.
(PHOTO: THE AUTHOR,
25 JULY 2002)



FIGURE 55 Type 24
pillbox [7488] with
distinctive earth
surround retained by
concreted sandbags
and a brick wall.
(PHOTO: THE AUTHOR,
3 JULY 2002)



from Bawdsey Point and another south of East Lane, Bawdsey. The circular foundations of a demolished Martello Tower were also incorporated into the formal gardens of Bawdsey Manor. Within the study area there is thus a continuity of defence provision from the early 19th century, via the First and Second World Wars, to the radar and Bloodhound missile sites of the Cold War.

This defence area provides a good illustration of coastal defence combined with the all-round defences of a Vulnerable Point – in this case, RAF Bawdsey. Structures relating to both defence strategies are well represented, and can be seen to interlink forming a coherent defence landscape. Excellent examples of pillboxes survive, some with unusual additions, together with other gun emplacements and lines of anti-tank blocks. The surviving defence architecture of RAF Bawdsey, with its transmitter and receiver blocks, guard houses, accommodation blocks, transport garages, and storehouses, enable the defence works to be viewed in their original context.

Except for the many changes consequent upon the use of Bawdsey Manor and its grounds as a defence establishment, and its subsequent abandonment, there has been little alteration to the surrounding landscape since the Second World War. Modern air photographs show the faint line of the infilled anti-tank ditch that was dug between loops of a drain to the north of Ferry Road, also incorporating lengths of the waterway that can still be seen in the landscape today. Woodland, however, has been planted since the war on the north side of the drain. The coastal sea banks, inland drains, and hedgerows greatly assisted in the siting of defence works, taking advantage of the extra protection these features provided. Several of these structures (for example, 6057, 6061, 6083, and 7486) survive in an unchanged landscape context.

Within the grounds of Bawdsey Manor, pillboxes were positioned to protect key buildings and installations, and they maintain that relationship today. One pillbox [7485], now standing alone by a driveway, once protected a group of four transmitter towers, all now removed bar their foundation blocks.

Artificial grottos built in the late 19th century at the cliff edge as part of the formal landscaping of the grounds of Bawdsey Manor were adapted to incorporate concrete defence works. These survive in excellent condition [7483 and 7484], scarcely altered in terms of their location or structure, and their commanding position can be viewed from the beach beneath.

The Second World War defences continue north beyond the study area, with important remains of an Emergency Coast Defence Battery at East Lane adjacent to the village of Bawdsey. Further north is the extensive, formerly top-secret, military landscape of Orford Ness which is now in the care of the National Trust.

Access

There is no public access without permission to the grounds of Bawdsey Manor. However, many of the defence works can be viewed from the sea and river shores or from Ferry Road. Parking is possible at Bawdsey Quay or at the picnic site further north.

Note

¹ Normally this term is applied to concrete tetrahedra or pimples.

Published Sources

- Purcell, S, 1997 The Defences of RAF Bawdsey, *Loopholes*, **19**, 2–8
- Thomas, R J C, 1999 *RAF Bawdsey (AMES 24)*, Historic building report (rev edn). Royal Commission on the Historic Monuments of England
- Wilkinson, P, 2004, Bawdsey Radar Station, in *Restoration: The Story Continues*. London: English Heritage, 94–101
- Subterranea Britannica*. Available: http://www.subbrit.org.uk/sb-sites/sites/b/bawdsey_radar/
Accessed: 2004

Documentary Sources

- 127th Infantry Brigade War Diary, November 1940 – TNA: PRO WO 166/977
- ‘Hertford Area Defence Scheme’, 30.12.1940 (from Hertford Area HQ War Diary) – TNA: PRO WO 166/1200
- XI Corps HQ ‘G’ War Diary, 1940–41 – TNA: PRO WO 166/329
- ‘Hertford Area Defence Scheme’, 1941 (from Hertford Area HQ War Diary) – TNA: PRO WO 166/1207
- 4th Bn East Lancashire Regiment War Diary, February 1941 – TNA: PRO WO 166/4249
- ‘Operation Instruction No 14’, 20.4.1941 (from 11th Bn Highland Light Infantry War Diary) – TNA: PRO WO 166/4346
- ‘Operation Instruction No 16’, 16.7.1941 (from 1/7th Bn Middlesex Regiment War Diary) – TNA: PRO WO 166/4462
- ‘No 4 Sector Defence Scheme’, September 1941 (from 46th Infantry Brigade War Diary) – TNA: PRO WO 166/958
- ‘Essex and Suffolk Area Defence Scheme’ (with map), 1942 (from Essex and Suffolk Area War Diary) – TNA: PRO WO 166/6700

Bawdsey Point: Defence components

Database site reference	NGR	Defence work type	Survival status
6055	TM 3424338842	PILLBOX	E
6056	TM 3420838660	PILLBOX (TYPE 22)	E
6057	TM 3430338573	PILLBOX (VARIANT)	E
6059	TM 3330938024	PILLBOX (VARIANT)	E
6060	TM 3343838016	PILLBOX (TYPE 24)	E
6061	TM 3360738257	PILLBOX (VARIANT)	E
6064	TM 3338037693 – TM 3333537675	CUBE	E
6065	TM 3390938067 – TM 3391238072	CUBE	E
6083	TM 3319038330	PILLBOX (TYPE 22)	E
7476	TM 3335037652	PILLBOX (TYPE 22)	E
7483	TM 3359937819	PILLBOX (VARIANT)	E
7484	TM 3372237892	PILLBOX (VARIANT)	E
7485	TM 3402738314	PILLBOX (TYPE 24)	E
7486	TM 34023866	PILLBOX (TYPE 24)	E
7488	TM 3424238420	PILLBOX (VARIANT)	E
7490	TM 34033812	INFANTRY POST	E
13589	TM 33303767	ANTI TANK WALL	E
16008	TM 335378	OBSERVATION POST	U
16009	TM 338381	MACHINE GUN POST	U
16010	TM 343386	CANADIAN PIPE MINE	R
16011	TM 33303797	CANADIAN PIPE MINE	R
16012	TM 331379	CANADIAN PIPE MINE	R
16013	TM 33153790	FLAME FOUASSE	R
16014	TM 34003852	FLAME FOUASSE	R
16015	TM 34003850	FLAME FOUASSE	R
16110	TM 3316237582	GUN EMPLACEMENT	E
16111	TM 33153840	GUN EMPLACEMENT	U
16112	TM 344388	CANADIAN PIPE MINE	R
16123	TM 3314738161 – TM 3313438219 – TM 3312938218	CUBE	E
16125	TM 34273832	WEAPON PIT	E
16129	TM 3397338087	GUN EMPLACEMENT	E
16143	TM 34383843	MACHINE GUN EMPLACEMENT	E
16144	TM 33483768 – TM 33413769 – TM 33153760 – TM 3314738161	ANTI TANK BLOCK	R

Bawdsey Point: Continued

Database site reference	NGR	Defence work type	Survival status
16145	TM 33593774 –	BEACH SCAFFOLDING	R
	TM 33113752 –		
	TM 33153787 –		
	TM 33183787 –		
	TM 33153797 –		
	TM 33133798 –		
	TM 33093815 –		
	TM 33173832 –		
	TM 33203841		
16146	TM 33373849 –	ANTI TANK DITCH	I
	TM 33483853 –		
	TM 33593853 –		
	TM 33683855 –		
	TM 33723854 –		
	TM 33803854 –		
	TM 34163873		
16147	TM 33133789	GUN EMPLACEMENT	R
16165	TM 3342337688 –	CUBE	E
	TM 3340737699		
16183	TM 333378	ANTI LANDING TRENCH	I
16184	TM 33353788	PILLBOX	R
16185	TM 34363868	PILLBOX	R
16972	TM 3352238230	PILLBOX (TYPE 24)	E

E = Extant; R = Removed; I = Infilled; U = Unknown.



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 Scale 1:15,000

Walberswick

Coastal Defence

Location Details

1 mile (1.5km) S of Southwold

County: Suffolk

Parishes: Walberswick; Southwold

National Grid Reference: TM 500746

Landscape

The defence area lies on the Suffolk coast and is crossed by the River Blyth, which meets the sea here, separating the village of Walberswick from Southwold to the north. Off this coast on 28 May 1672, the drawn Battle of Sole Bay was fought when the Dutch fleet attacked the Anglo-French fleet at anchor, the action being watched by the townspeople of Southwold gathered on the shore.

Southwold Harbour is used today by small boats, but was once a considerable harbour occupying both banks of the river: a ferry service enables foot passengers to cross. To its east and south-east, the flat shoreline of Walberswick is characterised by its shingle and sand beach, lined in part by beach huts. To the south the beach is backed by extensive marshland, the area including a National Nature Reserve. Further marshland extends to the north of the river. The village of Walberswick, famed for its artistic community, lies on somewhat higher land to the west. A part of the Southwold shore is included in the study area to show the continuous nature of the defences to the north, although all those here have now been removed.

Defences

In 1940/41, the shorelines of Walberswick and Southwold were defended as part of the coastal defence of Eastern Command. The beaches here were considered vulnerable to a German landing, which might have been followed by a flanking attack to the north to seize the ports of Lowestoft and Great Yarmouth and then by an advance against London and the industrial Midlands.

The defences consisted of anti-tank blocks, beach scaffolding (erected in 1941), minefields, barbed wire entanglements, weapon pits, and fire and communication trenches, supported by pillboxes from which machine gun and rifle fire could be laid down to cover the beachfront. To the rear were artillery positions with fire tasks on the shore. A number of depth charges were laid that could be detonated to create road craters. The piers for the Walberswick Ferry were demolished.



FIGURE 56 The marshy seafront of Walberswick protected by anti-tank cubes [11726 and 11727]. (PHOTO: THE AUTHOR, 2 JULY 2002)

Two 6in naval guns of an Emergency Coast Defence Battery were positioned on the Southwold side of the river between Ferry Road and the beach [16946]. In 1941, the battery was moved north to a new site at Gun Hill on the outskirts of Southwold [14711]. The Walberswick area was also defended by inundation, the marshland as far as Dunwich being flooded by sea water through the sluice at Walberswick.

To the west (beyond the study area), an anti-tank ditch ran north to south from the River Blyth to Westwood Marshes, with a Divisional Back Line to the rear running from Saxmundham through Halesworth to Beccles, all three of these places being Category 'A' nodal points, with Blythburgh and Reydon classed as Category 'C'. To the west, fields were blocked by the digging of anti-landing trenches.

Walberswick lay within No 3 Sub-Sector defended by 45 Infantry Brigade, with three battalions forward. In October 1940, 'D' Coy of 2/4th Bn South Lancashire Regiment was stationed at Walberswick, replaced in 1941 by two companies of 10th Bn Cameronians. Two Forward Defended Localities (FDLs) were established in the areas of the seafront immediately south-west of the River Blyth and between Millfield Lane and the shore. Each FDL was ringed by a triple wire fence, and machine guns and artillery were positioned within it. Lines of anti-tank blocks also demarcated the FDLs, being designed not only to provide an anti-tank barrier blocking exits from the beach, but also to prevent lateral movement along the shoreline. North of the River Blyth, a continuous line of anti-tank blocks ran parallel with the sea to Southwold.

Of the various lines of anti-tank blocks, almost all have now disappeared. However, two lengths of cubes (the shorter now probably *ex situ*), marking the position of one of the FDLs, survive next to the seafront car park at the east end of The Street in Walberswick [11726 and 11727]. Other blocks are probably buried beneath the sand close

FIGURE 57 German reconnaissance photograph, probably taken in August 1940, showing defence works on both sides of the River Blyth. All the structures on the Southwold side of the river (right) have now been removed, but a number survive in Walberswick. The symbols used on this photograph are the same as those on the German map at Fig 9. (TAKTISCHES LUFTBILDBUCH, P 33; COURTESY OF THE IMPERIAL WAR MUSEUM, LONDON: DUXFORD AL 2902)



to the nearby bathing huts. A group of surviving pillboxes south of Millfield Road [11778, 11779, and 11780] denotes the location of the second FDL, which was one of the most heavily defended positions. One of the pillboxes here [probably 11780] was also a command post. These pillboxes are of the local variant type known as the ‘Suffolk square’.



FIGURE 58 An RAF oblique photograph of July 1941 confirms much of the defence detail shown by the Germans in Fig 57. Beach scaffolding has been erected south (left) of the River Blyth. On the Southwold side of the river a continuous line of anti-tank blocks passes in front of the twin 6in emplacements of the Emergency Coast Defence Battery [16946], later moved north to Gun Hill on the outskirts of Southwold.
 (ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY MSO 31038/PO-6988 TM 5075/3)

Other pillboxes [11774 and 11782] survive further to the south-west in the area above Oldtown Marshes, which was occupied later in the war by an anti-aircraft battery and its attendant camp.

Significance

There have been few changes to the landscape in and around Walberswick since the Second World War. Apart from some small housing developments, in particular to the north of the village and adjacent to the riverfronts, the pattern of buildings and fields is essentially the same. Most change has taken place on the Southwold bank of the River Blyth, where a large caravan park and other visitor facilities have been established.

The defence area thus provides good examples of defence works still set in relation to the landscape features that determined their siting. The anti-tank cubes at the beachfront to the east of Walberswick village provide clear evidence of the defended locality here and the strategy of containing enemy armoured fighting vehicles within defended boxes on the beachfront. At the margin of fields south of the village is a close group of three pillboxes that marks a key defended location overlooking the coastal front and the marshes to the south. Walberswick village, running along a spine of higher land to the north, provided defence positions in depth, as well as observation and command posts. To the south-west, two surviving pillboxes mark the site of a later anti-aircraft battery, reached by a long

FIGURE 59 Line of anti-tank cubes [11726] on the beachfront at Walberswick, all that survives of several lines in this area which once formed the perimeter of a Forward Defended Locality (FDL).
(PHOTO: THE AUTHOR, 2 JULY 2002)



track from the village alongside which stood accommodation huts. These pillboxes overlook Westwood Marsh that was re-flooded during the war; it remains so today.

Excellent documentary and air-photographic evidence has enabled many defence sites that have been removed to be determined.

Access

Many of the defence works can be seen on the beachfront or within the fields south of Millfield Road. Footpaths cross the marshes and lead to Hoist Covert where there are two further pillboxes. Large car parks on the beach and riverfronts at the eastern end of Walberswick provide parking for visitors.

Published Source

Kent, P, 1988 *Fortifications of East Anglia*. Lavenham: Terence Dalton



FIGURE 60 Good example of a small hexagonal pillbox [11774] overlooking marshes and the sea south of Walberswick. It stands today in a nature reserve. (PHOTO: THE AUTHOR, 2 JULY 2002)

Documentary Sources

- 'Home Defence Scheme East Anglia', June 1940 (from 164th Infantry Brigade War Diary) – TNA: PRO WO 166/1037
- 'List of Nodal Points in Eastern Command', September 1940 (from General Headquarters Papers, Home Forces) – TNA: PRO WO 199/544
- '2/4th Bn South Lancashire Regiment Home Defence Scheme 3rd edition', 14.10.1940 (from 2/4th Bn South Lancashire Regiment War Diary) – TNA: PRO WO 166/4680
- 'Taktisches Luftbildbuch', 23.10.1940 – IWM Duxford: AL 2902
- XI Corps HQ 'G' War Diary, 1940–41 – TNA: PRO WO 166/329
- 'Operation Instruction', 20.6.1941 (from 10th Bn Cameronians War Diary) – TNA: PRO WO 166/4181
- 'Operation Instruction No 16', 16.7.1941 (from 1/7th Bn Middlesex Regiment War Diary) – TNA: PRO WO 166/4462
- 'Hertford Area Defence Scheme', 1941 (from Hertford Area HQ War Diary) – PRO WO 166/1207
- '45th Infantry Brigade Defence Scheme', December 1941 (from 45th Infantry Brigade War Diary) – TNA: PRO WO 166/957
- 'East Suffolk Sub-District Defence Scheme', 1943 (from East Suffolk Sub-District War Diary) – TNA: PRO WO 166/11004
- Fort Record Book – Southwold Battery, 1941–45 – TNA: PRO WO 192/79

Walberswick: Defence components

Database site reference	NGR	Defence work type	Survival status
11726	TM 4998774660 – TM 5001974623 – TM 5002874525	CUBE	E
11727	TM 5005274672 – TM 5001374640	CUBE	E
11774	TM 4899274014	PILLBOX (VARIANT)	E
11778	TM 4958274430	PILLBOX (VARIANT)	E
11779	TM 4956574430	PILLBOX (VARIANT)	E
11780	TM 4957574458	PILLBOX (VARIANT)	E
11782	TM 4870474031	PILLBOX (VARIANT)	E
12791	TM 4938075078	PILLBOX	E
12792	TM 49917491	PILLBOX	U
12793	TM 49917508	PILLBOX	R
12794	TM 50167505	PILLBOX	R
12795	TM 50667524	PILLBOX	R
12796	TM 50657532	PILLBOX	R
14711	TM 50877590	BATTERY OBSERVATION POST	U
16016	TM 50187500	DEMOLITION CHARGE SITE	R
16017	TM 49167475	OBSERVATION POST	U
16018	TM 49557441	OBSERVATION POST	R
16019	TM 49527390 – TM 50447476	BEACH SCAFFOLDING	R
16020	TM 49087468	ROADBLOCK	R
16029	TM 50487479	PILLBOX	R
16030	TM 50517479 – TM 50757547	ANTI TANK BLOCK	R
16031	TM 50517488	COASTAL OBSERVATION POST	R
16032	TM 50107486 – TM 50397480	ANTI TANK BLOCK	R
16033	TM 49917443 – TM 49957443 – TM 50047450 – TM 50037461 – TM 50007465	ANTI TANK BLOCK	R
16034	TM 50047451 – TM 50137447	ANTI TANK BLOCK	R
16035	TM 500750	DEPTH CHARGE CRATER	R
16036	TM 497749	DEPTH CHARGE CRATER	R
16037	TM 498749	DEPTH CHARGE CRATER	R
16038	TM 494748	DEPTH CHARGE CRATER	R

Walberswick: Continued

Database site reference	NGR	Defence work type	Survival status
16039	TM 493747	DEPTH CHARGE CRATER	R
16041	TM 498747	FLAME FOU GASSE	R
16042	TM 503748 – TM 500745	MINEFIELD	R
16150	TM 49237446	PILLBOX	U
16151	TM 48927417	PILLBOX	R
16152	TM 48717404	SLIT TRENCH	I
16186	TM 49177454 – TM 49347446	BARBED WIRE ENTANGLEMENT	R
16187	TM 49387440	SLIT TRENCH	I
16188	TM 49667448	SLIT TRENCH	I
16189	TM 49957450 – TM 49957455 – TM 50157456	BARBED WIRE ENTANGLEMENT	R
16190	TM 49427519	PILLBOX	U
16191	TM 4954074680	ARMY HEADQUARTERS	U
16285	TM 508758	EMERGENCY COAST DEFENCE BATTERY	U
16676	TM 49907439	PILLBOX	R
16946	TM 50517492	EMERGENCY COAST DEFENCE BATTERY	R

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Winterton-on-Sea

Coastal Defence

Location Details

8 miles (13km) N of Great Yarmouth

County: Norfolk

Parish: Winterton-on-Sea

National Grid Reference (Beach Road): TG 498198

Landscape

The defence area lies between the small Norfolk coastal town of Winterton-on-Sea and the sea itself. It consists of the beachfront and the dunes behind, which stretch away beyond the borders of the defence area, forming, to the north, the National Nature Reserve of Winterton Dunes. The area is much frequented by holidaymakers who find here an unspoilt sandy beach. To the west, the town stands beyond sharply rising bluffs, on top of which some housing development and holiday chalets have spread in recent years. The tower of Winterton Old Lighthouse can be seen rising above the buildings here. The focal point of the area is the beach car park, which was set out in the 1970s around the anti-tank

FIGURE 61 The extensive sand dunes between Winterton-on-Sea village and the seafront. The view looks south-west across Beach Road towards the bluffs topped by holiday chalets and the Old Lighthouse.

The latter was the Observation Post of Winterton Battery, which in 1940/41 was flanked by pillboxes and spigot mortar emplacements. A minefield was laid in the dunes between the battery and the sea. (PHOTO: THE AUTHOR)



blocks that form the major defence structure of the area. A coastguard lookout post and a small shop and café are situated here.

Defences

Winterton-on-Sea fell within Norfolk Defence Sector 'B', which, in the critical invasion danger period of June to October 1940, was the responsibility of 37 Infantry Brigade of 18 Division. This coastal sector was seen as vulnerable to a German landing from where a flanking attack could be made against the port of Great Yarmouth, the capture of which would allow reinforcements and supplies to be brought in. A Forward Defended Locality (FDL), termed 'Winterton Gap', was established here by a platoon of the 9th Bn Royal Berkshire Regiment, with a further FDL located a short distance to the north in an area known as 'Decoy'. On the heights at the edge of the town, Winterton Battery provided a close defence of the Great Yarmouth inner channel. This had two 4in naval guns and was garrisoned by the 384th Coastal Battery (some 65 men). The 11th Bn Norfolk Home Guard also manned one of these guns, as well as the ground defences of the battery.

From June 1940 to mid-1941, an intensive system of coast defence was put in place, with the construction of hardened weapon emplacements, observation and command posts, tubular beach scaffolding, barbed wire entanglements, anti-tank blocks, prepared depth charge craters, minefields, flame fougasses, spigot mortar emplacements, and slit trenches and other defensive earthworks. A defence in depth inland was provided by a system of nodal points and demolition belts. (See also Acle and Ludham Bridge defence areas). The Sector was backed by a Corps Line (II Corps) running from Beccles in Suffolk to the Norfolk coast between Wells-next-the-Sea and Stiffkey.

Of the concentration of defence works at Winterton, only a few survive today. Some remaining buildings of Winterton Battery [15898] situated alongside the old lighthouse, itself the battery observation post, look out across the sand dunes where in 1940/41 there were extensive minefields, pillboxes, spigot mortar emplacements, and, at the edge of the sea, the battery's searchlights (CASLs). The debris from one of the latter is now piled at the head of the beach [15958].

The major defence works, seen by everyone driving to the beachfront, are the lines of concrete anti-tank blocks [9102] alongside the modern car park. These are the remains of a once massive anti-tank barrier designed to block Winterton Gap from an enemy landing. Air photographs indicate that in 1940 the shoreline was not made up of the sand cliffs that are seen today: these have been created over the past 65 years through the steady erosion by the sea of the dunes behind. It appears that in 1940 the dunes may have merged with the beach at this point, with the sand cliffs then running to north and south, forming a beach access point that needed special protection.

The anti-tank barrier was built in the period July to September 1940, its two connecting arms (north to south and west to east) of concrete cubes being gradually added to, and a pillbox built at the seaward end. In September 1941, a second north to south line was built alongside the first, since the earlier blocks had sunk into the sand negating their value as an anti-tank obstacle. At its fullest extent, linking with beach scaffolding and barbed wire entanglements, the obstacle consisted of some 98 5ft (1.5m) anti-tank cubes, laid corner to corner, many erected on substantial concrete bases to prevent subsidence into the sand.

FIGURE 62 The single lines of cubes of the anti-tank barrier at Winterton Gap [9102] as constructed by 19 September 1940.

Winterton-on-Sea stands in the mid-distance with the battery site to its left around the Old Lighthouse. Covering the sand dunes beneath the battery is an extensive minefield with at least 22 rows of mines.

(ENGLISH HERITAGE
(NMR) RAF
PHOTOGRAPHY:
MSO 31022/4809)



Near the end of the southern arm there was a gap to allow access from Beach Road. Approximately 68 cubes survive today; some are buried beneath the dunes while others have toppled to the beach owing to coastal erosion at this point. Some blocks appear to have been removed from the ends of the southern and western arms. On certain blocks of the western of the two north to south rows can be found soldiers' names inscribed in the concrete with various dates in September 1941.

Two spigot mortar pedestals, from emplacements built possibly late in 1941, now stand on the beach near the tumbled anti-tank cubes [9101 and 12537]. These were presumably built at the head of the beach, but are now entirely covered at high tide. Two other spigot mortar pedestals lie to the south. They illustrate the particular deployment of this weapon for coastal defence by Eastern Command.

A further surviving defence structure is a Cold War period Royal Observer Corps underground monitoring post within a fenced compound amongst the dunes south of Beach Road [16170]. This includes the remains of an Orlit A, as well as the foundations of an earlier building that may have been a Second World War aircraft observation post.



FIGURE 63 The anti-tank barrier [9102] at Winterton Gap in July 2002. Most of the cubes survived *in situ* at that date, although some were covered by sand. A coastguard lookout tower used the blocks for a foundation.
(PHOTO: THE AUTHOR, 29 JULY 2002)

Significance

The most significant change in the landscape of the defence area lies in the degree of coastal erosion that has taken place in the last 65 years. This has disguised the original defence purpose of the anti-tank barrier by removing the earlier beach access at Winterton Gap and replacing it with sand cliffs, over which several cubes have now tumbled, with others buried under the sand. Nonetheless the surviving lines of 5ft cubes form a monumental structure equating with that at Abbotsbury (qv). Contemporary incised graffiti adds an extra emphasis to its historic value.

Documentary and air-photographic research has enabled surrounding defence works long since removed to be placed in relation to the anti-tank barrier, which formed the main focus of this defence area. The spigot mortar pedestals provide evidence of the value accorded this weapon in coastal defence by Eastern Command, a fact that has not been ascertained from documentary sources.

To the south today, the valley between the sand dunes and the bluffs of the town provides a desolate scene that in 1940 was filled with the materials of defence: slit trenches, pillboxes, searchlights, and the barbed wire fences of minefields positioned in front of the coast battery on the heights behind. The surface sand here still contains many fragments of concrete and iron. Beach Road is also an evocative reminder of the anti-invasion period, for along it the *matériel* of war was brought to the seafront, and it was lined with military buildings, including the generator houses for the battery searchlights, although few traces of these survive.

Access

The surviving defence works can be seen in the beachfront car park, or by walking on the beach and amongst the dunes. The surviving coast battery buildings stand alongside the old lighthouse at the edge of the town.

FIGURE 64 Spigot mortar pedestal emerging from the sea [9101]. With the eroding coastline, it has fallen from the cliff above.

(PHOTO: THE AUTHOR, 29 JULY 2002)



Published Source

Bird, C, 1999 *Silent Sentinels: The Story of Norfolk's Fixed Defences during the Twentieth Century*. Dereham: The Larks Press

Documentary Sources

18 Division 'GS' War Diary, June 1940 – TNA: PRO WO 166/464

II Corps 'G' War Diary, 1941 – TNA: PRO WO 166/189

'A' Sector Defence Scheme', 15.7.1941 (from 213th Infantry Brigade War Diary) – TNA: PRO WO 166/1066

'9th Bn Royal Berkshire Regiment Defence Scheme', 15.7.1941 (from 9th Bn Royal Berkshire Regiment War Diary) – TNA: PRO WO 166/4528

Fort Record Book, Winterton Fort, 1940–45 – TNA: PRO WO 192/62

Files categorising military defence works for maintenance or demolition, 1949–50: Winterton – Norfolk Record Office, C/P 8/1/16

Survey of coastal defence works, Winterton to Caister (maps), 1947–50 – Norfolk Record Office, C/P 8/4

On the night of 13/14 February 2005, a combination of storm and high tide led to the destruction of all but nine blocks of the anti-tank barrier. The sea-most of the two north to south lines fell in a landslide of blocks to the beach below, leaving those from the second line perched perilously at the new cliff edge. They appear to have been deliberately toppled to the beach later during clear-up operations. Three spigot mortar pedestals lie amongst the fallen rampart of concrete fringing the sea, but it was not possible during a field inspection to determine whether these include the two pedestals that were previously known here. Many of the blocks, and possibly the spigot mortar pedestals, were buried under the sand prior to their fall. The nine blocks remaining *in situ* are all from the west to east single line, and one of these is in a dangerous position at the cliff edge. Further clear-up operations appear to be necessary as the beach is now severely restricted, and potentially hazardous, for holiday makers.



FIGURE 65 Aerial view showing the destruction caused by a combination of storm and high tides on the night of 13/14 February 2005 when there was a landslide of the cubes onto the beach below. Some blocks left poised on the cliff edge were later pushed over. Only nine blocks of the single west to east line now survive *in situ*.
(© MIKE PAGE, www.norfolkskyview.flyer.co.uk)

Winterton-on-Sea: Defence components

Database site reference	NGR	Defence work type	Survival status
828	TG 49182090	PILLBOX (TYPE 24)	R
9101	TG 4990619905	SPIGOT MORTAR EMPLACEMENT	E
9102	TG 4984519802 – TG 4988119816 – TG 4989019850 – TG 4991019725	CUBE	E
12537	TG 4992519839	SPIGOT MORTAR EMPLACEMENT	E
15896	TG 49741923	SPIGOT MORTAR EMPLACEMENT	R
15897	TG 49661939	PILLBOX	R
15898	TG 49691921	COAST BATTERY	E
15899	TG 49721920	SPIGOT MORTAR EMPLACEMENT	R
15900	TG 49721918	SPIGOT MORTAR EMPLACEMENT	R
15901	TG 49801902	PILLBOX	R
15902	TG 5008719225	PILLBOX (TYPE 24)	R
15903	TG 50081919	COAST ARTILLERY SEARCHLIGHT	R
15904	TG 50051913	PILLBOX	R
15905	TG 50071910	PILLBOX	R
15906	TG 50251915	PILLBOX (TYPE 22)	R
15907	TG 5013619237	SPIGOT MORTAR EMPLACEMENT	E
15908	TG 5016219164	SPIGOT MORTAR EMPLACEMENT	E
15953	TG 49901988	PILLBOX	R
15954	TG 49652045 – TG 50251965 – TG 50421900	BEACH SCAFFOLDING	R
15955	TG 49642030	PILLBOX	R
15956	TG 49692028	PILLBOX	R
15958	TG 5005119437	COAST ARTILLERY SEARCHLIGHT	R
15959	TG 49731960	PILLBOX (TYPE 24)	R
16115	TG 49501930	DEPTH CHARGE CRATER	R
16118	TG 497196	FLAME FOUASSE	R
16119	TG 497197	PILLBOX	R
16162	TG 49801978 – TG 49922004	BEACH SCAFFOLDING	R
16163	TG 49951988 – TG 50141965 – TG 50291900	BEACH SCAFFOLDING	R
16170	TG 4983619556	DEFENCE WORK	E
16177	TG 49701917	PILLBOX	R
16178	TG 49681924	PILLBOX	R
16179	TG 49721923	PILLBOX	R
16180	TG 49951930	MINEFIELD	R

E = Extant; R = Removed; I = Infilled; U = Unknown.

Weybourne

Coastal Defence

Location Details

3½ miles (5.5km) W of Sheringham

County: Norfolk

Parishes: Weybourne; Kelling; Sheringham

National Grid Reference (Weybourne Hope): TG 111436

Landscape

The defence area lies to the west and east of the North Norfolk coastal village of Weybourne, which is situated half a mile (0.8km) from the seafront at Weybourne Hope. At this point, low cliffs fall away allowing public access to the steeply banked shingle beach. To the west on rising land is a military museum, the Muckleburgh Collection, occupying the site of a former gunnery training camp. To the east, the cliff tops stretch away towards Sheringham; land at the boundary of the area at Sheringham Park belongs to the National Trust. To the south-west, the land rises steeply forming the sandy expanse of Kelling Heath.

Apart from the closure of the army camp in 1959, and some small housing developments and a discreet caravan park in Weybourne village, there have been few changes to the physical landscape of the study area since the Second World War. Perhaps the greatest change affects the seafront east of Weybourne Hope, where an estimated 20ft (6m) of cliff top has been lost to erosion.

Defences

The North Norfolk coast, and the Weybourne area in particular, had long been considered vulnerable to enemy invasion. An old rhyme ran, 'He who would Old England win must at Weybourne Hoop begin'. In 1588 a small fort was constructed here against the threat of the Spanish Armada, and in the First World War a line of pillboxes, with accompanying earthworks, was built along the coast.¹ In the Second World War, the threat was perceived as a landing here, followed by the capture of the port of Great Yarmouth, and an advance on London via Norwich.

In August 1940, Weybourne lay within a Sub-Sector of Norfolk Defence Sector 'A' defended by 53 Infantry Brigade (replaced in 1941 by 222 Infantry Brigade). The coastline and its immediate hinterland were intensively defended, the degree of fortification steadily increasing as construction materials and weaponry became available, until by mid-1941 the defence system was at its most developed. To the east, a stop line ran from Stiffkey on the coast via Norwich to Beccles.

Regular troops defending the coastline came from the 5th Bn Royal Norfolk Regiment. They established Forward Defended Localities on the shoreline with light machine gun section posts that covered by fire all possible landing places, and set up Lyon lights above the beach against the prospect of a night landing. Roadblocks were constructed and manned, and standing patrols carried out, including one on Telegraph Hill. There was also a mobile group whose task was to operate against enemy parachutists and protect the rear. In November 1940, the defence was taken over by the 8th Bn Lincolnshire Regiment. Weybourne village itself was a designated Category 'C' defended place, with all-round defences manned by the 4th Bn Norfolk Home Guard.

On the cliffs to the east of Weybourne, three coast defence guns were positioned (4in, 6in, and 18pdr), the emplacement for the 6in gun necessitating the demolition of six houses [16222]. Where the cliffs ended at Weybourne Hope, an artificial anti-tank ditch was dug, running south-west, then west behind the army camp until joining with natural waterways near Kelling Hard [15934]. A further short length of defensive ditch, still clearly visible, was constructed parallel with the cliffs east of Weybourne Hope at a point where it was thought they could be scaled by assault troops [1011].

Concrete anti-tank blocks do not appear to have been used as defences in this section of the Norfolk coast other than for the roadblock at the crossing of the anti-tank ditch south of Weybourne Camp [15991]. However, from early in 1941, tubular steel anti-tank scaffolding was erected at the head of the beach, evidence of which can still be found amongst the shingle [16122]. Use was made also of barbed wire entanglements and fences, the latter surrounding extensive minefields to both the west and east of Weybourne Hope. Some 200 anti-tank mines, for instance, were laid between Weybourne Hope and Gramborough Hill to the west.

At Weybourne Hope, a substantial group of defence works once guarded this key point. Most were either removed in the immediate post-war years or have since been destroyed by coastal erosion. Further to the east are three pillboxes, with another adjacent to the



FIGURE 66 German reconnaissance photograph taken probably in August 1940, showing defence positions west of Weybourne village (right-hand edge), including pillboxes (triangles) with their enclosing barbed wire perimeters. The course of the anti-tank ditch south of the army camp is also indicated. (TAKTISCHES LUFTBILDBUCH, P 55; COURTESY OF THE IMPERIAL WAR MUSEUM, LONDON: DUXFORD AL 2902)

FIGURE 67 Oblique RAF air photograph taken 28 August 1941, showing defences in the group in Sheringham Park at the east of the defence area. Tubular steel scaffolding can be seen beneath the cliffs, with a pillbox [probably the destroyed 16173] at the head of the beach. On top of the cliffs are the butts of a rifle range, a further pillbox, slit trenches, and a domed shape that might be an Allan Williams turret, although one would have expected it to have been camouflaged. A barbed wire fence makes a right angle and may be surrounding a minefield.

(MSO 31254/PO-20. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)



cemetery on the south side of Sheringham Road [1030]. Beyond the eastern boundary of the defence area, a further group of defences survives within Sheringham Park, including the surviving length of anti-tank ditch that has already been mentioned [1011]. Other defence works at this point, including several slit trenches and an Allan Williams turret, have long since been removed or have succumbed to the erosion of the cliff. The area was also used as a rifle range.

Within the area of Weybourne Camp there were at least six 3.7in and 5.25in anti-aircraft gun emplacements. Three have been recorded, and provide excellent examples of this type of defence structure. Several good examples of Vickers machine gun pillboxes, as well as lighter infantry pillboxes, an emplacement for an anti-tank gun, and two spigot mortar pedestals, one now *ex situ*, survive on the former army camp land. Concrete cubes from the roadblock (sited very near the present museum buildings of the Muckleburgh Collection) were only removed in recent years. A circular pillbox from the First World War also stands by a track to the north-west of the museum [1057].

The substantial documentary evidence for this defence area means the positions not only of the principal headquarters of the defending troops but also of their buried battle



FIGURE 68 Length of defensive ditch [1011] on the cliff top at Sheringham Park. The cliff edge has eroded by several metres since the Second World War. The ditch is recorded as being filled with barbed wire and scaffolding. (PHOTO: THE AUTHOR, 20 AUGUST 2002)

headquarters are recorded. One of the latter sites was in a disused quarry pit just south of the A149 road west of the village where fieldwork might be able to locate evidence of it [15988].

Significance

The Weybourne defence area represents an important sector of 1940/41 coastal defence where surviving defence works set at the sea's edge can be seen to be backed by other works further inland, some protecting a designated 'defended place', forming overall an illustration of coastal defence in depth. This was an area of front-edge coastal defence, with the defences constructed with the prime aim of preventing an enemy landing, but with the secondary aim, should a lodgement be made, of preventing an advance inland.

There are three principal areas where related defence works survive, giving an impression of the logic of their construction and the defensive strategy involved. The three areas are aligned along the coastline from west to east. The central area is based on Weybourne Hope, from the cliff top back to Weybourne village. This area is overlooked by a windmill, which in 1940 served as an observation post [15992]. A machine gun emplacement [1068] is an important survivor of a group of defence works at the cliff edge that have either been lost with the eroding cliff or have been removed. A pillbox [1056], now isolated in the centre of a large open field, originally stood close to a hedgerow. To its rear, a pillbox [1039] was constructed in a hedgerow that still borders the grounds of Weybourne Hall; the huts of a camp site were located here later in the war. The enclosed nature of the defended landscape here is also well-represented by pillboxes [1032 and 1030].

To the east, within the area of Sheringham Park, two pillboxes [1053 and 1054] are important survivors of the cliff-top defences, the latter now converted into a bird

FIGURE 69 Brick-shuttered Type 24 pillbox [1056] in the fields behind Weybourne Hope, half-submerged in crops. A caravan park at Weybourne Hall is in the background. (PHOTO: THE AUTHOR, 27 JUNE 2002)



FIGURE 70 Pillbox [1090] maintaining its defiance: this time the enemy is the sea. Between the pillbox and the water are fragments of tubular steel beach scaffolding protruding from the shingle. (PHOTO: THE AUTHOR, 27 JUNE 2002)



observatory. To their rear, pillboxes [1023 and 1027] stand beside a track as they did in 1940, representing the second line of defence. Although much of the landscape has changed since 1940, with the clearance of hedgerows and the construction of some new housing, the purpose of these defences can still be clearly seen in relation to Weybourne village and its surroundings.

The western area is from the sea edge to the rising land of the anti-aircraft gunnery camp, now occupied by the Muckleburgh Collection. The defence works here can still be seen in the context of concrete tracks and hard-standings that existed in 1940; together with the anti-aircraft gun emplacements, these defences form a coherent and well-preserved defence landscape.

The area has excellent surviving documentation, which would enable the current survey to be extended into a detailed local heritage study. The list of documentary sources given below will assist future researchers.

Access

Many of the pillboxes to the east of Weybourne Hope can be visited, although some lie in the centre of fields or at their margins and should be viewed at a distance unless special permission to approach them has been obtained. A walk along the cliffs to Sheringham Park, beyond the eastern boundary of the defence area, will enable two further pillboxes to be inspected as well as a section of unfilled defensive ditch. These areas can be approached from the beachfront car park at Weybourne Hope.

Defence works on the land of the Muckleburgh Collection can only be visited with permission from the museum, although a number can be seen from the beachfront. On the beach in this area as well it may be possible to see some remains of the cut-off base of the anti-tank scaffolding. Low tide also reveals water-eroded fragments of fallen concrete emplacements at Weybourne Hope.

The visitor's interest can be supplemented through the Muckleburgh Collection, with its displays of period weaponry, surviving camp buildings, and general information on the military history of Weybourne. Provisional plans by the director of the museum to reconstruct the anti-aircraft defences of the former army camp, as well as a representative section of beachfront anti-invasion defences, is a prospect which would provide an immediate and compelling visualisation of the nature of these defences at a critical time in the nation's history.

Note

¹ See TNA: PRO WO 166/3756 for a detailed list.

Published Sources

Anon, 1996 *The Muckleburgh Collection*. Derby: English Life Publications

Bird, C., 1999 *Silent Sentinels: The Story of Norfolk's Fixed Defences during the Twentieth Century*. Dereham: The Larks Press

Kent, P., 1988 *Fortifications of East Anglia*. Lavenham: Terence Dalton

Documentary Sources

- 18 Division CRE War Diary, 1940 – TNA: PRO WO 166/468
- 18 Division ‘GS’ War Diary, June 1940 – TNA: PRO WO 166/464
- ‘Works Progress Report – No 2 Section’, 11.7.1940 (from 287th Field Company Royal Engineers War Diary) – TNA: PRO WO 166/3756
- ‘53rd Infantry Brigade Defence Scheme’ (from 53rd Infantry Brigade HQ War Diary), August 1940 – TNA: PRO WO 166/960
- ‘List of Nodal Points in Eastern Command’, September 1940 (from General Headquarters Papers, Home Forces) – TNA: PRO WO 199/544
- ‘Battalion Defence Scheme’, 12.9.1940 (from 5th Bn Royal Norfolk Regiment War Diary) – TNA: PRO WO 166/4560
- ‘Taktisches Luftbildbuch’, 23.10.1940 – IWM Duxford: AL 2902
- ‘Battalion Defence Scheme’, 14.11.1940 (from 8th Bn The Lincolnshire Regiment War Diary) – TNA: PRO WO 166/4432
- 2 Corps ‘G’ War Diary, 1941 – TNA: PRO WO 166/189
- 8th Bn Leicestershire Regiment War Diary, 1941 – TNA: PRO WO 166/4422
- 222nd Infantry Brigade HQ War Diary, 1941 – TNA: PRO WO 166/1075
- ‘Progress Report of Pillboxes’, 25.4.1941 (from 240th Army Field Company Royal Engineers War Diary) – TNA: PRO WO 166/3709
- Norfolk and Cambridge District HQ War Diary, 1943 – TNA: PRO WO 166/10881
- Files categorising military defence works for maintenance or demolition, 1949–50: Weybourne – Norfolk Record Office, C/P 8/1/104
- Survey of coastal defence works (maps), 1947–50 – Norfolk Record Office, C/P 8/3

Weybourne: Defence components

Database site reference	NGR	Defence work type	Survival status
1010	TG 12804364	PILLBOX (TYPE 22)	R
1011	TG 1276843589 – TG 1285643582 – TG 1295143595	ANTI TANK DITCH	E
1023	TG 1238543229	PILLBOX (TYPE 26)	E
1027	TG 1240443290	PILLBOX (TYPE 24)	E
1029	TG 12354363	PILLBOX (TYPE 22)	R
1030	TG 1160442935	PILLBOX (VARIANT)	E
1032	TG 1159043208	PILLBOX (TYPE 26)	E
1034	TG 1160843479	PILLBOX	E
1035	TG 11454360	SLIT TRENCH	E
1039	TG 1136043245	PILLBOX (TYPE 26)	E
1047	TG 10254377	VICKERS MACHINE GUN EMPLACEMENT	E
1049	TG 0983043824	PILLBOX (VARIANT)	E
1050	TG 0983143836	VICKERS MACHINE GUN EMPLACEMENT	E
1051	TG 1022643816	VICKERS MACHINE GUN EMPLACEMENT	E
1052	TG 10174387	PILLBOX (TYPE 22)	R
1053	TG 1267943499	PILLBOX (TYPE 24)	E
1054	TG 1265043522	PILLBOX (TYPE 23)	E
1056	TG 1129543535	PILLBOX (TYPE 24)	E
1057	TG 1027543315	PILLBOX (WORLD WAR ONE)	E
1058	TG 11024376	VICKERS MACHINE GUN EMPLACEMENT	R
1061	TG 11174370	PILLBOX	R
1062	TG 11174373	ANTI TANK GUN EMPLACEMENT	R
1063	TG 11104369	PILLBOX (VARIANT)	R
1068	TG 1118343682	VICKERS MACHINE GUN EMPLACEMENT	E
1071	TG 11154372	LYON LIGHT EMPLACEMENT	R
1090	TG 0956744004	PILLBOX (TYPE 22)	E
1095	TG 0985243380	COASTAL OBSERVATION POST	E
1096	TG 0986043373	GUN EMPLACEMENT	E
1097	TG 0972843831	ANTI AIRCRAFT GUN EMPLACEMENT	E
1098	TG 0968743831	ANTI AIRCRAFT GUN EMPLACEMENT	E
1099	TG 09984232	PILLBOX (TYPE 24)	E
5683	TG 10394284	VICKERS MACHINE GUN EMPLACEMENT	E

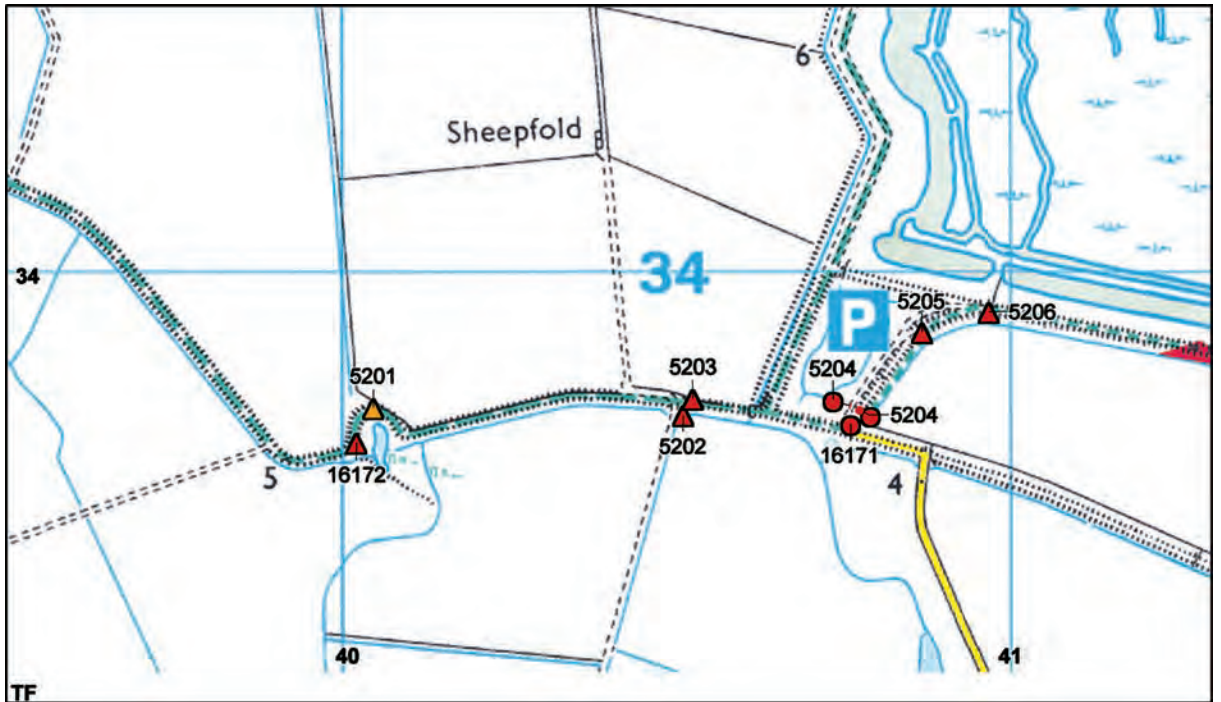
Weybourne: Continued

Database site reference	NGR	Defence work type	Survival status
15888	TG 11604321	SPIGOT MORTAR EMPLACEMENT	E
15889	TG 12714371	PILLBOX	R
15891	TG 1033143088	SPIGOT MORTAR EMPLACEMENT	E
15892	TG 11424370	PILLBOX	R
15934	TG 09394348 – TG 09844334 – TG 10214317 – TG 10984348 – TG 11134368	ANTI TANK DITCH	I
15964	TG 09404404 – TG 10504381 – TG 11074372	BEACH SCAFFOLDING	R
15965	TG 11214370	BEACH SCAFFOLDING	R
15966	TG 11404370	PILLBOX	R
15967	TG 11304363	GUN EMPLACEMENT	R
15968	TG 1157343549	COASTAL OBSERVATION POST	E
15969	TG 11584349	PILLBOX	R
15971	TG 12374360	SLIT TRENCH	I
15972	TG 12544358	SLIT TRENCH	I
15973	TG 12684357	SLIT TRENCH	I
15974	TG 10854345	MACHINE GUN POST	R
15975	TG 10814331	PILLBOX	U
15976	TG 10154330	PILLBOX	U
15977	TG 10314384 – TG 10354375 – TG 11074371	BARBED WIRE ENTANGLEMENT	R
15978	TG 10864370	PILLBOX	R
15979	TG 10344367	RIFLE PIT	U
15980	TG 10494366	RIFLE PIT	U
15981	TG 10204388	RIFLE PIT	I
15982	TG 10034341	PILLBOX	U
15983	TG 1017043663	PILLBOX (VARIANT)	E
15984	TG 10294312	PILLBOX	U
15985	TG 10504284	PILLBOX	R
15986	TG 10614370	DEFENCE WORK	R
15987	TG 10674370	DEFENCE WORK	R
15988	TG 10054278	ARMY BATTLE HEADQUARTERS	U
15989	TG 10924305	ARMY HEADQUARTERS	U
15990	TG 1019043832	LYON LIGHT EMPLACEMENT	R

Weybourne: Continued

Database site reference	NGR	Defence work type	Survival status
15991	TG 10394321	ROADBLOCK	R
15992	TG 11554313	OBSERVATION POST	U
15993	TG 101430	OBSERVATION POST	U
15994	TG 10334249	OBSERVATION POST	R
15995	TG 10244319	ANTI TANK GUN POSITION	U
15996	TG 10414324	ANTI TANK GUN POSITION	U
15997	TG 10164382 – TG 10474373	MINEFIELD	R
15998	TG 09404408 – TG 11024373	MINEFIELD	R
15999	TG 11054339	PILLBOX	U
16000	TG 11154355	ARTILLERY GUN POSITION	R
16002	TG 11364304	ARMY BATTLE HEADQUARTERS	U
16003	TG 10034310	ARMY BATTLE HEADQUARTERS	U
16007	TG 11344318	ARMY HEADQUARTERS	U
16043	TG 114432	ARMY BATTLE HEADQUARTERS	U
16122	TG 09564401	BEACH SCAFFOLDING	E
16160	TG 11974368 – TG 12354366	BEACH SCAFFOLDING	R
16161	TG 12384363	ALLAN WILLIAMS TURRET	R
16173	TG 11964368	PILLBOX	R
16174	TG 12034334 – TG 12254333 – TG 12304360	BARBED WIRE FENCE	R
16175	TG 12694363 – TG 13224360	BEACH SCAFFOLDING	R
16176	TG 12724350 – TG 13204348	BARBED WIRE FENCE	R
16181	TG 0977043825	ANTI AIRCRAFT GUN EMPLACEMENT	E
16182	TG 1038543148	SPIGOT MORTAR EMPLACEMENT	E
16222	TG 11684365	GUN EMPLACEMENT	R
16971	TG 093439	PILLBOX (NORCON)	E

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Lawyers' Creek, Holbeach

Coastal Defence

Location Details

1 mile (1.5km) N of Holbeach St Matthew and 7 miles (11km) NE of Holbeach

County: Lincolnshire

Parish: Holbeach

National Grid Reference: TF 407338

Landscape

The defence area lies on the sea banks of the southern coast of The Wash. To the north, the extensive salt marshes give way to sand flats and the open sea: this area is used as an air bombing range. The sea banks stand some 3m high by 4m broad (at their top), and much of the land in the western part of the study area, enclosed by an outer bank built since the war, has been drained and reclaimed for agriculture. In the eastern part, however, no such outer bank has been built and the salt marsh still extends to the northernmost bank that provided the front-edge defence in 1940. To the south, a coaxial pattern of fields, drains, and tracks stretches away to the small settlement of Holbeach St Matthew.

Defences

In 1940/41, the Holbeach coastal area, forming part of 'A' Sector, was defended firstly by 2 Infantry Brigade and then by 212 Brigade of the 1st (Lincoln County) Division of I Corps. The brigade held the coast with three battalions forward, of which the 'Holbeach Battalion' (the 9th Bn Royal Sussex Regiment) was on the right defending the Holbeach sea banks in November 1940, with a company of the 7th Bn South Lancashire Regiment to their left.

To the rear, a defence in depth was created through a system of Bases (nodal points) which had an all-round perimeter formed by pillboxes, defended houses, and roadblocks. The Bases adjacent to the study area were Sutton Bridge, Red House, Penny Hill, and Holbeach itself. The landscape to the rear of the coastal front, seamed as it was with many water-filled drains, was considered a sufficient anti-tank barrier, and no artificial anti-tank ditch was dug at this point.

Defence works were constructed principally on the sea banks, generally being dug into their rear slopes and with defensive trenches and barbed wire perimeters to their front. A fence of three-coiled Dannert wire was also set up along the whole front. A standard type of pillbox is described as being suitable for both heavy and light machine gun fire (this is undoubtedly a reference to the Lincolnshire three-bay type – see below), and the pillboxes were stocked with ammunition, grenades, 'molotov' bombs, and food and water. Their sharp outlines and fresh concrete colour were camouflaged with turves and mud.



FIGURE 71 Oblique air photograph taken in July 1940 showing pillboxes [5205] and [5206] under construction on the curving sea bank. Lawyers' Creek runs out into the salt marsh which is today embanked and drained. (MSO 31142/PO-00960. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)

Within the study area, at the southern junction of a curving section of outer sea bank with an inner bank running west to east, three anti-tank cubes can be found set on a thick concrete base [16171], a remnant probably of more extensive anti-tank blocks at this point. To the north, running across the sea bank and its adjoining track, and into an area of marshland to the west, is a line of some twenty cubes, each only 2ft (0.6m) by 1ft (0.3m), probably the smallest surviving blocks laid in a defence role in England [5204]. They must have been intended as a control on the movement of vehicles along the sea bank as they would have been of little use to stop enemy armoured vehicles.

North of these blocks on this sea bank is a Type 22 pillbox built with corrugated-iron shuttering [5205], and further on a rectangular Lincolnshire-type three-bay pillbox, a variant on the Type 23, intended for anti-aircraft fire as well as light machine gun ground fire [5206]. The anti-aircraft weapon was mounted in the open central court, and two side chambers with embrasures in each face held infantry rifle sections. Two further examples of this distinctive pillbox type lie close together to the west in what was evidently a strongpoint [5202 and 5203]. The southern of these pillboxes [5202] is a further variant of the Lincolnshire type, with the open well at its west end rather than in the centre.

A fragment of reinforced concrete lying on the bank above a pond to the west is probably the remains of a 'rifle section pillbox' [5201] for which there is documentary evidence. A little further to the west is the outstanding survival of a very rare Ruck Machine Gun Post [16172]. Fieldwork has found remains of this type of defence structure in other areas of the Lincolnshire coast, and it seems that it was used relatively widely by Northern Command in the defence of the east coast (see also Freiston Shore defence area).

FIGURE 72

Lincolnshire-type three-bay infantry pillbox, with a central well for anti-aircraft fire, on the corner of the sea bank [5206]. The bank to the right did not exist at the time of the Second World War when the view in the background was open salt marsh. (PHOTO: THE AUTHOR, 30 JULY 2002)



FIGURE 73

TWO Lincolnshire-type three-bay pillboxes forming a strongpoint on the sea bank west of Lawyers' Creek. The pillbox in the foreground [5202] has its open bay for anti-aircraft fire at its western end rather than in the centre; the breeze-block additions are modern and serve an agricultural purpose. A standard three-bay pillbox stands behind [5203]. (PHOTO: THE AUTHOR, 30 JULY 2002)





FIGURE 74
Excellent
example [16172]
of the very rare
Ruck Machine
Gun Post
surviving within
a bend of the sea
bank.
(PHOTO: THE
AUTHOR, 30 JULY
2002)

The Holbeach example, however, is the best preserved. The concrete-slated roof is pierced with three apparent embrasures, and the complete structure is set above an earthwork pit some 2m deep and 3.3m long.

Significance

This defence area illustrates well the Forward Defended Localities of the Field Army in 1940/41 for the defence of the Lincolnshire coast. The shallow marshland sea edges, made up of streams, lagoons, and reed beds, fronted at low tide by extensive sand banks, were considered vulnerable to a German invasion force using flat-bottomed barges. The defences against this threat were positioned at regular intervals along the forwardmost of the sea banks built over the centuries with the dual purpose of protecting the coastal margins

against flooding and reclaiming land for agriculture. Since the war, the landscape has been altered by the construction of further sea banks and by consequent land drainage.

Differing types of defence works are represented in the study area, in particular the rectangular Lincolnshire-type three-bay pillbox with its separate chambers for ground and air defence. Surviving anti-tank and anti-vehicle blocks provide some indication of the overall strength of the defence that was not based purely on hardened weapon emplacements. The Ruck Machine Gun Post is an outstanding example of a very rare structure, and its preservation as one component within this defended landscape is of particular importance.

Access

There is a car-parking area at the end of the lane from Holbeach St Matthew, from which public footpaths running along the sea banks can be accessed.

Documentary Sources

'131st Infantry Brigade Operation Instruction No 1', 25.6.1940 (from 1/5th Queen's Royal Regiment War Diary) – TNA: PRO WO 166/4495

'Operation Instruction No 2', 8.7.1940 (from 131st Infantry Brigade War Diary) – TNA: PRO WO 166/982

'Operation Instruction No 3', 5.11.1940 (from 7th Bn South Lancashire Regiment War Diary) – TNA: PRO WO 166/4682

212th Infantry Brigade War Diary, February 1941 – TNA: PRO WO 166/1065

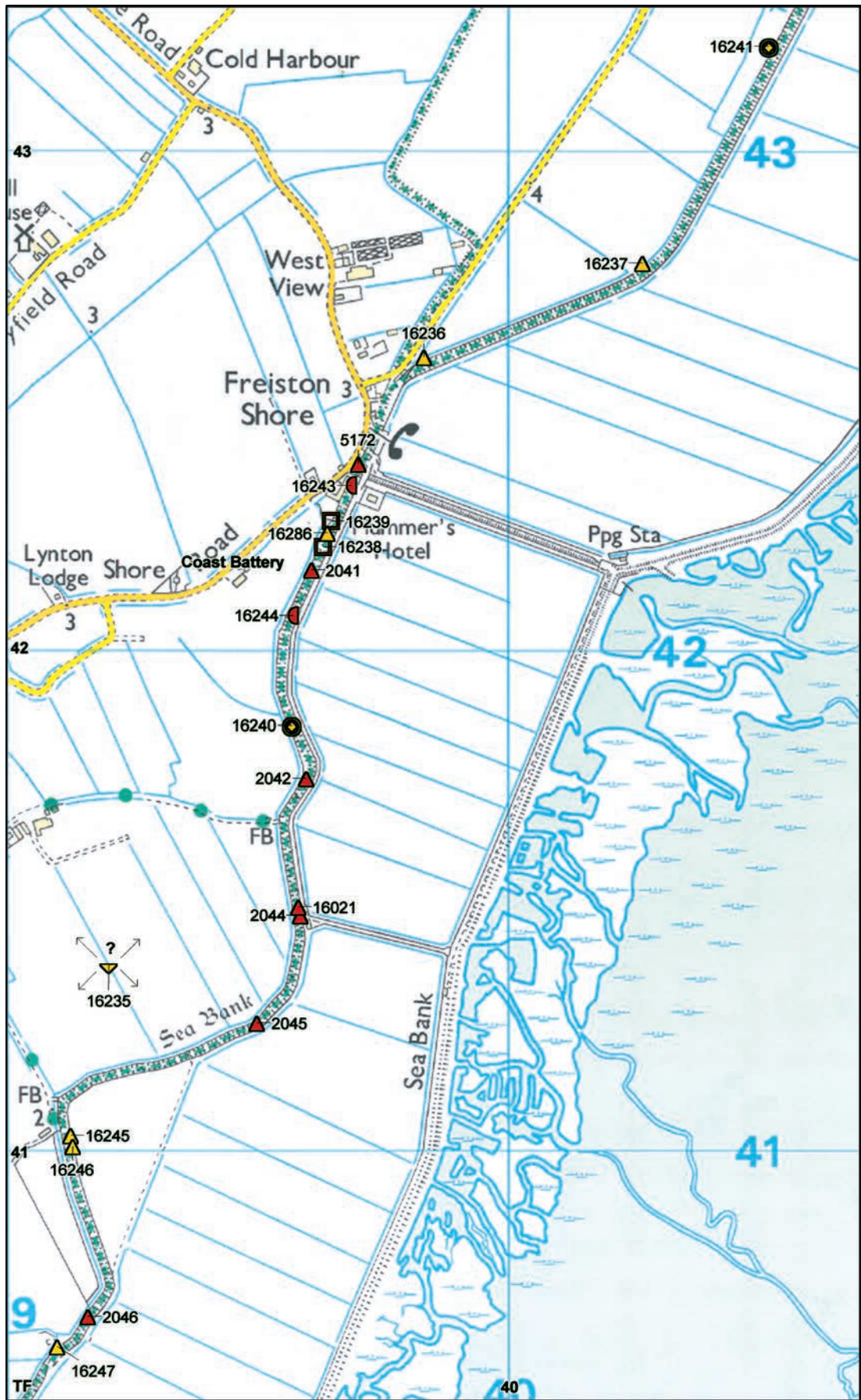
'Operation Instruction No 11', March 1941 (from 2nd Infantry Brigade War Diary) – TNA: PRO WO 166/896

10th Bn Gloucestershire Regiment War Diary, 1941 – TNA: PRO WO 166/4296

Lawyers' Creek, Holbeach: Defence components

Database site reference	NGR	Defence work type	Survival status
5201	TF 4004833796	PILLBOX	R
5202	TF 4051233785	PILLBOX (VARIANT)	E
5203	TF 4052233810	PILLBOX (VARIANT)	E
5204	TF 4073633808 – TF 4078033785	CUBE	E
5205	TF 4085933902	PILLBOX (TYPE 22)	E
5206	TF 4096833940	PILLBOX (VARIANT)	E
16171	TF 4076533782	ANTI TANK BLOCK	E
16172	TF 4002333744	RUCK MACHINE GUN POST	E

E = Extant; R = Removed; I = Infilled; U = Unknown.



Freiston Shore

Coastal Defence

Location Details

2 miles (3km) E of Freiston village and 5 miles (8km) E of Boston

County: Lincolnshire

Parish: Freiston

National Grid Reference: TF 396423

Landscape

The defence area lies at the Fenland edge east of Boston, at the point where it merges with salt marsh and sandflats before the open sea. The flat farming lands to the west are protected by a system of sea banks running parallel with the coast. At the centre of the area is the small settlement of Freiston Shore, which in the first half of the 19th century had been a seaside resort. Two hotels stood here, the Marine and Plummers, both of which were functioning at the time of the Second World War, but only Plummers survives today. There has been little or no housing development here since the war.

The sea bank that runs through Freiston Shore was fronted by salt marsh, with open sea beyond, until the 1980s when an outer bank was built and the marsh between the two banks drained and converted to agricultural land. South of Freiston Shore, this reclaimed farming land remains intact, some of it farmed on behalf of the nearby open prison of North Sea Camp, with inmates providing labour. North of Freiston Shore, however, an ambitious new project (the Washbanks Project) was implemented early in 2002. This involved breaching the outer sea wall and re-establishing large tracts of open lagoon and salt marsh. A nature reserve has also been established, with trails and information set out for visitors.

Defences

In 1940/41, the Freiston Shore coastal area was part of 'A' Sector of the Lincolnshire coast (within Northern Command), defended in July 1940 by 131 Infantry Brigade, and later by 212 Brigade, of the 1st (Lincoln County) Division of I Corps. The infantry brigade held the coast with three battalions forward, of which the centre battalion was the 'Boston Battalion', which was responsible for an area of defence that included Freiston Shore. Forward posts (FDLs) were established on the sea wall, one being at Freiston Shore. A further defence system, extending the depth of the defences, was organised around Bases (nodal points) which, adjacent to Freiston, included Boston, Sutterton, and Kirton.

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FIGURE 75 The settlement at Freiston Shore in an oblique air photograph taken 1 January 1969. The tall building at the centre is the Marine Hotel, now derelict. (TF 3942/4.- © PRE-CONSTRUCT ARCHAEOLOGY, LINCOLN)

In addition to its defended locality status, Freiston Shore was also the site of an Emergency Coast Defence Battery. One particular role of the defended locality was, in fact, the battery's protection by infantry troops. The battery was operational by mid-June 1940, the two 6in MkVII guns being manned by the 321st Coast Battery RA. The gun emplacements were disguised as bungalows, and air photographs taken in 1953 show that the camouflage pitched roofs with chimneys were still in place at that date. In 1940, troops at Freiston Shore came from the 1/5th Queen's Royal Regiment, and later, at different times, from the 1st Bn Duke of Wellington's Regiment and the 10th Bn Gloucestershire Regiment.

The FDLs were formed of pillboxes with wired perimeters and surrounding slit trenches. The pillboxes were stocked with ammunition, grenades, and food and water, the white concrete being darkened with mud and sharp outlines broken up by earth and grass. A continuous belt of triple Dannert wire fronted the defence positions on the sea bank. Billets for the defending troops at Freiston Shore, when not on duty, were in the nearby Marine Inn. Elsewhere, Nissen huts served for accommodation, and the presence of one

FIGURE 76 Air photograph taken in February 1953 showing the sea banks at Freiston Shore. The two 6in gun houses of the Emergency Coast Defence Battery are on the bank just south (bottom) of the settlement: they still have the pitched roofs, complete with chimneys, of their wartime camouflage. In the 1980s an outer sea bank was constructed and the salt marsh drained for agricultural land. North of Freiston Shore, this outer bank has now been deliberately breached and the area re-flooded to become marsh and lagoon once more. (RAF/540/1078 f21, fr 0081. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)



Nissen adjacent to pillboxes south of Freiston Shore may be a survival from this use. In a defence reorganisation in March 1941, section posts (possibly earthworks) were loopholed for flanking fire, with breastworks built to cover the rear. The wire perimeters were brought in and thickened, and 'knife rests' (roadblock barriers) set up on roads and tracks.

The surviving structures of the Freiston Shore Emergency Coast Defence Battery include two searchlight buildings (CASLs) [16243 and 16244] and two gun emplacements and their holdfasts [16238 and 16239], as well as a number of additional buildings that were not surveyed for the project.

Prominent alongside the car park at Freiston Shore is a tall Type 22 pillbox [5172] with a solid upper structure probably intended as the base for an anti-aircraft machine gun. It is rendered with pebble dashing to assist in its camouflage. Between the gun emplacements of



FIGURE 77 The shell of the Marine Inn at Freiston Shore which provided accommodation for defending troops in 1940/41.

(PHOTO: THE AUTHOR, 22 JULY 2002)

the coast battery is a rectangular three-bay Lincolnshire-type pillbox [2041] with the anti-aircraft gun mount still present in its central open chamber. Further south on the sea bank are Type 22 pillboxes, with unusual projecting external sills to the embrasures and with evidence for the roof mounting of anti-aircraft weapons [2044 and 16021 are good examples].

The remains of two Ruck Machine Gun Posts were located during the project fieldwork [16245 and 16246]. These stand on the rear edge of the sea bank in the southern part of the study area. Use of this type of defence work on the Lincolnshire coast appears to have been relatively common, despite their rare survival today (see also Lawyers' Creek, Holbeach defence area).



FIGURE 78 Type 22 pillboxes [16021] and [2044] forming a strongpoint on the sea bank. The pillboxes have projecting embrasure sills. The Nissen hut may have been for the accommodation of the defending troops, although it has been moved from its original location on the defended side of the bank.

(PHOTO: THE AUTHOR, 21 OCTOBER 2002)

FIGURE 79 Structure to hold one of the two artillery searchlights (CASL) of the Freiston Shore Battery [16244]. (PHOTO: THE AUTHOR, 21 OCTOBER 2002)



Significance

This defence area provides an illustration of the system of defence by Forward Defended Localities implemented by the Field Army in 1940/41 along the sea banks of the Lincolnshire coast. Differing types of defence works are represented, including those of an Emergency Coast Defence Battery that survive in excellent condition, as well as good

FIGURE 80 Lincolnshire three-bay pillbox [2041] with the mounting post for an anti-aircraft machine gun. In the distance is CASL [16244] (see Fig 79). (PHOTO: THE AUTHOR, 21 OCTOBER 2002)



examples of Type 22 and Lincolnshire-type pillboxes. The remains of two Ruck Machine Gun Posts are an important addition to the surviving defence works, confirming the relatively wide deployment of this weapon within Northern Command.

Inland, and at Freiston Shore itself, the landscape has changed little in the past 65 years. Some fields have been enlarged, but by and large the pattern of banks, fields, and deep drains is unaltered. The front-edge defence works, apart from trenches blocking some fields to the rear, were all positioned along the sea bank, which during the war was the outer bank facing salt marsh, sand banks, and the sea. To the north of Freiston Shore, in the area where the post-war outer sea bank has now been breached and a lagoon and salt marsh recreated, all the defence works have been removed. To the south, however, the great majority, whose positions are known from air photographs, survive. It is not clear why there should be this division between removal and survival.

The defence works are all sited on the top of the sea bank or on its reverse slope, although air photographs show that at some positions earthwork breastworks were constructed at the forward edge of the bank. The continuous linear nature of the front-edge defences, with defence works grouped together at regular intervals to form section and command posts, provides a good illustration of how the coastline around The Wash was defended. The re-flooding of the area north of Freiston Shore also presents vivid evidence of its appearance in 1940.

Access

Public footpaths follow the sea banks, and access to all the defence works is possible. There is a car park at Freiston Shore, with information boards on the history and wild life of the area.

Published Source

Freiston Shore: Sea/Coastal and Anti-Invasion Defences. Available:<http://www.lincolnshireairwar.co.uk/ww2freistonshore.htm> Accessed: 2004

Documentary Sources

'131st Infantry Brigade Operation Instruction No 1', 25.6.1940 (from 1/5th Queen's Royal Regiment War Diary) – TNA: PRO WO 166/4495

'Operation Instruction No 100', 2.7.1940 (from 3rd Infantry Brigade HQ War Diary) – TNA: PRO WO 166/898

'Operation Instruction No 2', 8.7.1940 (from 131st Infantry Brigade War Diary) – TNA: PRO WO 166/982

'Operation Instructions No 4', 24.7.1940 (from 1st Bn Duke of Wellington's Regiment War Diary) – TNA: PRO WO 166/4236

321st Coast Battery RA War Diary, June–December 1940 – TNA: PRO WO 166/1816

212th Infantry Brigade War Diary, February 1941 – TNA: PRO WO 166/1065

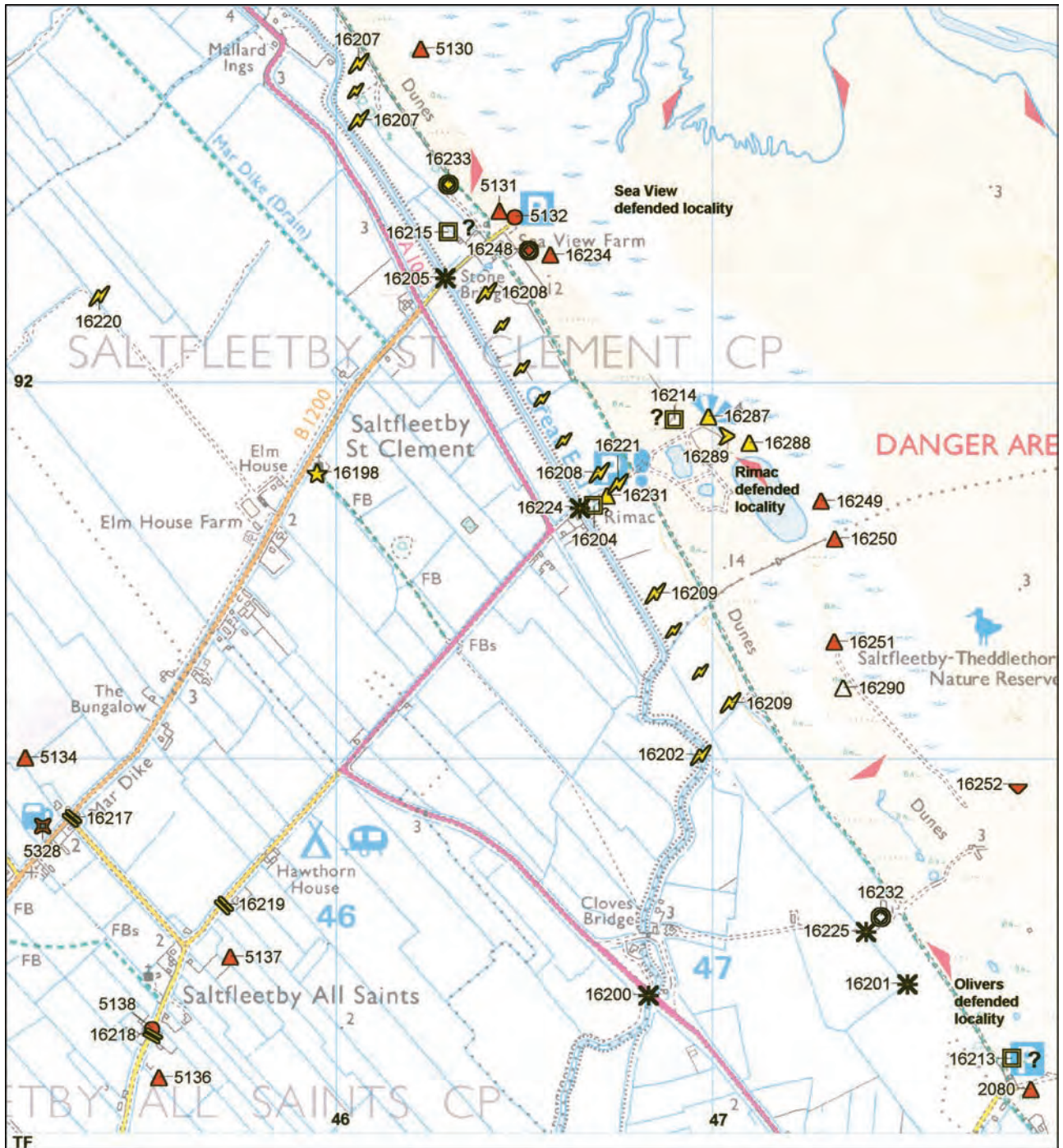
'Operation Instruction No 11', March 1941 (from 2nd Infantry Brigade War Diary) – TNA: PRO WO 166/896

'Reorganisation of Defences' (memorandum), 4.3.1941 (from 10th Bn Gloucestershire Regiment War Diary) – TNA: PRO WO 166/4296

Freiston Shore: Defence components

Database site reference	NGR	Defence work type	Survival status
2041	TF 3961242162	PILLBOX (VARIANT)	E
2042	TF 3959841744	PILLBOX (TYPE 22)	E
2044	TF 3958441468	PILLBOX (TYPE 22)	E
2045	TF 3949541252	PILLBOX (TYPE 22)	E
2046	TF 3915240661	PILLBOX (TYPE 22)	E
5172	TF 3970742375	PILLBOX (TYPE 22)	E
16021	TF 3958041485	PILLBOX (TYPE 22)	E
16235	TF 39204137	ANTI LANDING TRENCH	I
16236	TF 39844259	PILLBOX	R
16237	TF 40304278	PILLBOX	R
16238	TF 3963942233	GUN EMPLACEMENT	E
16239	TF 3965242260	GUN EMPLACEMENT	E
16240	TF 39574185	DEFENCE WORK	R
16241	TF 40524322	DEFENCE WORK	R
16243	TF 3970342345	COAST ARTILLERY SEARCHLIGHT	E
16244	TF 39554207	COAST ARTILLERY SEARCHLIGHT	E
16245	TF 3912141026	RUCK MACHINE GUN POST	R
16246	TF 3912541004	RUCK MACHINE GUN POST	R
16247	TF 39094060	PILLBOX	R

E = Extant; R = Removed; I = Infilled; U = Unknown.



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 Scale 1:15,000 (approx)

Saltfleetby

Coastal Defence

Location Details

6 miles (9.5km) NNW of Mablethorpe and 7 miles (11km) E of Louth

County: Lincolnshire

Parishes: Saltfleetby All Saints; Saltfleetby St Clement; Theddlethorpe St Helen

National Grid Reference (Rimac): TF 466915

Landscape

The defence area lies both along the coast – an expanse of sand dunes, salt marsh, and open sand – and inland, where a number of small settlements stand amongst coaxial fields defined by sharp-angled drains. Roads, including the main A1031, either run parallel with the coast or approach it at right angles following the lines of the drains. The largest waterway is the Great Eau, which, in the southern part of the area, turns inland to flow south. The continuous line of sand dunes on the coastal front, some rising to a considerable height in the area of Rimac, are now a National Nature Reserve, and there are three access points, with car parks and visitor information, within the study area: from the north, Sea View, Rimac, and Sea Bank. At the centre of the area, the tower of Saltfleetby St Clement church can be seen from a considerable distance, and to the south-west are the houses of Saltfleetby All Saints village, with the Prussian Queen public house standing at the junction of Mar Dyke and Mill Lane.

Defences

From late 1940 to 1941, the Saltfleetby area was part of 'A' Sub Sector of 'C' Sector of the Lincolnshire coast, defended by 205 Infantry Brigade of the 1st (Lincoln County) Division of I Corps. Earlier, in August 1940, the defending brigade had been 1 Guards Brigade, with its forward battalion, the 2nd Bn The Hampshire Regiment, setting up Forward Section Posts (defended localities) that consisted of pillboxes sited for beach defence, with additional three-man fire trenches dug on their landward side. The Great Eau drain served as a rear anti-tank ditch. Bren light machine gun sections were also placed in the saltings forward of these defence locations. A defence in depth was additionally established, with inland pillboxes, roadblocks, and observation posts manned by local units of the Home Guard. Demolitions and craterings of bridges and roads were also prepared, these being categorised by their level of importance and the precise action to be taken in the event of an invasion.

By early 1941, the defending battalion was the 7th Bn Royal Norfolk Regiment, replaced a few months later by the 7th Bn Leicestershire Regiment. By this time, the Forward



FIGURE 81 The Forward Section Post (defended locality) of Sea View in an air photograph taken in February 1953. Anti-tank blocks [5132] are visible, as is rectangular pillbox [16234]. The Great Eau river and the A1031 road run behind. (RAF/30112/HHP-0003; WAD/2 fr99. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)

Section Posts were at the beach access points: Sea View, Rimac, and Olivers (Sea Bank). The defended localities were defended by medium and light machine guns, mortars, and anti-tank rifles, and they would have had wired perimeter defences. In addition, a continuous barbed wire entanglement probably ran along the whole coastal front. Concrete anti-tank cubes blocked the beach exits, but tubular anti-tank scaffolding does not appear to have been erected. Later, 6pdr QF Hotchkiss guns were positioned at Rimac and Olivers, and a 75mm gun at Sea View. Anti-tank mines were laid widely, in set area minefields, at roadblocks, at gaps in the dunes, and at bridges over the drains. The rear defended localities were manned by the Home Guard.

Some excellent examples of defence works survive, both on the coast and inland. The best survival is at Sea View, where a pillbox can be seen on a sand dune above the car park, still with evidence of its original camouflage [5131]. Adjacent to the car park are concrete cubes placed edge to edge that formed an anti-tank barrier blocking a route through the dunes [5132]. On top of the dunes to the south-east are the remains of a Stanton air raid shelter, half-hidden amongst the undergrowth [16248]. Below it is a Lincolnshire-type three-bay pillbox, with its central open chamber for anti-aircraft fire [16234]. To the north, a further Lincolnshire-type pillbox [5130] now stands marooned amongst the salt marshes.

Rimac has been swept clear of its defence works, but three good examples of Lincolnshire-type pillboxes survive to its south [16249, 16250, and 16251]. Olivers is represented by the surviving pillbox [2080], which probably formed the principal defence component of the section post itself. Nearby are a number of iron posts, still set in lines on the sands, which may have been erected to prevent German aircraft landing on the

FIGURE 82 Pillbox [5131] dug into the sand dunes above Sea View, with concrete lumps on the roof perhaps to break up its outline. Steel bolts on the roof indicate a mount for an anti-aircraft gun. (PHOTO: THE AUTHOR, 23 OCTOBER 2002)



beach at low tide. At Saltfleetby All Saints, pillboxes, an anti-tank cylinder, and a Home Guard store are reminders of the system of defence around each communication point inland. Mined roadblocks were covered by fire from the pillboxes, which were also armed with anti-aircraft machine guns.

FIGURE 83 Lincolnshire three-bay pillbox north of Sea View defended locality [5130]. (PHOTO: THE AUTHOR, 23 OCTOBER 2002)





FIGURE 84 One surviving cylinder from a roadblock at Saltfleetby All Saints [5138]. The roadblock was manned by the Home Guard, and 21 anti-tank mines were laid around it. (PHOTO: THE AUTHOR, 23 OCTOBER 2002)

Significance

This defence area allows different zones of defence set back inland from the coastal front edge to be viewed. It also reflects the defence strategy of the Field Army working in conjunction with that of the Home Guard, the former defending the coast through a system of defended localities at the beachfront and the latter manning village defences to the rear.



FIGURE 85 Possible anti-landing posts still standing on the sands north of Olivers defended locality [16252]. This area is used today as an air bombing range. (PHOTO: THE AUTHOR, 23 OCTOBER 2002)

The three Forward Defended Localities are still clear on the ground, and surviving defence works represent their positions, in particular at Sea View where survival is best. The approach tracks and gaps in the sand dunes provide public access to the seafront today. Air photographs show that the expanse of salt marsh between Sea View and Rimac has formed largely since the war. In 1940, flat sands extended to the pillbox line, as they still do further south at Sea Bank where they are used as part of an air bombing range. Expanses of salt marsh to the rear of Rimac at the time of the Second World War have become sand dunes. This explains why certain of the Lincolnshire-type three-bay pillboxes appear now to be isolated in the middle of areas of grassland and reed beds. The track that runs beside pillboxes [16249], [16250], and [16251] originally marked the division between salt marsh and sand, and represents the front edge of the defence in 1940.

To the rear of the coastal front, the Great Eau waterway formed a broad anti-tank ditch, the road crossings of which were all blocked and mined. Inland, the pattern of fields, drains, and roads, with the occasional small settlement, is little changed from that which prevailed during the war. This low-lying artificially drained landscape would have presented considerable problems for an invading enemy, the network of interconnecting ditches and other waterways assisting the defence and preventing the movement of armoured fighting vehicles. It was critical to deny the enemy access to the few roads inland, and they were blocked by roadblocks overlooked by pillboxes [5134, 5136, and 5137]. The value of the tower of Saltfleetby St Clement church as an observation post is clear from the fact that it can be seen from most inland parts of the defence area.

The various examples of Lincolnshire-type three-bay pillboxes are nearly all in very good condition, and make a significant group of this pillbox type. The Stanton shelter, although incomplete, is an important survival of this defence structure, unusual in being found here amongst field fortifications. If the posts on the sands at the south of the area can be confirmed as anti-landing obstacles, this will be one of the very few places in the country where such defences remain *in situ*.

Access

There are information boards about the Nature Reserve at all three access points to the sand dunes. Footpaths that follow the shoreline allow all the surviving coastal defence works to be seen, but inland, at Saltfleetby All Saints, the three pillboxes and the Home Guard store are on private land, and permission would have to be obtained for a close inspection. There are car parks at Sea View, Rimac, and Sea Bank. In the area of Sea Bank, an air bombing range means there is restricted access when the red flags are flying.

Documentary Sources

'Defence Scheme – Right Sub Sector, 1st Guards Brigade', 1.8.1940 (from 2nd Bn The Hampshire Regiment War Diary) – TNA: PRO WO 166/4324

'Operation Instruction No 1', August 1940 and 'Operation Order No 3', 18.2.1941 (from 23rd Field Company Royal Engineers War Diary) – TNA: PRO WO 166/3568

'B' Sector Defence Scheme', September 1940 (from 3rd Infantry Brigade HQ War Diary) – TNA: PRO WO 166/898

'Operation Instruction No 11', March 1941 (from 2nd Infantry Brigade War Diary) – TNA: PRO WO 166/896

'Battalion Defence Scheme', 2.6.1941 (from 7th Bn Royal Norfolk Regiment War Diary) – TNA: PRO WO 166/4562

'Defence Scheme 'A' Sub Sector', 27.8.1941 (from 7th Bn Leicestershire Regiment War Diary) – TNA: PRO WO 166/4421

'Defence Scheme for 'C' Sector of the Lincolnshire Coast', 1.9.1941 (from 205th Infantry Brigade War Diary) – TNA: PRO WO 166/1058

Saltfleetby: Defence components

Database site reference	NGR	Defence work type	Survival status
2080	TF 47859012	PILLBOX (VARIANT)	E
5130	TF 4622592890	PILLBOX (VARIANT)	E
5131	TF 4643492458	PILLBOX (VARIANT)	E
5132	TF 4647692443	CUBE	E
5134	TF 4517491003	PILLBOX (VARIANT)	E
5136	TF 4552890149	PILLBOX	E
5137	TF 4571790471	PILLBOX (VARIANT)	E
5138	TF 45519028	CYLINDER	E
5328	TF 45229082	HOME GUARD SHELTER	E
16198	TF 45959176	OBSERVATION POST	U
16200	TF 46839037	MINED BRIDGE	R
16201	TF 47529040	MINED BRIDGE	R
16202	TF 46979101	DEPTH CHARGE CRATER	R
16204	TF 46669168	GUN EMPLACEMENT	R
16205	TF 46299228	MINED BRIDGE	R
16207	TF 46069285 – TF 46069270	MINEFIELD	R
16208	TF 46409224 – TF 46709176	MINEFIELD	R
16209	TF 46859144 – TF 47059115	MINEFIELD	R
16213	TF 478902	GUN EMPLACEMENT	R
16214	TF 469919	GUN EMPLACEMENT	R
16215	TF 463924	GUN EMPLACEMENT	R
16217	TF 45309084	ROADBLOCK	R
16218	TF 45509027	ROADBLOCK	R
16219	TF 45709061	ROADBLOCK	R
16220	TF 45379223	MINEFIELD	R
16221	TF 46759173	MINEFIELD	R
16224	TF 46649166	MINED BRIDGE	R
16225	TF 47419054	MINED BRIDGE	R
16231	TF 46729170	PILLBOX	R
16232	TF 47459058	DEFENCE SITE	U
16233	TF 46309253	DEFENCE SITE	R
16234	TF 4657092342	PILLBOX (VARIANT)	E
16248	TF 4651392355	STANTON SHELTER	E
16249	TF 4729091686	PILLBOX (VARIANT)	E
16250	TF 4732791586	PILLBOX (VARIANT)	E
16251	TF 4732691313	PILLBOX (VARIANT)	E
16252	TF 4781690933	ANTI LANDING OBSTACLE	E
16287	TF 46999191	PILLBOX	R
16288	TF 47109184	PILLBOX (VARIANT)	R
16289	TF 47049186	SLIT TRENCH	I
16290	TF 47359119	PILLBOX	U

E = Extant; R = Removed; I = Infilled; U = Unknown.



Atwick

Coastal Defence

Location Details

2 miles (3km) N of Hornsea

County: East Yorkshire

Parish: Atwick

National Grid Reference (Atwick caravan park): TA 196509

Landscape

The defence area consists principally of the coastal strip lying east of the village of Atwick that meets the sea in a continuous length of eroding earthen cliffs standing some 15m–20m high. Comparison with Second World War air photographs indicates that some 25m of cliff-top land have been lost to the sea in the course of the last 60 years. To the north is the low ridge of Moor Hill which represents the northern boundary of the study area, while on the southern boundary is the deep gully of Atwick Gap that provides access to the shingle and sand beach. To the west, the area boundary is the village of Atwick itself. The B1242 road from Hornsea to Skipsea traverses the area from south to north.

The village of Atwick has been little developed, with only a modest amount of infill of new housing. In the 1960s a caravan park was established on the site of the cliff-top anti-aircraft battery, making use of the concrete hard-standing and trackways laid down by the military.

Defences

Atwick lay in the military East Riding Coastal Area, falling within Beverley Sector, manned in late 1940/41 by troops from 218 Independent Infantry Brigade. Atwick village itself formed a Base with a garrison of 30 men provided by the 3rd Bn East Riding Home Guard. Other such adjacent Bases were at Skipsea, Seaton, and Hornsea. In June and July 1940, the 66th Division had been responsible for the entire coastline from the River Humber to Whitby. Infantry battalions manning the defences at Atwick, and to its immediate south, at various times during the critical invasion danger period of July to September 1940 were the 1st Bn Royal Welch Fusiliers, the 10th Bn Duke of Wellington's Regiment, and the 2nd Bn Dorsetshire Regiment. Company headquarters were established in Atwick village, with the battalion headquarters in Hornsea.

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FIGURE 86 Air photograph taken 24 March 1941 of the coast at Atwick. The positions of Forward Defended Localities (FDLs) are shown by their double encircling perimeters of barbed wire. In a field to the south of the village are the circular earthwork pits of a Troop Searchlight Battery. At the extreme left of the photograph, fields have been blocked by anti-landing trenches and mounds. (RAF/613E/BR174 fr11. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)

The infantry established Forward Defended Localities (FDLs) on the shoreline, with pillboxes and slit trenches at the head of the beach. A second line of pillboxes was also constructed behind the cliff edge to defend against enemy troops who might scale the cliffs. There were eleven front-line pillboxes in the Atwick area, to be manned at three minutes' notice by one NCO and five other ranks, with two Bren guns for each pillbox set on fixed lines with aiming marks. Second-line pillboxes were to be manned by a complete section of eight men at five minutes' notice. Pillboxes appear from air-photographic evidence to have been ringed with double lines of barbed wire. Where there were gaps in the cliffs (for example, the Atwick Gap), which would have allowed an exit from the shore for invading forces, anti-tank blocks were erected. The cliffs themselves were considered protection enough to obviate the need for beach scaffolding. There is no documentary evidence for minefields in the Atwick area, although they are likely to have been laid at key locations such as Atwick Gap. A rear boundary line to the coastal defences was established running from Bewholme to Skipsea, and roadblocks were set up at points along it. Field artillery of the 393rd Battery RA was ranged on the beaches. Fields to the north and south of Atwick were blocked by both concrete posts and trenches against enemy aircraft landing.

Circular earthworks in a field to the south of Atwick that are visible in air photographs of 1941 indicate the presence of a Troop Searchlight Battery. A heavy anti-aircraft battery,

FIGURE 87 Lozenge-shaped infantry pillbox [13194] with a sunken command post behind [13195]. (PHOTO: THE AUTHOR, 28 APRIL 2003)



with four gun emplacements and an accommodation camp, was later established on the site of the current caravan park as part of the anti-Diver operations of 1944/45.

Owing to coastal erosion, all the pillboxes in the first line on the beach have been destroyed, although eroded fragments, including those of a beach defence light, can be found beneath the cliffs. However, many of the second-line pillboxes survive, and these are of a particular local variant type that can also be found further to the north (see Speeton defence area). The type is

FIGURE 88 Generator house of a coast defence radar station [13117]. It stands now at the very edge of an eroding cliff. (PHOTO: THE AUTHOR, 28 APRIL 2003)





FIGURE 89 View from generator house [13117] showing the cliff erosion.
(PHOTO: THE AUTHOR, 28 APRIL 2003)

of a six-sided lozenge shape, and is characterised by four small embrasures side by side in the main forward face and by an attached loopholed blast wall [13121 and 13123 are examples]. Two semi-buried structures [13122 and 13195] may have been command posts, although their exact form and purpose has not been ascertained. At Atwick Gap, protection of this natural gap in the cliffs was achieved by parallel lines of anti-tank cubes running from the shore to the sea that were designed to prevent armoured vehicles reaching this exit from the beach. Only a few heavily eroded blocks remain today [13211].

At Moor Hill at the north of the study area, piles of concrete and brick rubble indicate where at least two defence structures have been removed in recent years. Close by, the rectangular loopholed generator house of a coastal defence radar site [13117] now hangs perilously over the eroding cliff: it is unlikely to survive for much longer. Other buildings associated with this site fell over the cliff years ago.

Significance

Atwick provides a good illustration of a heavily defended section of coastline, albeit in an area where the presence of cliffs would appear to make it less vulnerable to an enemy landing. The danger at such locations was perceived as a flanking attack by specially trained cliff-assault troops while the main invasion was being directed against adjacent open beaches or ports. Whereas almost all the evidence of the front-line pillboxes has disappeared owing to coastal erosion, the second-line defences are very evident and form an important group of

defence works. Their positions also indicate the areas of the FDLs that can be seen on air photographs ringed by barbed wire: one was around pillbox [13121], a second [13123], and a third [13194]. The construction of the heavy anti-aircraft battery, probably in 1944, obliterated the defended locality around pillbox [13123], although the pillbox itself survived. Atwick Gap was also a defended locality, and anti-tank cubes surviving on the shore there provide evidence of the blocking of this potential beach exit. The command posts [13122] and [13195] situated alongside the local variant type of infantry pillboxes make a rare survival, and, with the permission of landowners, demand further investigation.

Intensive agriculture to within a few metres of the cliff edge has led to the removal of several field divisions, leaving defence works [13122], [13123], [13194], and [13195] isolated whereas once they were positioned in hedgerows. Pillboxes [13118] and [13119], however, still stand alongside drains at the edge of fields, and the survival of these field divisions within the modern landscape is important to an understanding of the positioning of the second line of defence.

The principal changing feature of the landscape is the steady erosion of the cliffs by the sea. This erosion continues to threaten the cliff-top defence works, and structures currently *c* 100m from the cliff edge will steadily become endangered. The radar generator house [13117] is already undermined and could fall at any time.

Access

All the surviving defence works can be seen from the cliff-top footpaths, although several must be viewed at a distance as they stand within cultivated fields. Parking for visitors is difficult; although there is a caravan park, Atwick is not a holiday location as such, and there are no public car parks. There are very few places to leave a car in Cliff Road, which leads from Atwick to the coastline, and it is probably best to seek car parking within the village itself. The crumbling cliff edge is dangerous, and care needs to be exercised when walking here. It is inadvisable to enter the radar generator house [13117].

Documentary Sources

2nd Bn Dorsetshire Regiment War Diary, 1940 – TNA: PRO WO 166/4207

‘Operation Order No 4’, 8.6.1940 (from 2/6th Bn Lancashire Fusiliers War Diary) – TNA: PRO WO 166/4410

‘Operation Order No 1’, 3.7.1940 (from 1st Bn Royal Welch Fusiliers War Diary) – TNA: PRO WO 166/4624

‘Operation Order No 1’, 28.10.1940 (from 10th Bn Duke of Wellington’s Regiment War Diary) – TNA: PRO WO 166/4245

‘Operation Order No 2’, 28.10.1940 (from 8th Bn King’s Own Yorkshire Light Infantry War Diary) – TNA: PRO WO 166/4378

218th Infantry Brigade War Diary, 1941 – TNA: PRO WO 166/1071

‘Operation Order No 6’, 17.2.1941 (from 6th Infantry Brigade War Diary) – TNA: PRO WO 166/906

‘Operation Instruction No 1’, Appendix ‘A’, December 1941 (from East Riding Coastal Area ‘G’ War Diary) – TNA: PRO WO 166/1236

‘Operation Instruction No 1’, Appendix ‘A’, 1943 (from East Riding Sub-District War Diary) – TNA: PRO WO 166/10996

Atwick: Defence components

Database site reference	NGR	Defence work type	Survival status
13115	TA 18775274	PILLBOX	E
13116	TA 19055298	PILLBOX	E
13117	TA 1917752197	RADAR GENERATOR HOUSE	E
13118	TA 18875221	PILLBOX (VARIANT)	E
13119	TA 1899551787	PILLBOX (VARIANT)	E
13120	TA 1911452125	PILLBOX	R
13121	TA 1945951247	PILLBOX (VARIANT)	E
13122	TA 1938551152	COMMAND POST	E
13123	TA 1965450756	PILLBOX (VARIANT)	E
13124	TA 19905046	PILLBOX	R
13159	TA 19745087	BEACH DEFENCE LIGHT	R
13194	TA 1978350396	PILLBOX (VARIANT)	E
13195	TA 19775042	COMMAND POST	E
13209	TA 19075078	ROADBLOCK	R
13210	TA 18705017	ANTI LANDING TRENCH	I
13211	TA 2000350110	CUBE	E
16513	TA 18845074	ARMY HEADQUARTERS	U
16514	TA 19715097	PILLBOX	R
16515	TA 19635119	PILLBOX	R
16577	TA 190505	SEARCHLIGHT BATTERY	I
16609	TA 1965050819	DEFENCE WORK	R
16949	TA 19605083	SLIT TRENCH	I
16955	TA 18735002	ANTI LANDING TRENCH	I

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Cayton Bay

Coastal Defence

Location Details

3 miles (5km) SE of Scarborough and 4 miles (6.5km) NW of Filey

County: North Yorkshire

Parishes: Cayton; Osgodby

National Grid Reference (Cayton Bay pumping station): TA 067845

Landscape

The defence area consists principally of Cayton Bay, which curves north-west from Lebberston Cliff at its eastern end to Osgodby Point to the north. South of Osgodby Point, the wooded heights of Cayton Cliff overlook an area known as Johnny Flinton's Harbour. The eastern extent of the beach is particularly broad and sandy, lying beneath the eroding Killerby Cliff. Over the years the cliffs have slumped from the top, a process that continues, forming a tumbled series of ledges rich in vegetation. Dominating the centre of the bay is a 19th-century pumping station with distinctive terraced grounds. The A165 coastal road runs close to the bay, and passes through Osgodby, which is now connected to Scarborough by suburban development. Some of the land around Cayton Bay is in the care of the National Trust.

A car park has been laid out to the west of Killerby Cliff, from which a path runs down a gully to the beach. The Cleveland Way coastal footpath also passes the head of this gully. A caravan park occupies an area of the cliff top between the car park and the pumping station. Further away from the coast, to the west of the A165 Scarborough to Filey road, Cayton Bay Holiday Village now spreads over a wide area.

Defences

The 1½ miles (2.5km) of Cayton Bay were considered a 'dangerous beach', vulnerable to enemy attack, and during June to September 1940 the bay was defended by 197 Infantry Brigade, being situated in the brigade's No 2 Central Sector. A reconnaissance for the area's defence was carried out in late May and early June 1940, and one infantry company from the 2/5th Bn Lancashire Fusiliers was positioned there, with platoon areas at the north, centre, and south of Cayton Bay coinciding with its various slopes and approaches. Sandbagged posts were prepared, armed with four machine guns. Use was also made of the pumping station as a fortified post, although evidence for this is lacking today.

In July and August 1940, concrete pillboxes were built at Cayton Bay, and at Cornelian Bay to the north, by 257th Field Company Royal Engineers. By the end of July three pillboxes had been built and camouflaged perimeter wire erected, and bombing and



FIGURE 90 The central and northern areas of Cayton Bay seen in a 1948 air photograph. The pumping station stands towards the bottom right, and towards the top is Osgodby Point with the wooded heights of Cayton Cliff behind. (RAF/541/187 fr4147. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)

rifle posts with connecting slit trenches dug. A dummy pillbox was also erected in August. The War Diary of the Lancashire Fusiliers records that the troops manning the pillboxes had previously been ‘very comfortable’ in bathing huts and chalets.¹ In the early days of invasion danger, it states, the defensive works had become mixed up with visitors and ‘bathing belles’ in a way that was described as ‘demoralising’. The civilians disappeared when the whole of the Yorkshire coast was declared a prohibited area.

A principal fear was that the Germans would attack the Bay using special mountain troops to scale the cliffs, and, combining with airborne troops, form a bridgehead to attack the port of Scarborough from the rear. A rear boundary on the line of the Scarborough to Filey road was designated, and a series of fortified houses was prepared protecting this land

FIGURE 91 Looking south-east along Cayton Sands. Upside down pillbox [2758] is in the mid-distance. (PHOTO: THE AUTHOR, 29 APRIL 2003)



perimeter. Blocks were set up on approach roads as well as on paths leading up from Cayton Bay. These blocks were manned by 18 Platoon of 'F' Company of the 10th Bn North Riding Home Guard. Minefields were also laid at Osgodby Point and behind the cliffs. To the north, at Scarborough South Bay, two 6in guns of 544 Coast Battery protected the approaches to Scarborough harbour.

In 1941, the defence of Cayton Bay became the responsibility of 215 Infantry Brigade. The concept of extended lines of defence was abandoned in favour of a series of defended

FIGURE 92 Medium machine gun pillbox [2758] turned upside down by the action of the sea. It was originally sited at the head of the beach. (PHOTO: THE AUTHOR, 29 APRIL 2003)





FIGURE 93 Medium machine gun pillbox [2755] at Johnny Flinton's Harbour at the north end of Cayton Bay. The purpose of structure [2754] in the background is not known. (PHOTO: THE AUTHOR, 30 APRIL 2003)

localities, one being at Cliff House (now under the site of Cayton Bay Holiday Village). The infantry battalion manning the defences was now the 9th Bn Loyal Regiment, which had one company, with a sub-section of medium machine guns, at Cayton Beach. By September 1941, the defending troops were recorded as one platoon and one section mortars. A Lyon Light (beach searchlight) facing south was built on the shore at Johnny Flinton's Harbour.

Four pillboxes of the variant type for medium machine guns found on the Yorkshire coast between Whitby and Spurn Point (the 'eared pillbox'; see also Speeton defence area), with various remains of other defence structures, survive on the beach at Cayton Bay. The southernmost pillbox [2758] has been turned upside down, still affixed to its concrete raft. Another pillbox [2756] has also clearly been displaced as it now stands on top of boulders. However, the positions of these pillboxes must be close to their original sites for it is unlikely that either has fallen from a higher location on the cliff edge above. Pillboxes [2755] and [2759] still stand unmoved on the beach, and, apart from being filled with sand and shingle, survive in a battered but stable condition.

By March 1941, two concrete section posts (long, angled rectangular pillboxes with multiple light machine gun and rifle embrasures in all faces) had been built close together on the top edge of Killerby Cliff. The easternmost of these [2762] has fallen over the eroding cliff in recent years, and the remaining one is increasingly perilously poised [2760]. These hardened section posts are rare, most defence works in this form being earthworks (see Greatham Creek and Dunster Beach defence areas). At Johnny Flinton's Harbour, at the northern end of Cayton Bay, is a pillbox [2755] standing amongst a jumble of remains, including anti-tank cubes, piles of concrete and brick debris, and, close by, a huge semi-buried concrete block that may be the remains of a command post [2754].

FIGURE 94 Section post [2760] on Killerby Cliff above Cayton Sands. An adjacent section post [2762] has fallen in recent years owing to erosion of the cliff. (PHOTO: THE AUTHOR, 29 APRIL 2003)



Significance

Cayton Bay provides an excellent illustration of coastal defence in an area where the cliffs backing the beach might have been thought to have lessened the danger of an enemy assault and, therefore, the degree of defence provision required. The surviving medium machine gun pillboxes, although in an eroded condition, make an important group of front-edge beach defences that have elsewhere usually been removed either by erosion or as post-war eyesores. The surviving section post on top of Killerby Cliff is a rare example of its type.

There have been few developments since the Second World War to the immediate shoreline of Cayton Bay and the cliff area behind. Cliff erosion, which has led to the fall of section post [2762] and is currently endangering its neighbour [2760], has not been sufficient to remove the front-edge pillboxes at the head of the beach, although one is overturned and another displaced. Generally, coastal defence allowed for two or more lines of pillbox defence (see, for example, Atwick and Speeton defence areas). At Cayton Bay, however, a second line was not provided, with the exception of the two section posts at the top of Killerby Cliff, which were positioned to fire west and east along the cliff edge.

Cayton Bay is instructive in containing many relics of its 1940/41 defence, but also in retaining clearly the landscape features that dictated the positioning of that defence. It is known from documentary sources that platoon localities were established at the south, centre, and north of the Bay. These positions can be adjudged to have been the beach access point by the modern car park, the pumping station, and Johnny Flinton's Harbour. Both field and documentary evidence indicate that the latter was the strongest position, the curve of the shore at this point enabling the beach to the south to be covered by enfilading fire. As well as a beach defence light, the locality probably included a concrete command post and possibly a beach defence gun. Osgodby Point to the north was extensively mined as the capture of this position would have outflanked the shoreline both to the south and north.

One of the chief interests of this defence area derives from the amount of documentation that has been identified, which enables the development of its defences to be traced from the earliest days in June 1940 to the full defence plan of mid-1941; such detailed surviving documentation is unusual.

Access

The surviving defence structures can mostly be inspected from the beach, where they are best viewed at low tide, or from public footpaths on the cliffs behind. The edge of Killerby Cliff, on the route of the Cleveland Way, is dangerous and the surviving section post there should be approached with caution. A path runs from a car park beneath Killerby Cliff to the beach.

Note

¹ TNA: PRO WO 166/4408

Documentary Sources

257th Field Company Royal Engineers War Diary, 1940 – TNA: PRO WO 166/3726

2/5th Bn Lancashire Fusiliers War Diary – TNA: PRO WO 166/4408

‘Operation Order No 9’, 24.6.1940 and ‘197 Brigade Home Defence Scheme’, 5.9.1940 (from 197th Infantry Brigade War Diary) – TNA: PRO WO 166/1050

‘Operation Order No 1’, 20.2.1941 and ‘Operation Order No 3’, 30.9.1941 (from 9th Bn Loyal Regiment War Diary) – TNA: PRO WO 166/4447

‘Operation Instruction No 4’, 31.5.1941 (from 215th Infantry Brigade HQ War Diary) – TNA: PRO WO 166/1068

‘Home Defence Scheme’, March 1942 (from North Riding Sub-Area War Diary) – TNA: PRO WO 166/6770

Cayton Bay: Defence components

Database site reference	NGR	Defence work type	Survival status
2750	TA 0648085455	PILLBOX (VARIANT)	E
2751	TA 0606385928	PILLBOX (VARIANT)	E
2752	TA 06328524	LYON LIGHT EMPLACEMENT	R
2753	TA 0632585209	CUBE	E
2754	TA 0632185113	DEFENCE WORK	E
2755	TA 0632185122	PILLBOX (VARIANT)	E
2756	TA 0650384724	PILLBOX (VARIANT)	E
2758	TA 0718584280	PILLBOX (VARIANT)	E
2759	TA 0707784327	PILLBOX (VARIANT)	E
2760	TA 0727584130	SECTION POST	E
2762	TA 0730884120	SECTION POST	R
15499	TA 06278580	PILLBOX (VARIANT)	E
16461	TA 06808435	MINEFIELD	R
16462	TA 06318523	MINEFIELD	R
16463	TA 06538540	MINEFIELD	R
16464	TA 06518542	MINEFIELD	R
16465	TA 06478542	MINEFIELD	R
16466	TA 05878615	MINEFIELD	R
16503	TA 06298460	ROADBLOCK	R
16504	TA 05558460	ROADBLOCK	R
16580	TA 06818438	SLIT TRENCH	I
16582	TA 06548533	PILLBOX	R
16610	TA 0615785270	DEFENCE WORK	R

E = Extant; R = Removed; I = Infilled; U = Unknown.



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 Scale 1:15,000

Speeton

Coastal Defence

Location Details

4½ miles (7km) S of Filey and 6 miles (9.5km) N of Bridlington

County: North Yorkshire

Parish: Reighton

National Grid Reference (Speeton Gap): TA 153753

Landscape

The defence area consists of the coastal front and its immediate hinterland north of the village of Speeton, which lies half a mile (*c* 1km) from the coast at the southern end of Filey Bay. A line of grass-covered hills (the Speeton Hills) descends over the steep-sided wooded valley of Old Beck to the edge of Speeton Cliffs, rising 50m above Speeton Sands. The cliffs are formed of a mixture of chalk and clay, and have eroded from their top, creating a series of ledges above the rocks and sands of the beach below. A steep path, known as the Donkey's Path, descends to the shoreline through the narrow Speeton Gap. To the north-west is Reighton, with its caravan parks and a broader access to the beachfront at Reighton Gap. To the south-east, Speeton Sands, and Filey Bay itself, end at the sheer heights of Buckton Cliffs.

The principal change to the landscape of the defence area since the war, and only affecting its north-west extremity, has been the development of the Reighton Sands Holiday Park and adjacent caravan site. Air photographs show that there were already chalets here in 1940. Speeton village is a close-knit settlement consisting of a handful of houses and farms, with only a few new houses on its southern side.

Defences

Speeton lay within the Bridlington Sector of the East Riding Coastal Area, defended in late 1940 to 1941 by troops from 218 Independent Infantry Brigade. Earlier, in June and July 1940, 66th Division had been responsible for the entire coastline from the River Humber to Whitby, and, in the critical invasion danger period of August to September 1940, troops from 6 Infantry Brigade were stationed at Speeton. Adjacent villages, of which Reighton was one, formed a series of inland Bases manned by the 5th (East Riding) Battalion, Yorkshire Home Guard.

The coast was defended by two lines of pillboxes, the first built at the head of the beach itself, supplemented by slit trenches dug into the cliffs behind, and the second on the cliff edge above and within the hills to the rear. From early in 1941, the forward line of extended defence was anchored on a series of defended localities manned at platoon



FIGURE 95 Speeton Sands looking north-west across Filey Bay. (PHOTO: THE AUTHOR, 29 APRIL 2003)

strength, commanding all possible exits from the beaches. The exits themselves were blocked by anti-tank obstacles and minefields.

In February 1941, the 11th Bn York and Lancaster Regiment manned the perimeter at Speeton, facing north from the village to the edge of the cliffs. The high ground of the Speeton Hills was occupied by 16 Platoon of 'D' Company, with the company headquarters in Speeton village, while 12 Platoon of 'B' Company manned the beachfront and cliff-top defences. A few months later, companies of the 8th Bn King's Own Yorkshire Light Infantry and the 6th Bn King's Own Royal Regiment were in position here, with headquarters at Reighton. The Reighton Gap, in fact, just to the north of the study area, was the most heavily defended point of this sector of the coast. A rear perimeter bounded the coastal defence area to the south, running from Speeton to Reighton, and on to Moor Farm at Hunmanby.

Double lines of anti-tank blocks were constructed at the head of the beach, running below the gaps in the cliffs or at points where they were less sheer. Set at right angles to them were single lines of blocks running across the beach to the sea's edge: these were designed to stop enemy vehicles traversing the sands laterally to reach a beach exit. Most of these blocks were constructed between August 1940 and March 1941. Minefields were laid at the head of Speeton Gap and also to the west at Low Fields. A total of 290 anti-tank and anti-personnel mines were placed at these two locations. To the rear, the 391st Battery RA had the task of laying down artillery fire on Speeton and Reighton Sands. Three artillery guns also covered the Reighton Gap.

Owing to the effects of sea action and coastal erosion over the past 65 years, it is the second line of pillboxes that survive in the best condition within the defence area. As almost all lie on private land, or are difficult of access, they remain in excellent condition, and provide excellent examples of their types. The local lozenge-shaped variant of an infantry

pillbox, with four side-by-side embrasures in its forward face, can be found in the Speeton Hills as well as on the cliff edge [2776, 2788, and 2807 are good examples]. Also to be seen is a further local variant pillbox type for the fire of medium machine guns: it has two large embrasures in offset forward faces, and two entrances, one at each end, and is known popularly as the ‘eared pillbox’. It was normally positioned at the head of the beach where most examples have been destroyed or badly damaged by sea erosion [for example, 2799]. One excellent surviving example, however, was positioned further back [2774].

There is still considerable evidence of the lines of anti-tank cubes beneath the cliffs on Speeton Sands, although most of the cubes are eroded by the sea and displaced. Evidence of one of the lines running at right angles to the beach can also be seen [2787], although the action of the sea has eroded many of its 5ft (1.5m) concrete blocks completely away, leaving only the central steel post around which they were cast.

Reighton Gap lies beyond the detailed study area. It presents a scene of ‘Second World War desolation’, with tumbled anti-tank cubes and pillbox remains at the edge of the sea, and, further inland, the concrete bases of gun mounts and the foundations of accommodation huts and stores. The remains of a Stanton shelter [13966] are also gradually succumbing to erosion and vandalism. Some of the defence structures here are included on the accompanying map.

Significance

The defence area provides a good illustration of coastal defence positioned in depth at a location where it might have been thought the cliffs alone were sufficient protection against a seaborne invasion. However, as with comparable situations at Atwick and Hollicombe Beach, the principal danger was perceived to be from an attack by specially trained cliff-assault troops seeking to secure the left flank of a main landing taking place on the more open beaches of Filey Bay to the north.

FIGURE 96 An excellent example of a lozenge-shaped infantry pillbox [2776] on Bonfire Hill at the north-west edge of Speeton village. (PHOTO: THE AUTHOR, 29 APRIL 2003)





FIGURE 97 Pillbox [2807] dug into the tumbled cliff edge above Speeton Sands. The caravan park at Reighton is in the background. (PHOTO: THE AUTHOR, 29 APRIL 2003)

The defence area contains a valuable group of well-preserved pillboxes within a landscape little changed from that of 1940, where a logical pattern of coastal defence in depth survives. The strategy of the defence is still represented by the topographic setting of pillboxes – well camouflaged on hilltops, dug in on cliff edges, and at the base of cliffs – thereby enabling the principle of first and second line defence to be understood from the surviving structures.



FIGURE 98 Remains of a rare Stanton Shelter at Reighton Gap [13966] succumbing slowly to erosion and vandalism. (PHOTO: THE AUTHOR, 29 APRIL 2003)

Examples survive both of pillboxes to be manned by infantry sections and those by detachments of troops with medium machine guns. The remains of pillboxes and anti-tank blocks on Speeton Sands provide dramatic evidence of the importance attached to the front-edge beach defence. Here also the fragments of the lines of anti-tank cubes set at right angles to the sea form a rare survival.

Access

St Leonard's church provides a small parking area, from which a signposted path runs to the cliffs. An information leaflet, 'Speeton Cliff Walk', can be acquired for a small fee in the church. Speeton Sands are accessed by a steep footpath through Speeton Gap, which can be slippery and dangerous after rain. The structures on the beach should be viewed at low tide as the anti-tank cubes and pillbox remains are otherwise covered by the sea. The Speeton Hills are an area of rough pasture grazed by sheep and horses, and are private land. Permission must be obtained to visit the pillboxes there.

Documentary Sources

- 'Operation Order No 4', 8.6.1940 (from 2/6th Bn Lancashire Fusiliers War Diary) – TNA: PRO WO 166/4410
- 'Operation Order No 2', 28.10.1940 and 'Secret Routine Instructions, Issue No 41', 30.6.1941 (from 8th Bn King's Own Yorkshire Light Infantry War Diary) – TNA: PRO WO 166/4378
- 218th Infantry Brigade War Diary, 1941 – TNA: PRO WO 166/1071
- 6th Bn King's Own Royal Regiment War Diary – TNA: PRO WO 166/4394
- 'Operation Instruction No 3', November 1940 and 'Operation Instruction No 4', 14.2.1941 (from 11th Bn York and Lancaster Regiment War Diary) – TNA: PRO WO 166/4760
- 'Operation Order No 6', 17.2.1941 (from 6th Infantry Brigade War Diary) – TNA: PRO WO 166/906
- 'Operation Instruction No 1', Appendix 'A', December 1941 (from East Riding Coastal Area 'G' War Diary) – TNA: PRO WO 166/1236
- 'Operation Instruction No 1', Appendix 'A', 1943 (from East Riding Sub-District War Diary) – TNA: PRO WO 166/10996

Speeton: Defence components

Database site reference	NGR	Defence work type	Survival status
2774	TA 1504975015	PILLBOX (VARIANT)	E
2776	TA 1467974870	PILLBOX (VARIANT)	E
2787	TA 15167565 – TA 1515775709 – TA 15217573	CUBE	E
2788	TA 1456475867	PILLBOX (VARIANT)	E
2789	TA 1530075540	DEFENCE WORK	E
2793	TA 1433875619	PILLBOX (VARIANT)	E
2794	TA 1518975424	PILLBOX (VARIANT)	E
2799	TA 1542675473	PILLBOX (VARIANT)	E
2805	TA 14707610	CUBE	E
2807	TA 1476175559	PILLBOX (VARIANT)	E
2808	TA 13477600	PILLBOX	E
13966	TA 1414876398	STANTON SHELTER	E
16476	TA 15277532	MINEFIELD	R
16477	TA 14817579	MINEFIELD	R
16502	TA 15257568	PILLBOX	R
16557	TA 15617520	SLIT TRENCH	I
16558	TA 15677515	SLIT TRENCH	I
16559	TA 15067571	PILLBOX	R
16560	TA 14827585 – TA 14907580	SLIT TRENCH	I
16561	TA 14507607	SLIT TRENCH	I
16566	TA 1506575706 – TA 15087570 – TA 15317554 – TA 15417547 – TA 15427545	CUBE	E
16567	TA 14587605	PILLBOX	E
16568	TA 14557608	CUBE	U
16569	TA 14847588	CUBE	E

E = Extant; R = Removed; I = Infilled; U = Unknown.



Druridge

Coastal Defence

Location Details

5½ miles (9km) S of Amble and 5½ miles (9km) N of Newbiggin

County: Northumberland

Parish: Widdrington

National Grid Reference (Druridge car park): NZ 277960

Landscape

The defence area consists of the coast and its immediate hinterland on Druridge Bay, from a position north of the small settlement at Druridge (now just a farm and cottages) to one south of the farm at Hemscott Hill. At low tide, the area has a broad, flat sandy beach backed by sand dunes rising to a height of some 8m–9m. At intervals along the beach are several natural gaps in the dunes, allowing access to the beach. A stream flows onto the beach through one such gap north of Hemscott Hill. The beach and the dunes are owned in part by the National Trust. North of Druridge is the Druridge Pools Nature Reserve run by the Northumberland Wildlife Trust. A minor road from Cresswell runs parallel with the coast, turning inland at Druridge where it passes close to the ruins of a 14th-century preceptory of the Knights of the Order of St John of Jerusalem.

The landscape of beach and sand dunes, with the coast road running behind, remains undeveloped, looking much as it did in 1940. However, the fields beyond were only restored to agriculture in the mid-1970s, having been the site of the Radar Opencast Coal Mine for sixteen years from 1957. In this period, eighteen million tons of coal were extracted, and a further 200,000 tons were sought beneath the Low Chibburn preceptory by the Ministry of Fuel and Power, which proposed obliterating these ruins. This proposal was successfully resisted by the Ministry of Works, although mining was allowed to a distance of 7m from the preceptory's walls.

Defences

The level sandy beach at Druridge Bay was considered to be exceptionally vulnerable to an enemy landing. It was the most critical point (the Centre Sub-Sector of No 2 Sector) in the defence positions occupied by 162 Infantry Brigade, defending the Northumberland coast during the invasion danger period of June to September 1940. By November 1940, this brigade had been replaced by 202 Brigade.

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The defence of Druridge Bay was organised by a system of front-line firing positions, including pillboxes, situated amongst the sand dunes overlooking the beach. Anti-tank cubes were positioned in almost continuous lengths along the beach, but in particular blocking the various beach exits through the dunes where they were arranged in two and sometimes three lines. From 1941, the cubes were supplemented by anti-tank scaffolding, normally placed in front of them, but occasionally behind. An anti-tank ditch was also dug at the back of the dunes, and minefields were laid.

From early in 1941, the extended defences along Druridge Bay were arranged around a series of defended localities, of which there were two at Druridge (Posts Nos 1 and 2), another at Hemscott Hill, and a further one to the rear at Chibburn. At the latter, the medieval preceptory was included in the defences. Also to the rear, Widdrington and Widdrington Station were defended with machine gun emplacements and roadblocks, with a further anti-tank ditch running in front of these positions. The slightly higher ground here gave a good command of the beachfront. Battle Headquarters for the defence of the Druridge Bay Sub-Sector was at Druridge, with both company and battalion headquarters to the rear at Widdrington Station where the railway line formed the rear boundary. Open fields were blocked against enemy aircraft by machine-dug anti-landing trenches.

Anti-tank guns (2pdr) were positioned at Druridge and south of Hemscott Hill, while at Druridge were two 6pdr guns manned by 938 Battery of the 9th (Northumbrian) Defence Regiment RA. To the rear were two 60pdr guns and a 4.75mm with firing tasks on the beaches. In addition, a coast battery, with two Mk VII 6in guns and two searchlights manned by 311 Battery of 510 Coast Regiment RA, was sited at Hemscott Hill.



FIGURE 99 The defended locality of Druridge seen in a 1941 air photograph. Anti-tank blocks, scaffolding, and ditch are all clearly visible, as are the huts of the defending troops. The beach defences are most concentrated in front of the gaps between the dunes. The arrow is the direction marker of an air bombing range.

(RAF/S/629 fr67. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)

FIGURE 100 A Type 24 pillbox with an attached entry porch [7135] is now almost entirely buried in the sand dunes at Druridge. It was positioned to enfilade the beach. (PHOTO: THE AUTHOR, 3 MAY 2003)



The 7th Bn East Lancashire Regiment manned the beachfront defences of the Druridge Sub-Sector from late 1940 to mid-1941, with one company forward and one in reserve at Widdrington. The defended localities at Druridge were held by a single platoon, with a further platoon responsible for the two 6pdr guns and a beach light. Seven accommodation huts were provided for these troops. Defences at Widdrington, including roadblocks,

FIGURE 101 Pillbox [7011] at Hemscott Hill by the coast road. To disguise it, the pillbox was purpose-built as a ruined cottage. It survives in excellent condition. (PHOTO: THE AUTHOR, 3 MAY 2003)



pillboxes, and ‘beehives’ (thought to be sandbagged fire positions), were manned by the 3rd Bn Northumberland Home Guard.

Two examples of pillboxes survive amongst the sand dunes at Druridge [7220 and 7135]. The first is a medium machine gun type with two entrances, and the latter a variant on a hexagonal Type 24 infantry pillbox. Pillbox [7220] is almost completely buried, and it is possible that other pillboxes have disappeared entirely under the sand. A remarkable survival is a pillbox, purpose-built as a ruined cottage, at the edge of the road to the south of Hemscott Hill [7011]. This is in perfect condition, with no damage or vandalism, and is an important example of a disguised defence work where the camouflage was built as part of the pillbox’s overall construction scheme.

An example of a pillbox that had been inserted for camouflage in an existing building was formerly provided by the medieval preceptory at Low Chibburn. Here a pillbox built in the ruined chapel [15673] survived until the 1970s when it was removed as part of the consolidation of the ruins. One of its loopholes through the medieval walls has now been rebuilt, however, and there is an illustrated information board stating this was a 1940 ‘look out’.

Despite clearance, and possibly burial, of many of the hundreds of anti-tank cubes that once lined the head of the beach, several short lengths still survive at gaps in the dunes. These may have been preserved because they were considered useful in preventing motorised access to the sands, an interesting reinterpretation of their original purpose [see, for example, 16591 and 16612]. A length of the anti-tank ditch running to the rear of the sand dunes can still be made out north of Druridge [16587]. Where the ditch was dug amongst the dunes it is unlikely that it was ever formally infilled, but it has simply filled over the years with drifting sand. No evidence of the beach scaffolding was found when the fieldwork for this study was undertaken, but it has been reported in the past that rough seas have exposed sections of the scaffolding base that was buried under the sand rather than being removed in its entirety.

At Hemscott Hill, amongst the sand dunes, it is possible to make out the positions of the gun emplacements of the coast battery [15181]. Some remnants of concrete and brick remain, and a great deal more is probably buried. Close by, the foundations of a building may be the remains of one of the accommodation huts.

Significance

Druridge provides a good illustration of coastal defence in an area that was highly vulnerable to attack owing to the broad, flat beach of Druridge Bay. All the various components of coastal defence were, therefore, present: beach scaffolding, anti-tank obstacles, anti-tank ditches, barbed wire fences, minefields, pillboxes, weapon pits, slit trenches, beach defence guns, and a coast battery. The coastal strip upon which these defences were built has changed little in the past 65 years. The landscape to the rear, however, was obliterated by coal mining, at which time any second-line defence works (with the exception of Low Chibburn) would have been removed. Remarkably, this landscape has been restored with much of its original field pattern, and can be said to at least resemble its 1940 appearance.

The beach was defended by continuous linear defences – anti-tank blocks, scaffolding, and ditch – but with concentrations of defences forming defended localities at the gaps

FIGURE 102 Photograph taken in December 1945 of the Preceptory at Low Chibburn showing two loopholes of the pillbox built within the chapel. The pillbox was removed in the 1970s. A third loophole in the northern wall (out of sight) was restored in 1995.

(THE NATIONAL ARCHIVES:
PRO WORK 14/1170)



in the dunes that would have provided exit routes for enemy armoured fighting vehicles. The surviving anti-tank cubes at the head of the beach still mark these points. Earthworks of the anti-tank ditch and the coast battery also identify the positions of these defences.

Although the beach and dunes have long since been cleared of most of the defence works, enough survive, when considered with the documentary and air-photographic evidence, for the overall defence scheme to be appreciated. The three pillboxes, including the outstanding site camouflaged as a cottage, make an important group, and to this can be added the site at the medieval preceptory where one loophole has been preserved.

Access

A grass car-parking area has been established alongside the dunes at Druridge, providing access for visitors to the beach and the nature reserve. A further small car park is sited on the dunes' side of the coast road south of Hemscott Hill: this should be used by visitors



FIGURE 103 Anti-tank cubes [16591] that blocked an exit from the beach where a stream flows into the sea north of Hemscott. (PHOTO: THE AUTHOR, 3 MAY 2003)

wishing to see the ruined cottage pillbox [7011] as it is dangerous to stop on the road by this building. All the other defence works can be accessed on the beach and amongst the sand dunes, and a footpath runs across the fields from near the Druridge car park to the Low Chibburn preceptory.

Documentary Sources

- ‘Operation Order No 4’, 8.9.1940 and Operation Instructions Nos 1 and 2, January 1941 (from 162nd Infantry Brigade War Diary) – TNA: PRO WO 166/1035
- ‘Operation Instruction No 7’, 14.11.1940 (from Northumbrian Area HQ War Diary) – TNA: PRO WO 166/1230
- ‘Operation Order No 2’, 15.11.1940 (from 202nd Infantry Brigade War Diary) – TNA: PRO WO 166/1055
- 2nd Bn Hertfordshire Regiment War Diary, 1940–41 – TNA: PRO WO 166/4341
- ‘Operation Order’, 2.1.1941 and ‘Defence Scheme’, 28.4.1941 (from 7th Bn East Lancashire Regiment War Diary) – TNA: PRO WO 166/4255
- Anti-Tank Ditches: Northern Command Schemes, 1941–42 – TNA: PRO WO 199/1444
- Northumberland Area: coast defence – map showing anti-tank ditches, 1942 – TNA: PRO WO 199/1508
- Fort Record Book: Druridge [Hemscott] Battery, 1942 – TNA: PRO WO 192/99
- ‘Standing Defence Instruction’, Appendix ‘A’, 1943 (from Northumbrian District ‘G’ War Diary) – TNA: PRO WO 166/10875
- The Preceptory, Widdrington, 1940–46 – TNA: PRO WORK 14/1170
- The Preceptory, Widdrington, 1954–71 – TNA: PRO WORK 14/2672
- Naval Intelligence Department: Beach Survey, Druridge Bay, June 1961 – TNA: PRO ADM 326/113

Druridge: Defence components

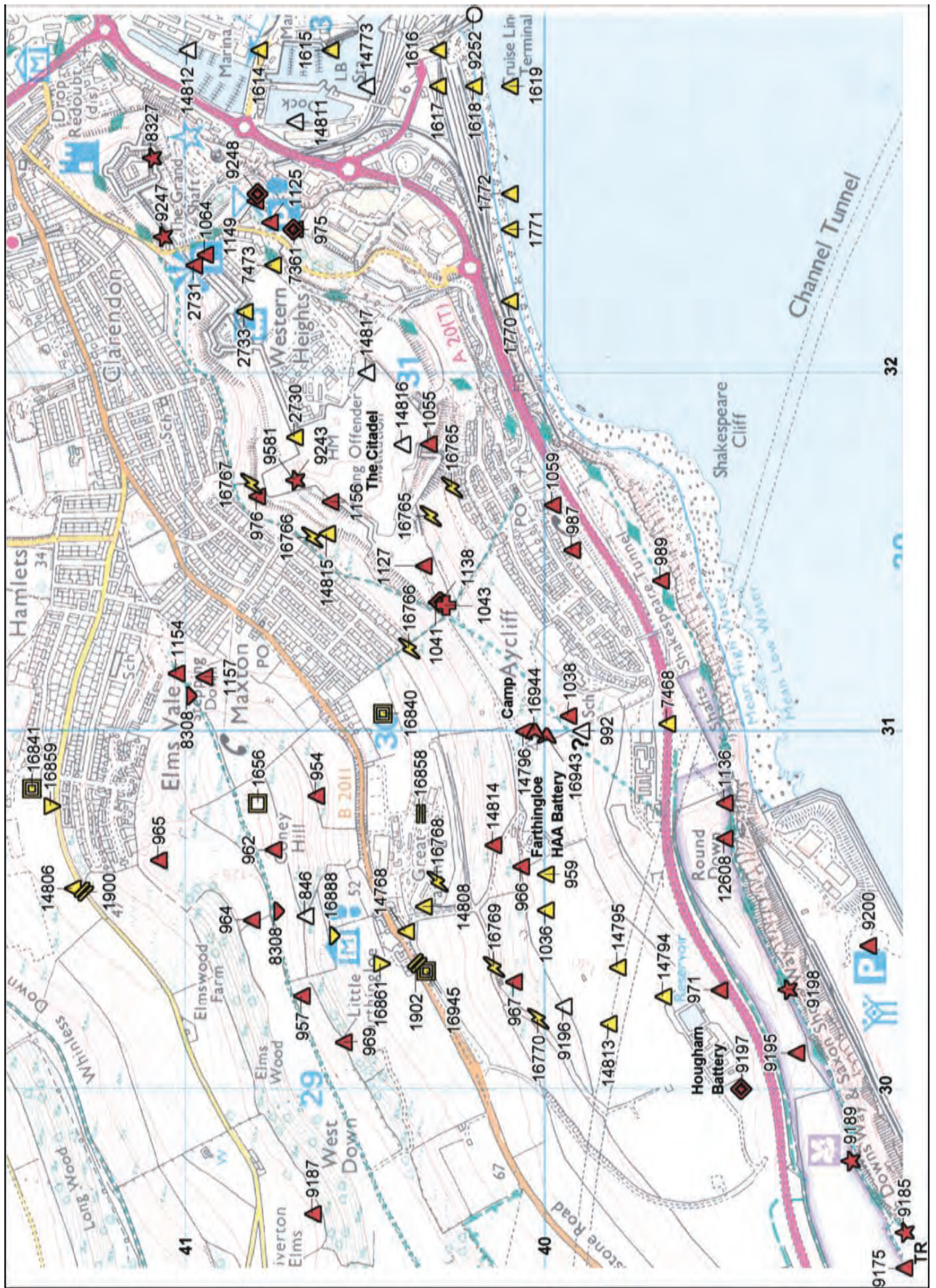
Database site reference	NGR	Defence work type	Survival status
2884	NZ 276965	TRENCH	E
7011	NZ 2815194928	PILLBOX (VARIANT)	E
7135	NZ 2791295886	PILLBOX (VARIANT)	E
7220	NZ 2762896779	PILLBOX (VARIANT)	E
15181	NZ 2807995335	COAST BATTERY	R
15673	NZ 26619653	PILLBOX	R
16453	NZ 27739599	GUN EMPLACEMENT	R
16454	NZ 27739590	GUN EMPLACEMENT	R
16455	NZ 29129385	GUN EMPLACEMENT	R
16473	NZ 28519413	ANTI TANK GUN POSITION	R
16474	NZ 27489604	ANTI TANK GUN POSITION	R
16475	NZ 26609602	ROADBLOCK	R
16584	NZ 27829598	PILLBOX	R
16585	NZ 27859570	MINEFIELD	R
16586	NZ 27809581 – NZ 27849560 – NZ 27929545 – NZ 28079512	ANTI TANK DITCH	I
16587	NZ 27719601 – NZ 27529668 – NZ 2748996851 – NZ 2743897011	ANTI TANK DITCH	E
16588	NZ 27869601 – NZ 27779618	BEACH SCAFFOLDING	R
16589	NZ 27919593 – NZ 27829618	CUBE	R
16590	NZ 27989590 – NZ 27989595 – NZ 27939604	BEACH SCAFFOLDING	R
16591	NZ 27939584 – NZ 27949564 – NZ 27929557 – NZ 2801295543 – NZ 2803695504 – NZ 28039540	CUBE	E
16592	NZ 28049540 – NZ 28139533 – NZ 28189525	CUBE	R
16594	NZ 27979560 – NZ 28099540	BEACH SCAFFOLDING	R
16595	NZ 28169529 – NZ 28219512	BEACH SCAFFOLDING	R

Druridge: Continued

Database site reference	NGR	Defence work type	Survival status
16596	NZ 28189532 – NZ 28239512	CUBE	R
16597	NZ 28129512	PILLBOX	R
16598	NZ 28129504 – NZ 28209497	ANTI TANK DITCH	I
16599	NZ 28289510 – NZ 28479468	CUBE	R
16600	NZ 28169496 – NZ 28369468 – NZ 28379459 – NZ 28529437	ANTI TANK DITCH	I
16601	NZ 29169370 – NZ 28649424 – NZ 28639413 – NZ 28709411 – NZ 28719405 – NZ 28999382	ANTI TANK DITCH	I
16602	NZ 28379479	PILLBOX	R
16603	NZ 28509464 – NZ 28659442	CUBE	R
16604	NZ 28649437 – NZ 28799416 – NZ 28779410 – NZ 28849408	CUBE	R
16605	NZ 28879420 – NZ 28979405	BEACH SCAFFOLDING	R
16606	NZ 28939404 – NZ 29019397	CUBE	R
16612	NZ 2770296508 – NZ 2769296542	CUBE	E
16613	NZ 2756497030	CUBE	E

E = Extant; R = Removed; I = Infilled; U = Unknown.

The Defence Areas: Stop Line Defence



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Farthingloe, Dover

Perimeter Defence

Location Details

1½miles (2.5km) W of Dover town centre

County: Kent

Parish: Dover

National Grid Reference (Little Farthingloe Farm): TR 294404

Landscape

The defence area lies to the west of the town of Dover, partly on the high open downland of Long Hill, beyond the extensive 19th-century fortifications on the Western Heights, and partly on a parallel ridge to the north of more wooded downland at Coney Hill. The two ridges are separated by a valley through which the B2011 Folkestone Road runs, passing the farms of Great and Little Farthingloe, which, together with a few houses, form a small settlement here. To the east of the area, a tendril of the Dover suburbs trails along the valley floor below The Citadel on the Western Heights. Other suburbs lie to the south at Aycliff, beyond which the A20 road runs close to the edge of the famous white cliffs.

Defences

Dover was an officially designated garrison town with a fortified naval port and docks that would have been key targets on the right flank of the invading German forces under the plans for Operation Sealion. The early seizure of the town would have been highly desirable for the Germans in order to have a deep-water port through which to bring in supplies and reinforcements. Dover, which in June 1940 formed part of No 5 Sector of the 1st (London) Division's defence of East Kent (later replaced by 43rd Division), had a detailed and thorough scheme of defence; this study is concerned principally with a section of the south-western perimeter.

The Dover Garrison area, which extended to the west as far as West Hougham and Alkham, to the north to Temple Ewell (itself a Category 'A' nodal point), and to the east to the South Foreland, was divided into three Sub-Areas: North, East, and West. In the West Sub-Area, the approach to Dover through West Hougham was considered particularly vulnerable, and a perimeter defence was established here from Crabble, through Elms Vale and Farthingloe, to the coast at Round Down.

The perimeter line was defended by a series of pillboxes and earthwork section posts, fronted by barbed wire, with individual defence positions also encircled by barbed wire. Where roads and tracks passed through the perimeter, roadblocks were set up: one of these points was at Farthingloe where there was a concentration of defences in what was



FIGURE 104 Looking south-east over Little Farthingloe Farm with Long Hill in the background.

(PHOTO: THE AUTHOR, 11 FEBRUARY 2004)

probably a designated defended locality. Running north-west from the perimeter line was the XII Corps stop line, which followed the railway as far as Canterbury and then continued to the North Kent coast at Whitstable. Its purpose was to shut off East Kent from the hinterland and to help prevent Dover being encircled by landings on the coast to its north.

Late in 1940, a company from the 7th Bn Hampshire Regiment was manning the south-western perimeter of Dover, replaced in April 1941 by troops from the 11th Bn East Surrey Regiment. The War Diaries of both these battalions include detailed records of the defence positions around Farthingloe. By 1941, a heavy anti-aircraft battery with four 3.7in guns was in position in concrete emplacements on Long Hill, and a camp site for the battery laid out with a network of concrete roads connecting with a coast battery of three 9.2in guns (the western battery of The Citadel) and with a further coast battery at Hougham. All these sites can be viewed on the ground today.

A feature of the defence works on the Dover Garrison perimeter, and within Dover itself, is a unique pillbox type known as the 'Dover Variant' or 'Dover Quad', square in plan, with wide horizontal embrasures and a distinctive overhanging roof edge. Four examples in good condition [966, 967, 1038, and 14814], with one semi-destroyed [14796], can be found on Long Hill, plus two on the ridge to the north [846 and 954] and the foundations of a further two that appear never to have been completed [957 and 969]. On Coney Hill are also several examples of Type 24 pillboxes, mostly overgrown and in poor condition [962, 964, and 965]. To the south-west on Long Hill, several piles of concrete and brick rubble indicate the sites of other defence works (probably pillboxes), only recently removed to make way for intensified agriculture. Two good examples of infantry fire trenches [16943 and 16944] can also be located on the southern slopes of Long Hill. At the Citadel Battery, a spigot mortar pedestal and two pillboxes can be seen alongside the 9.2in gun emplacements.



FIGURE 105 RAF air photograph taken 6 May 1942 showing the Farthingloe heavy anti-aircraft battery with its attendant camp. Various defence works can be seen scattered over the downland including square-roofed Dover-type pillboxes, anti-aircraft posts, and a variety of fire and shelter trenches. (RAF/HLA/526 fr6018. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)



FIGURE 106 This concrete-paved military road runs on the spine of Long Hill between The Citadel and the Farthingloe anti-aircraft battery. Other military roads descend the hillside towards Farthingloe. (PHOTO: THE AUTHOR, 14 FEBRUARY 2004)

Significance

The defence area consists of two principal groups of surviving defence works: those on Long Hill, and those to the north on Coney Hill. The two locations are linked by the course of the Dover Garrison perimeter line, carried south to north across the grain of the country – over down and valley – with a concentration of defences at Farthingloe, now all removed. Despite extensive development in and around Dover since the war, the landscape of the defence area remains largely unchanged from that of 65 years ago.

Long Hill, with the western battery of The Citadel and the Farthingloe heavy anti-aircraft battery, a camp site, concrete military roads, pillboxes of a unique variant type, and earthworks including slit trenches, still forms an impressive defended landscape. Much of the military layout of the area can still be seen on the ground, with sites joined by roads, tracks, and paths that existed in 1940/41. At the south-west extent of the study area,

FIGURE 107 A Dover-type square pillbox with overhanging roof slab [14814].

This example was constructed with two levels of embrasures, taking advantage of the slope of the hill. (PHOTO: THE AUTHOR, 11 FEBRUARY 2004)



however, defence posts were positioned by hedgerows, each surrounded by inter-connecting barbed wire perimeters. This part of the landscape has now been opened up into larger arable fields.

Little Farthingloe and Great Farthingloe are still working farms, and their buildings still stand much as they did during the war, although a ‘Technology Village’ has recently been built on land to the east of Great Farthingloe. To the north of Farthingloe, the pattern of

FIGURE 108 Type 24 pillbox [962] on Coney Hill, denuded of its outer brick shuttering. (PHOTO: THE AUTHOR, 11 FEBRUARY 2004)



hedgerow and wood is little changed, and the pillboxes can still be found on Coney Hill on woodland margins that once assisted in their camouflage. Air photographs show, however, that pillbox [962] was as exposed on the summit of the ridge in 1942 as it is today.

The area is redolent of the defence of 1940, with Dover Castle in sight and the line of the white cliffs stretching along the southern horizon. Its surviving defence structures are given additional meaning by the fact that, of all the defence areas considered in this report, this was the one that 65 years ago came under constant German fire – from the air and from long-range guns.

Access

Land on Long Hill, lying west of the Western Heights, itself in the care of English Heritage, is managed by the White Cliffs Countryside Project, which allows public access to this area of downland in conjunction with an agricultural stewardship scheme. The approach to Long Hill is by footpaths leading from The Citadel or from Aycliff: there is no public access from the B2011 road at Farthingloe. To reach Coney Hill, there is a car park at Little Farthingloe Farm from which paths can be followed through Martins and Lunnons Woods to the crest of the downs. Little Farthingloe Farm also has a shop and café and a museum of the Women's Land Army.

Published Sources

- Brown, M & Pattison, P, 2001 Citadel Battery, Report No 8, *The Western Heights, Dover, Kent*. Swindon: English Heritage
- Burridge, D, 2001 *Defending the Gateway: The Fixed Defences of Dover in the 20th Century*. Dover: David Burridge
- Pattison, P, & Garrow, D, 2001 St Martin's Battery, Report No 5, *The Western Heights, Dover, Kent*. Swindon: English Heritage
- Pattison, P, 2001 North, Centre, and Detached Bastions, Report No 7, *The Western Heights, Dover, Kent*. Swindon: English Heritage
- Saunders, A & Smith, V, 2001 Great Farthingloe Heavy Anti-Aircraft Battery, report KD 109 for Kent County Council, *Kent's Defence Heritage, Gazetteer Part One*

Documentary Sources

- 130th Infantry Brigade HQ War Diary, 1940 – TNA PRO WO 166/981
- I (London) Division 'G' Branch War Diary, 1940 – TNA: PRO WO 166/710
- 'Operation Order No 1', 13.6.1940 (from 50th (Holding) Bn Royal West Kent Regiment War Diary) – TNA: PRO WO 166/4646
- Stellungskarte Großbritannien: 1:25,000 (Sheet 1/68/76), 8.8.1940 – BLML Y148
- 'Dover Defence Scheme', September 1940 (from Dover Garrison HQ War Diary) – TNA: PRO WO 166/1343
- 'List of Nodal Points in Eastern Command', September 1940 (from General Headquarters Papers, Home Forces) – TNA: PRO WO 199/544
- Südküste England – Schrägbildreihe I: Dover – North Foreland, 20.11.1940 – RAF Museum, Hendon AC 95/130/1
- Befestigungskarte Großbritannien: 1:50,000 (Sheet 117), 20.11.1940 – BLML 1305(13)

'43 Divisional Area Defence Scheme (East Kent)', 27 November 1940 (from 43 Division 'GS' War Diary) – TNA: PRO WO 166/508
7th Bn Hampshire Regiment War Diary, 1941 – TNA: PRO WO 166/4328
'Dover Defence Scheme', April 1941 (from 219th Infantry Brigade War Diary) – TNA: PRO WO 166/1072
'Operational Order No 5', April 1941 (from 11th Bn East Surrey Regiment War Diary) TNA: PRO WO 166/4266
East Kent District 'G' Branch HQ War Diary, 1943 – TNA: PRO WO 166/10851

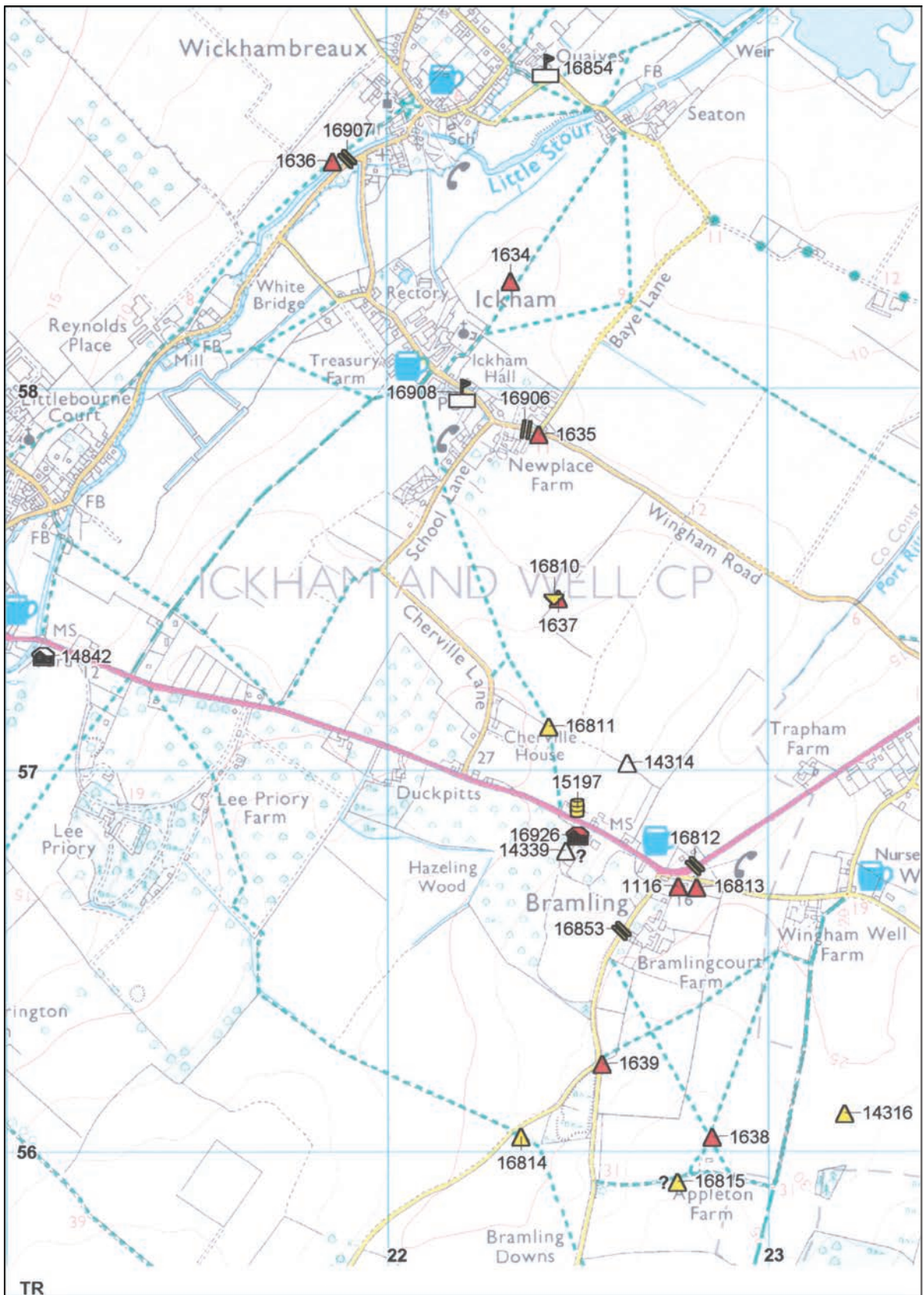
Farthingloe, Dover: Defence components

Database site reference	NGR	Defence work type	Survival status
846	TR 2948340670	PILLBOX (VARIANT)	U
954	TR 2981940640	PILLBOX (VARIANT)	E
957	TR 29264068	PILLBOX (VARIANT)	E
959	TR 29604000	PILLBOX (VARIANT)	R
962	TR 2966940759	PILLBOX (TYPE 24)	E
964	TR 2946540813	PILLBOX (TYPE 24)	E
965	TR 29644108	PILLBOX (TYPE 24)	E
966	TR 2962140068	PILLBOX (VARIANT)	E
967	TR 2929940088	PILLBOX (VARIANT)	E
969	TR 2913040564	PILLBOX (VARIANT)	E
992	TR 30003990	PILLBOX (VARIANT)	U
1036	TR 29504000	PILLBOX (VARIANT)	R
1038	TR 3004239936	PILLBOX (VARIANT)	E
1041	TR 3035840305	PILLBOX (TYPE 23)	E
1043	TR 30354028	SPIGOT MORTAR EMPLACEMENT	E
1055	TR 3080140326	PILLBOX (VARIANT)	E
1127	TR 30464034	PILLBOX (TYPE 24)	E
1138	TR 30364029	COAST BATTERY	E
1154	TR 30164103	PILLBOX (VARIANT)	E
1156	TR 3064640602	PILLBOX (VARIANT)	E
1157	TR 3015040952	PILLBOX (VARIANT)	E
1656	TR 298408	GUN EMPLACEMENT	R
1900	TR 29554129	ROADBLOCK	R
1902	TR 29354036	ROADBLOCK	R
8308	TR 295407 – TR 301410	SLIT TRENCH	E
9196	TR 29233995	PILLBOX	U
9197	TR 29003945	COAST BATTERY	E
14768	TR 29444039	PILLBOX	R
14794	TR 2925839672	PILLBOX	R
14795	TR 2934039799	PILLBOX	R
14796	TR 2999940060	PILLBOX	E
14806	TR 29564132	PILLBOX	R
14808	TR 29514034	PILLBOX	R
14813	TR 2918239824	PILLBOX	R
14814	TR 2968140145	PILLBOX (VARIANT)	E
16766	TR 30234038 – TR 30544065	MINEFIELD	R
16768	TR 29584030	MINEFIELD	R
16769	TR 29344013	MINEFIELD	R
16770	TR 29224002	MINEFIELD	R
16840	TR 30054045	ANTI TANK GUN POSITION	R

Farthingloe, Dover: Continued

Database site reference	NGR	Defence work type	Survival status
16841	TR 29844143	ANTI TANK GUN POSITION	R
16858	TR 29774035	ROADBLOCK	R
16859	TR 29794138	MACHINE GUN POST	R
16861	TR 29354046	MACHINE GUN POST	R
16888	TR 29434060	SLIT TRENCH	I
16943	TR 2998739997	FIRE TRENCH	E
16944	TR 30004003	SLIT TRENCH	E
16945	TR 29334033	ANTI TANK GUN POSITION	R

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Bramling – Ickham – Wickhambreaux

Army Forward Area Defence

Location Details

5miles (8km) E of Canterbury

County: Kent

Parishes: Ickham and Well; Wickhambreaux

National Grid Reference (Bramling): TR 227567

Landscape

This is a large defence area consisting of three villages situated in a line roughly south to north: Bramling, Ickham, and Wickhambreaux. They lie in an undulating landscape watered to the north by the Little Stour. To the south, the area is bordered by the rolling chalkland of Bramling Downs. Bramling consists of a few houses on the main A257 Canterbury to Sandwich road; these include Bramling House, until recently a hotel but now corporate offices, and the Haywain public house. The village of Ickham lies along narrow lanes one mile (1.6km) to the north, and Wickhambreaux is half a mile (0.8km) further on. Both these villages are self-contained communities with shops and pubs. The surrounding farmed landscape is a mixture of large arable fields and orchards, with water meadows on the margins of the Little Stour.

The main changes in the landscape over the past 65 years concern the steady development of the villages with infill housing and discrete suburbs, and the removal of hedgerows to create larger arable fields, in particular on Bramling Downs and south of Ickham. The roads and lanes are now very busy, with the narrow Bramling Lane used as a short cut to the A2.

Defences

From early in July 1940, construction began on a Corps Line (XII Corps) between Dover and Whitstable, principally following the route of the railway line as far as Canterbury. The aim of this stop line was to contain German forces landing on the coast of East Kent, in particular on the vulnerable beaches between Ramsgate and Deal, and to prevent them advancing inland towards London (see also Farthingloe, Dover defence area). The Corps Line was partly built by Canadian Royal Engineers and was substantially complete by the end of August 1940.

The study defence area lay in front of the Corps Line, which passed some two miles (3km) to the south at Bekesbourne where there are some substantial remains of it. Ickham and



FIGURE 109 1946 air photograph showing Bramling towards the lower left and Ickham at the upper left. Bramling Downs lie at the bottom (south) margin of the photograph. Most of the pattern of small fields has now been ploughed away, and many of the orchards cut down, to make large 'prairie fields'.

(RAF/106G/UK/1449 fr3063. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)

Wickhambreaux were within No 7 Sector of the Area Defence Scheme for East Kent and Bramling within No 3 Sector. Each of these Sectors, which were divided into Sub-Sectors, was defended by an infantry brigade from 56th Division – in July 1940, 2 (London) Infantry Brigade in No 3 Sector and 1 (London) Infantry Brigade (later 167 Infantry Brigade) in No 7 Sector. Differences in the construction techniques of the pillboxes in each Sector can be discerned today, in particular the use of brick shuttering in No 3 Sector and wood plank shuttering in No 7 Sector.

Between the two Sectors, in front of the Corps Line, ran an FDL Line (Line of Forward Defended Localities), and this passed through the villages of Bramling, Ickham, and Wickhambreaux. Troops defending this Line in the critical invasion danger period of 1940 came from the 9th Bn Royal Fusiliers (in the north of the study area) and the 1st Bn London Scottish (in the south).

A German map dated November 1940, with defence information obtained by aerial reconnaissance, shows individual pillboxes, and groups of pillboxes, surrounded by slit trenches and barbed wire. Such groups of defence works with all-round perimeters would have formed the Forward Defended Localities making up the FDL Line. Roads passing through the Line were also blocked. On Bramling Downs, in an area with three pillboxes, of which one survives [1638], the defended locality was designated a ‘strongpoint for the defence of Canterbury’. It was set around the now demolished Appleton Farm, one of the pillboxes being camouflaged as a cottage. Bramling Downs themselves were extensively blocked against enemy aircraft landing.

Good examples of Type 24 infantry pillboxes from the Forward Defended Localities survive within the area, some built with exterior brick shuttering and others with vertically set wood planking so that a plain concrete face shows today. A pillbox [1116] survives by the side of the Haywain pub, with its internal anti-ricochet wall removed so that it can be used today as a woodshed. Other pillboxes, many overgrown, stand in hedgerows and

FIGURE 110 Type 24 pillbox [1638] once stood close to Appleton Farm, now demolished, part of a strongpoint here on Bramling Downs. (PHOTO: THE AUTHOR, 10 FEBRUARY 2004)





FIGURE 111 Pillbox [1639], although overgrown, still commands a junction of lanes south of Bramling. It was camouflaged as a tin shed and had slit trenches dug around it. (PHOTO: THE AUTHOR, 10 FEBRUARY 2004)

fields around the three villages. All would have been camouflaged, either by being painted or draped with netting, or by being given an outer framework upon which the disguise of a shed or other building would have been erected. Most as well would have been surrounded by slit trenches and perimeters of barbed wire. There is evidence that Bramling House was fortified for defence, and a roadblock and flame fougasse site stood close by.



FIGURE 112 Type 24 pillbox [1635] by Newplace Farm in Ickham has plain concrete walls while pillboxes around Bramling to the south are faced with brick shuttering (see Figs 110 and 111). The pillboxes lay in different Army defence sectors. (PHOTO: THE AUTHOR, 10 FEBRUARY 2004)

FIGURE 113 Pillbox [1637] standing north of Ickham church is now buried to embrasure level. It was positioned on a field boundary and fired north towards Seaton.
(PHOTO: THE AUTHOR, 10 FEBRUARY 2004)



Significance

This is an interesting defence area, one that is different from any other in this series of reports inasmuch as it represents Field Army battle positions set forward of a principal stop line. The defence area shows that the system of linear defence based on stop lines established from June 1940 served here as a backing to the Field Army's deployment in depth making use of all available components of area defence. East Kent was a prepared battleground, which, it is known from the Operation Sealion plans, would have borne the main thrust of the landings by the German 16th Army. According to Sealion, the study defence area, in fact, might well have been outflanked to the west and attacks against it come from the south rather than the east.

The landscape of the defence area, upon which the anti-invasion defence works were constructed 65 years ago, was an enclosed one of settlements, lanes, and fields, and that same essential pattern prevails today. The series of Forward Defended Localities (FDLs) was set around pillboxes ringed with barbed wire, and these were positioned at points where they commanded the landscape to best advantage, the expected direction of attack being from the east. A number of pillboxes were sited within clearly ancient hedgerow lines, most open areas of fields being divided merely by fences or barbed wire. Pillbox [1637], for instance, stands by a still surviving hedgerow in an area of level, open fields south of Ickham. To its south, two pillboxes [16811 and 14314 – both removed] also stood in a hedgerow bordering orchards, which have since been felled. A strong defended locality, with probably three pillboxes, was formed around Appleton Farm at the south of the area, the farm buildings assisting in the defence of this position. The farm has been demolished in recent years, although the footings of buildings can still be made out. One pillbox that stood on the line of a footpath survives in the open field; the footpath has been ploughed out.

Some pillboxes were sited to command road junctions, generally being placed in hedgerows at the side of the road: examples are [1639], [1116], and [1635]. Pillbox [1634] was sunk low in the ground on the line of a footpath north of Ickham church. At Wickhambreaux, pillbox [1636] was placed on the bank of the Little Stour, which would have served as an anti-tank obstacle in front of it. Although there was no continuous anti-tank obstacle along the FDL Line, all roads crossing the line were blocked, and there is evidence of buildings being fortified at these points as well.

The defence area benefits from good documentary evidence and a published study that incorporates oral history.

Access

Some of the pillboxes are hidden away on private land, and some have yet to be confirmed by further fieldwork, but most can be reached from public rights of way or viewed from a close distance. Parking is possible at Bramling in a small pull-off by the footpath to pillbox [1638], or by using the car park of the Haywain public house. At both Ickham and Wickhambreaux parking should be possible in the village streets.

Published Source

Finch, R, 1991 Some Pillboxes and Stop Lines: Aspects of Defence Preparations in East Kent 1940, *Bygone Kent*, **12**(5), 269–75

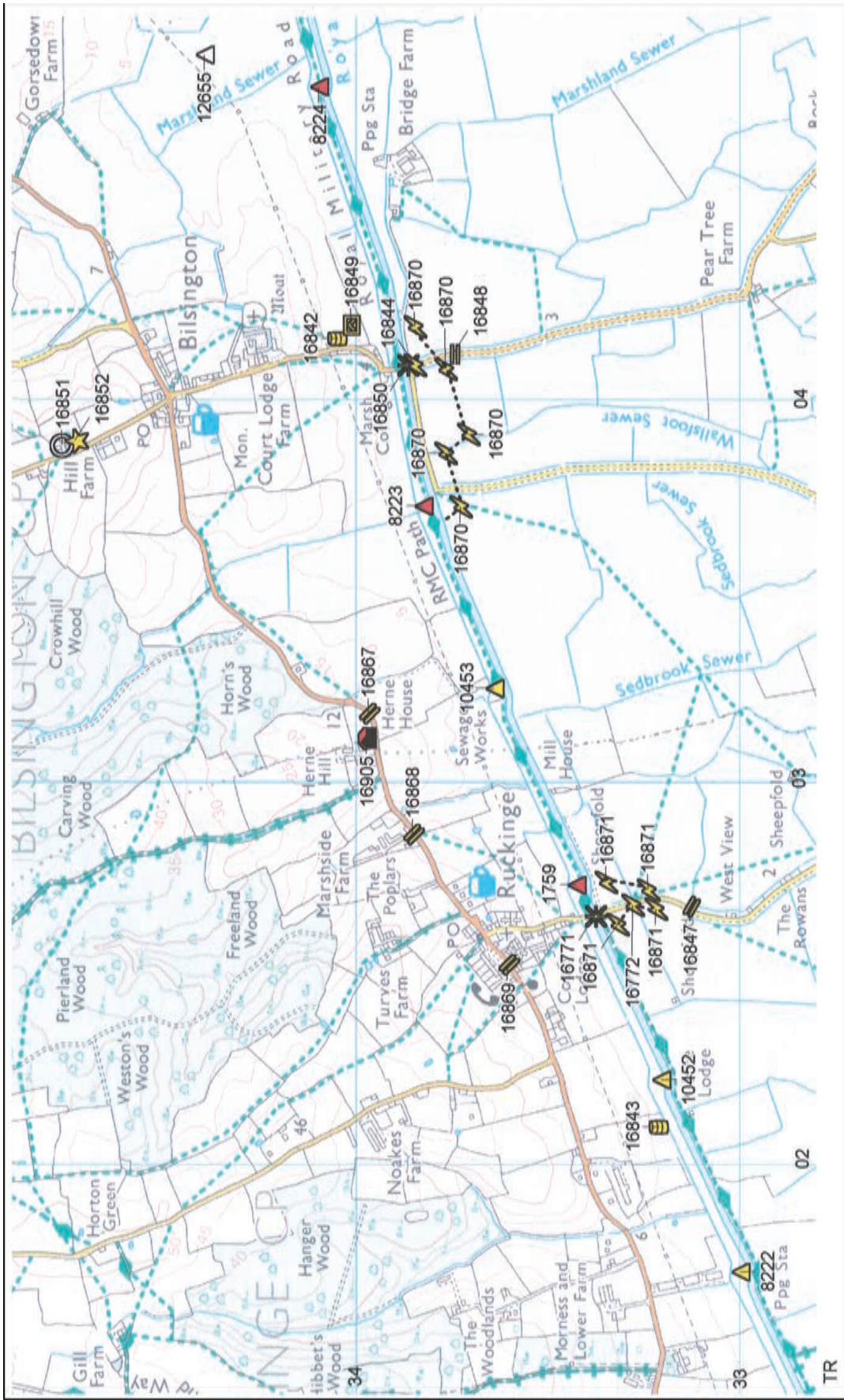
Documentary Sources

- 1 Tunnelling Company Royal Canadian Engineers War Diary, 1940 – TNA: PRO WO 179/468
- 1st London Infantry Brigade (167th Infantry Brigade) War Diary, 1940 – TNA: PRO WO 166/1040
- ‘Operation Instruction’, 4.6.1940 and ‘Operation Instruction No 6’, 20.11.1940 (from 9th Bn Royal Fusiliers War Diary) – TNA: PRO WO 166/4534
- ‘Operation Instruction No 8’, July 1940 (from 1st Bn London Scottish War Diary) – TNA: PRO WO 166/4439
- ‘Operation Instruction No 15’, July 1940 (from 2nd London Infantry Brigade War Diary) – TNA: PRO WO 166/1042
- ‘List of Nodal Points in Eastern Command’, September 1940 (from General Headquarters Papers, Home Forces) – TNA: PRO WO 199/544
- Befestigungskarte Großbritannien: 1:100,000 (Sheet 40), 3.9.1940 – BLML Y.336
- Befestigungskarte Großbritannien: 1:50,000 (Sheet 117), 20.11.1940 – BLML 1305(13)
- ‘43 Divisional Area Defence Scheme (East Kent)’, 27 November 1940 (from 43 Division ‘GS’ War Diary) – TNA: PRO WO 166/508

Bramling – Ickham – Wickhambreaux: Defence components

Database site reference	NGR	Defence work type	Survival status
1116	TR 2276056715	PILLBOX (TYPE 24)	E
1634	TR 2234058284	PILLBOX (TYPE 24)	E
1635	TR 2239957880	PILLBOX (TYPE 24)	E
1636	TR 21865859	PILLBOX (TYPE 24)	E
1637	TR 22455745	PILLBOX (TYPE 24)	E
1638	TR 2285256038	PILLBOX (TYPE 24)	E
1639	TR 2256356230	PILLBOX (TYPE 24)	E
14314	TR 22635702	PILLBOX (TYPE 24)	U
14316	TR 232561	PILLBOX	R
14339	TR 22485679	PILLBOX	U
15197	TR 225569	PETROLEUM WARFARE SITE	R
16810	TR 22445746	TRENCH	I
16811	TR 22425713	PILLBOX	R
16812	TR 22815675	ROADBLOCK	R
16813	TR 22815668	PILLBOX	E
16814	TR 22355604	PILLBOX	R
16815	TR 22765592	PILLBOX	R
16853	TR 22625658	ROADBLOCK	R
16854	TR 22425884	ARMY HEADQUARTERS	U
16906	TR 22365788	ROADBLOCK	R
16907	TR 21905860	ROADBLOCK	R
16908	TR 22205799	ARMY HEADQUARTERS	U
16926	TR 22505683	DEFENDED BUILDING	E

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Royal Military Canal: Bilsington-Ruckinge

Stop Line Defence

Location Details

6 miles (9.5km) S of Ashford and 8 miles (13km) W of Hythe

County: Kent

Parishes: Bilsington; Ruckinge

National Grid Reference (Ruckinge village): TR 026336

Landscape

The defence area lies along the line of the Royal Military Canal between Bilsington and Ruckinge, incorporating these two villages and the B2067 road to the north that connects them. To the south of the Canal, the flat expanse of Romney Marsh stretches away towards the English Channel, with the sea at its closest point five miles (8km) to the south-east. This is a landscape of rich pastureland, crossed by field and other drainage channels, where sheep are grazed extensively. To the north is a line of low wooded hills, which, before the draining of Romney Marsh in the Middle Ages, looked over open water. Some four miles (6.5km) to the east in the neighbourhood of Lympne, steep hillsides falling to the level expanses of the Marsh bordered by the Canal were once sea cliffs.

Ruckinge and Bilsington remain compact villages with few developments since the Second World War, but to the west of the area, the settlement of Hamstreet has expanded considerably with much new housing.

Defences

The Royal Military Canal had been built during the Napoleonic Wars against the threat of a French invasion. Between June and August 1940 it was refortified as a Division stop line (1st London Division) from Hythe to a point north of Rye, from where it was continued west as a Corps Line (XII Corps). Under the Operation Sealion plans for the invasion of England, the coast of Romney Marsh was to be a key landing point for the German XIII Corps, of which the 17th and 35th Divisions would have attacked the line of the Canal to gain the higher, more open land to the rear.

For defence purposes, Romney Marsh formed part of 'A' Sub-Area (South), which was divided into three Sectors: - R, S, and T. The area between the coast, itself heavily defended, and the eastern section of the Royal Military Canal was 'T' Sector, while the area to the north of the Canal was termed 'Z' Sector. The troops defending 'T' and 'Z' Sectors

during the critical invasion danger period of June to October 1940 came from 31 Independent Brigade Group.

In October and November 1940, the infantry battalion defending the Royal Military Canal in 'Z' Sector was the 1st Bn Royal Ulster Rifles, whose War Diary includes a detailed map showing its defence positions. The battalion occupied a front of six miles (9.5km) of the Canal on its centre and right, with its left flank bent back from the Canal for a further three miles (5km) towards the village of Aldington. In front of them to the south were other battalions defending the coastline in those Sectors for which the Canal was the back line. These defences consisted of pillboxes, minefields, concrete anti-tank obstacles, anti-tank ditches (created out of existing field drains), and posts to prevent enemy aircraft landing. On the higher land to the rear, Royal Artillery batteries were positioned with fire tasks on the beaches.

There were three immediate zones of defence along the line of the Royal Military Canal. The first was the landscape of flat grassland in front of the Canal, divided by drainage channels that greatly assisted in the defence. Some of these were widened and deepened as anti-tank ditches, preventing the widespread deployment of enemy armoured fighting vehicles and providing fire positions for defending infantry. Large fields were blocked against enemy aircraft landing by a grid pattern of wooden poles.

Second was the Canal itself and its bridges. Pillboxes, surrounded by perimeters of barbed wire, were sited at the flanks (staggered bends allowing enfilading fire) so that each separate length of the Canal could be covered by fire. The Canal had been originally engineered with this defensive purpose in mind, and it now served also as the principal anti-tank obstacle at the head of Romney Marsh. Defended localities were formed at bridge crossings and were protected by minefields to the south, by roadblocks, and by earthwork section posts and other fire trenches on the northern bank. Bridges were either demolished or prepared for demolition. The defended localities had all-round perimeters of barbed wire.

Third was a rear defence set around the villages behind the Canal and the line of the B2067 road. This was defended by earthwork infantry fire positions, concrete pillboxes, and roadblocks. This rear zone was extended north into the line of wooded hills overlooking Romney Marsh, which provided positions for batteries of field artillery with fire tasks on the Canal and further forward on the shoreline. The hills were patrolled as a likely landing zone for enemy airborne troops seeking to seize the stop line defences from the rear.

The first defence works built along the north bank of the Royal Military Canal were pillboxes (the small hexagonal Type 22 with an attached entry porch). The bridges of roads crossing the Canal were either demolished or prepared to be blown in the event of an invasion, and there were roadblocks and minefields at these crossing points. The 1st Bn Royal Ulster Rifles adapted and extended these defences (one Type 22 pillbox was left unmanned [8224]) by establishing sandbagged and earthwork section posts, slit trenches, weapon pits, and other fire positions for anti-tank rifles, mortars, machine guns, and anti-tank guns.

Observation posts and battle headquarters were also set up. Accommodation for the troops was found in various requisitioned buildings, including schools and church halls. Thirty other ranks were housed in the village hall at Bilsington, which still stands. In addition to the regular troops, the Cinque Ports and Ashford battalions of the Kent Home Guard were also involved in the defence of the villages.

There are few remains today of the intense defence systems that were constructed during the Second World War. In the study area, three Type 22 pillboxes relating to Zone



FIGURE 114 RAF air photograph taken 7 July 1940 showing Bilsington bridge (left centre) with Bilsington village (top). Trees line the north bank of the Royal Military Canal. A minefield lay on both sides of the road south of the bridge. (RAF/26F/UK/1448 fr23. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)

2 of the defence survive on the north bank of the Canal [1759, 8223, and 8224], all in poor condition, one with its internal anti-ricochet wall removed [8224], and with damaged exterior walls and displaced roofing slabs to the entry porches. At Herne House Farm on the B2067 road, where the Royal Ulster Rifles' defence map shows a pillbox and roadblock, one blocked loophole in a barn is the only survivor of the Zone 3 defences [16905]. Nothing survives of Zone 1 but the unchanged topography of Romney Marsh itself.



FIGURE 115 Portion of a German map of August 1940, reduced in scale from Ordnance Survey 6in sheets, overprinted with details of the defences along the Royal Military Canal. Each pillbox is surrounded by a barbed wire perimeter running on both banks of the Canal.
 ((SHEET 1/73), 8.8.1940. BY PERMISSION OF THE BRITISH LIBRARY: Y148)



FIGURE 116 The Royal Military Canal looking west from Bilsington Bridge.
 (PHOTO: THE AUTHOR, 12 FEBRUARY 2004)

FIGURE 117 Type 22 infantry pillbox [8224] on the north bank of the Royal Military Canal east of Bilsington Bridge. Its walls are now badly cracked. This pillbox is recorded as 'unmanned' on an October 1940 defence map.
(PHOTO: THE AUTHOR, 12 FEBRUARY 2004)



Significance

The significance of the defence area lies mainly in the fact that it would have been at a key point in the German invasion had Operation Sealion been put into effect. The good surviving documentation makes it possible to understand how the first fixed linear defences were later adapted by units of the Field Army to provide a more flexible defence in depth, making use of the full range of fieldworks required by defending infantry troops, supported by artillery to the rear.

FIGURE 118 Type 22 pillbox [8223] between Bilsington and Ruckinge bridges. Its entry porch is in danger of collapse, and its eastern face has suffered damage at some time.
(PHOTO: THE AUTHOR, 12 FEBRUARY 2004)





FIGURE 119 The village hall at Bilsington which in November 1940 accommodated 30 men of the 1st Bn Royal Ulster Rifles. (PHOTO: THE AUTHOR, 12 FEBRUARY 2004)

The landscape features that determined all three defence zones have altered very little since the Second World War and are still clear on the ground. The surviving defence works and the landscape itself, therefore, serve as valuable reminders of the strategic importance of this prepared battlefield against the threatened German invasion. The insubstantial nature of the hardened field defences might appear to indicate how scarce resources were for defence at the beginning of the invasion danger period (June to July



FIGURE 120 Blocked-up loophole [16905] in the wall of a barn at Herne House Farm. This is at a site marked 'pillbox' on an October 1940 defence map. It guarded a roadblock. (PHOTO: THE AUTHOR, 12 FEBRUARY 2004)

1940), even in such a vital sector as this. The documentary evidence shows that the deployment of the Field Army in defence of its home landscape was not set principally around concrete defences, but relied on well-sited field positions, infantry anti-tank weapons, and artillery in support.

Access

A public footpath (part of the designated Royal Military Canal Path) runs along the Canal's north bank in the Bilsington area, but crosses to the south bank at Ruckinge bridge. Parking is best made in the villages as there is little space by the bridges.

Published Source

Saunders, A & Smith, V, 2001 Royal Military Canal, report KD 78 for Kent County Council, *Kent's Defence Heritage*, Gazetteer Part One

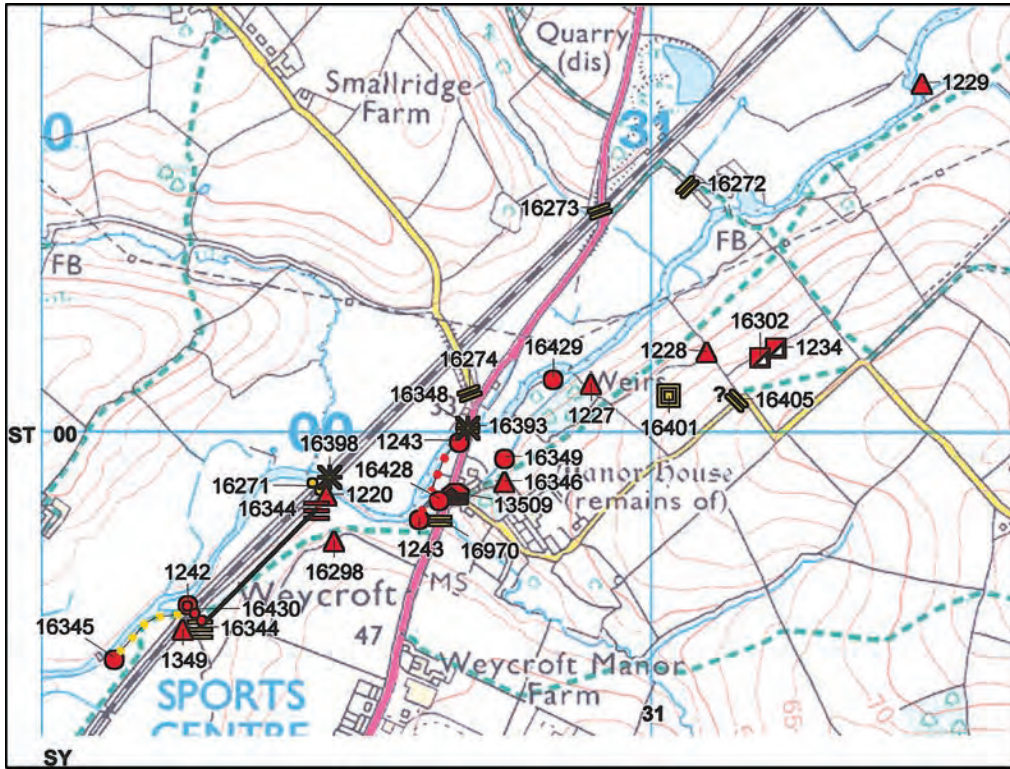
Documentary Sources

- 4th Bn Royal West Kent Regiment War Diary, 1940 – TNA: PRO WO 166/4639
6th Bn The Border Regiment War Diary, 1940 – TNA: PRO WO 166/4156
5th Bn Somerset Light Infantry War Diary, 1940 – TNA: PRO WO 166/4656
6th Bn Somerset Light Infantry War Diary, 1940 – TNA: PRO WO 166/4657
135th Infantry Brigade War Diary, 1940 – TNA: PRO WO 166/990
198th Infantry Brigade War Diary, 1940 – TNA: PRO WO 166/1051/1
1 (London) Division 'G' Branch War Diary, 1940 – TNA: PRO WO 166/710
Stellungskarte Großbritannien: 1:25,000 (Sheet 1/73), 8.8.1940 – BLML Y148
'List of Nodal Points in Eastern Command', September 1940 (from General Headquarters Papers, Home Forces) – TNA: PRO WO 199/544
'Taktisches Luftbildbuch', 23.10.40 – IWM Duxford: AL 2902
'Defence Scheme', 31.10.1940 (from 1st Bn Royal Ulster Rifles War Diary) – TNA: PRO WO 166/4606
Südküste England – Schrägbildreihe II: Dungeness to Dover, 20.11.1940 – RAF Museum, Hendon AC 95/130/1
'Operation Instruction No 2', 12.12.1940 (from 14th Bn Durham Light Infantry War Diary) – TNA: PRO WO 166/4228
5th Bn Royal West Kent Regiment War Diary, 1941 – TNA: PRO WO 166/4640 (extracted map, MFQ 1330)
2/6th Bn Queen's Royal West Surrey Regiment War Diary, 1941 – TNA: PRO WO 166/4500
169th Infantry Brigade War Diary, 1941 – TNA: PRO WO 166/1044
56 (London) Division 'G' Branch War Diary, 1941 – TNA: PRO WO 166/712
'Operation Instruction No 1', 27.1.1941 (from 1/6th Bn Queen's Royal Regiment War Diary) – TNA: PRO WO 166/4498
'Operation Instruction No 20', 18.2.1941 (from 6th Bn Cheshire Regiment War Diary) – TNA: PRO WO 166/4195
Befestigungskarte Großbritannien: 1:50,000 (Sheet 126), 1.6.1941 – BLML 1305(13)
'Plan to Defeat Invasion', 26.6.1941 (from 2/5th Queen's Regiment War Diary) – TNA: PRO WO 166/4496
'Operation Order No 4', 26.8.1941 (from 1st Bn London Scottish War Diary) – TNA: PRO WO 166/4440

Royal Military Canal: Bilsington – Ruckinge: Defence components

Database site reference	NGR	Defence work type	Survival status
1759	TR 0273333428	PILLBOX (TYPE 22)	E
8222	TR 01723300	PILLBOX (TYPE 22)	R
8223	TR 0372233805	PILLBOX (TYPE 22)	E
8224	TR 0482834090	PILLBOX (TYPE 22)	E
10452	TR 02243321	PILLBOX (TYPE 22)	R
10453	TR 03243366	PILLBOX (TYPE 22)	R
12655	TR 049344	PILLBOX	U
16772	TR 02683328	CANADIAN PIPE MINE	R
16842	TR 04163405	BARREL FLAME TRAP	R
16843	TR 02103321	BARREL FLAME TRAP	R
16844	TR 04093385	CANADIAN PIPE MINE	R
16847	TR 02673313	ROADBLOCK	R
16848	TR 04133375	ROADBLOCK	R
16849	TR 04183403	SECTION POST	R
16850	TR 04093387	MINED BRIDGE	R
16851	TR 03883477	ARMY BATTLE HEADQUARTERS	U
16852	TR 03883475	OBSERVATION POST	R
16867	TR 03193396	ROADBLOCK	R
16868	TR 02873385	ROADBLOCK	R
16869	TR 02533360	ROADBLOCK	R
16870	TR 03723373 – TR 03863377 – TR 03913371 – TR 04083377 – TR 04193385	MINEFIELD	R
16871	TR 02633332 – TR 02673322 – TR 02723324 – TR 02743335	MINEFIELD	R
16871	TR 02643338	MINED BRIDGE	R
16905	TR 03123396	DEFENDED BUILDING	E

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Weycroft

Stop Line Defence

Location Details

1½ miles (2.5km) N of Axminster

County: Devon

Parish: Axminster

National Grid Reference (Weycroft Bridge): ST 307000

Landscape

The defence area is centred on the small settlement of Weycroft, today consisting principally of Weycroft Hall and Manor and an adjacent former water-operated flour mill, which lies within the valley of the River Axe at the point where it is crossed by the A358 road on a narrow bridge and causeway. To the north-west of the river are broad water meadows, and to the south-east, sharply rising hills. The Exeter to Yeovil railway line runs broadly parallel with the river, passing under the main road just to the north of Weycroft.

The northern suburbs of Axminster have spread close to the area with the development of an industrial estate next to Weycroft Manor Farm on the site of a former army camp. The former cement works at the northern edge of the area have long been closed down, and a short line of workers' houses (Coaxdon Cottages) have now been converted to modern residences.

Defences

The defence works at Weycroft formed part of the Taunton Stop Line, which ran from Seaton on the Devon coast to Highbridge on the Bristol Channel, cutting across the waist of the South West peninsula. It followed principally the natural barriers of the River Axe and the River Parrett, as well as the artificial linear features of the railway lines (many lengths of which are abandoned now), the Bridgwater and Taunton Canal, and the line of the Chard to Taunton Canal (disused in 1940, but dug out again as an anti-tank obstacle). The purpose of the stop line was to prevent an advance from the west penetrating into the heartlands of southern England, consequent upon a German landing on the Devon, Cornwall, or Somerset coasts.

The initial reconnaissance for the Taunton Stop Line was carried out by a team from HQ Southern Area between 24 and 25 June 1940, followed by a full survey by 516th Corps Field Survey Company Royal Engineers and the preparation of detailed maps. Construction began in mid-July 1940, and was undertaken, in the northern sectors, by 552nd Army Troops Company Royal Engineers, and, in the southern, including Axminster, by its sister 551st Company. Two civilian contractors were used: John Mowlem and Charles Brand.

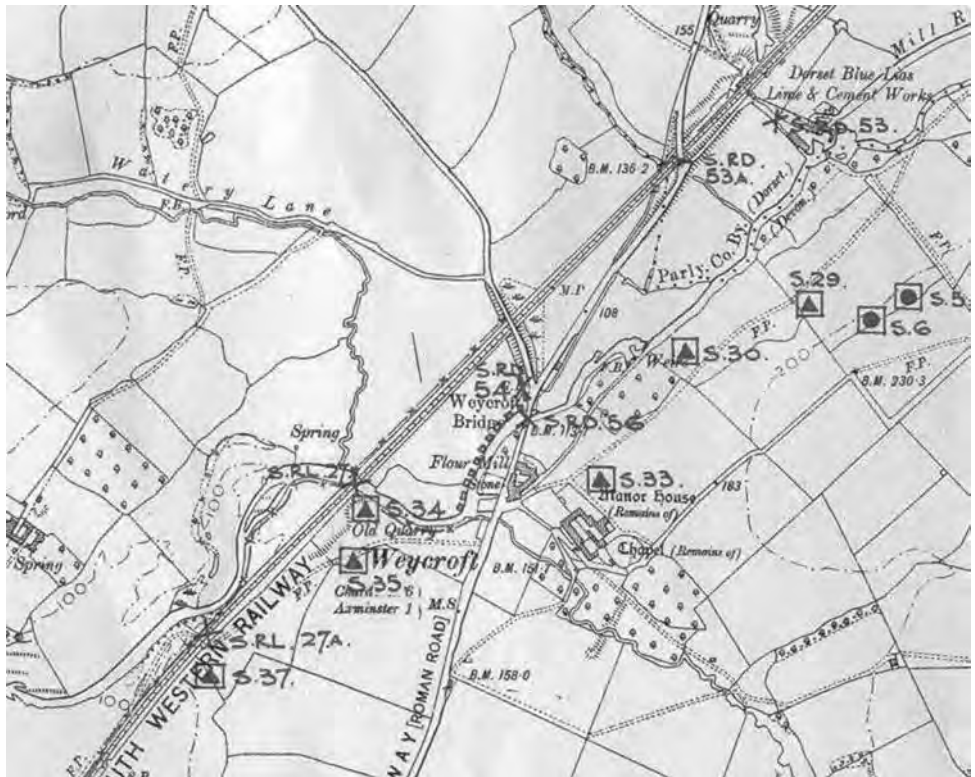


FIGURE 121 The Weycroft defence area, with its various crossings of the River Axe by road and railway, lies at the centre of this air photograph taken 11 April 1947. The anti-tank ditch [16344] running parallel with the railway line at the south of the area shows clearly. (RAF/CPE/UK/1974 fr1423. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)

Very good documentary evidence, including surviving Royal Engineers' record maps, enable the differing types of defence works, and their precise positioning, to be determined for the entire length of the Taunton Stop Line. It was defended by anti-tank gun emplacements (2pdr or 6pdr), Vickers medium machine gun emplacements, Bren (light machine gun) emplacements (also termed pillboxes), artificial anti-tank ditching and scarping, permanent road and rail blocks, concrete anti-tank cubes, posts, and tetrahedra (pimples or dragon's teeth), Dannert wire entanglements, land mines, and by the prepared demolition of bridges. These defences were also incorporated with those of twelve anti-tank islands, prepared for all-round defence, established along the course of the line. Taunton itself was a further anti-tank island to the west of the line to which it gave its name.

The original garrison plan for the line was that it was to be divided into six brigade sectors of the Field Army, each to be manned with two battalions forward, and one in reserve. The defence works were organised by platoon posts (Forward Defended Localities), and by some detached section posts. It is doubtful if this level of manning was ever achieved; certainly, the 8th Bn Somerset Light Infantry alone was given the role of

FIGURE 122 Portion of a Royal Engineers' record map of August 1940 showing the defences of the Taunton Stop Line at Weycroft. Each defence work was referenced, this reference being stencilled on the defence work itself and used in all documentation. (WILLS COLLECTION, NMR)



supervising and reinforcing all the garrisons of the anti-tank islands. From the initial planning of the line, the Home Guard was accorded a role in assisting the Field Army: they were to act as guides, and to take responsibility for stores and keeping the section posts in good order, as well as having a fighting role in the defence of the anti-tank islands. The unit at Weycroft was the Axminster Company of the Seaton Battalion, Devon Home Guard.

In the Weycroft area, which lay a short distance from the northernmost perimeter defences of Axminster anti-tank island, the main anti-tank obstacle against an anticipated attack from the west was the River Axe. At this point, the banks of the river are not very high, and there is some evidence from air photographs that they may have been steepened by being cut back and revetted and the river bed itself dredged. Certainly, the river as an obstacle was strengthened by lines of anti-tank cubes in the vicinity of Weycroft Mill [1243], and by concrete posts and barbed wire to the south-west [16345]. An anti-tank ditch was also dug at the foot of a bluff parallel with the railway line and the river – its hollow can still be seen [16344]. It ran between a pillbox [1220] and a railblock [16430], the slotted blocks of the latter being still in place beside the track while accompanying cubes have tumbled into the river [1242]. One additional railblock, and five roadblocks, were also constructed within the area, the latter almost certainly of the horizontal rail type supported by anti-tank mines and tetrahedra (pimples). There is some surviving field evidence that the mill buildings were incorporated in the defences [13509], although there is no documentary reference to this.



FIGURE 123 A line of pyramidal-topped cubes [1243] strengthening the anti-tank obstacle provided by the River Axe at Weycroft Mill. (PHOTO: THE AUTHOR, 14 JANUARY 2003)

Some good examples of infantry pillboxes and Vickers machine gun emplacements survive within the defence area. Of the latter category, two emplacements [1234 and 16302] stand side by side on the steep hillside above the river. Their fire was supplemented by infantry pillboxes in positions above the river as far as the mill. By Weycroft Hall, a Type



FIGURE 124 More anti-tank cubes by the mill race with, in the foreground, a number of concrete posts set at an angle in the river bank [16428]. The latter represents a defence work type that rarely survives: other examples to the south-west have been destroyed in recent years. (PHOTO: THE AUTHOR, 14 JANUARY 2003)

FIGURE 125 Vickers machine gun emplacement [1234] dug into the crest of the ridge overlooking the valley of the River Axe. Its entrance is protected by a detached blast wall. (PHOTO: THE AUTHOR, 14 JANUARY 2003)



22 pillbox [16346] – one of only three of this type remaining on the Taunton Stop Line – still retains its stencilled reference number. Opposite the mill, a line of anti-tank cubes fronts the river [1243], with a number of concrete posts, strengthening the bank of the mill-race, surviving in a vulnerable condition nearby [16428].

FIGURE 126 Square infantry pillbox [1349] by the railway line south of Weycroft protecting a railblock, the grooved blocks for which can be seen in the mid-distance, one each side of the track [16430]. One or more steel rails would have been laid horizontally between them. (PHOTO: THE AUTHOR, 14 JANUARY 2003)



Significance

The defence area provides an excellent illustration of the defences of the Taunton Stop Line where these were set on the margins of a river that provided a front-edge anti-tank obstacle, but needed to be strengthened artificially. There have been few changes in the immediate landscape around Weycroft since the Second World War, and the survival here of the 1940 defence works is excellent. The defended landscape thus retains a coherent pattern of individual components of defence, which can be viewed in their original landscape context. The particular requirements were to defend the road and rail crossings of the river and to utilise the heights to the north-east to cover the anti-tank obstacle. The front-edge defences were supported by anti-tank blocks, concrete posts, and an anti-tank ditch, evidence of all of which survives on the ground. The defence of the heights above the river is dramatically clear from the adjacent positions of Vickers emplacements [1234 and 16302] dug into the crest of the ridge. In addition, infantry pillboxes defending the eastern hill slopes were sited at field boundaries and beneath tree cover where they can be found today, often in an overgrown state.

The line of anti-tank blocks by the river is an impressive sight when seen from the adjacent road causeway; it has the rare addition of adjacent concrete posts *in situ*. The slotted blocks of a railblock still beside the tracks they once protected are also a rare survival.¹ Some excellent examples of two different types of infantry pillbox (Types 22 and 24), together with Vickers machine gun emplacements, can also be inspected at close quarters. Weycroft Mill was at a pivotal point in the defences close to the road crossing of the Axe. Its buildings have been converted to housing recently, and it will be important to provide information on its 1940 defence role to ensure that various of the anti-tank blocks and concrete posts within its grounds are protected.

Access

A footpath from Coaxdon Cottages to Weycroft Mill and another running by the river and railway to the south allow public access to many of the defence sites. Car parking is not possible at Weycroft, but there is a convenient lay-by on the A358 road close to the lane to Coaxdon Cottages.

Note

¹ Ten examples of the paired supporting pillars of railblocks, in fact, survive along the course of the Taunton Stop Line, making this by far the best survival of this defence work type in the country. (information from David Hunt)

Published Sources

- Clarke, N J, 1995 *Adolf Hitler's Holiday Snaps: German Aerial Reconnaissance Photography of Southern England 1939–1942*. Lyme Regis: Nigel J Clarke Publications
- Dobinson, C S, 1996 The Taunton stop-line: component listing, *Twentieth Century Fortifications in England, Vol II: Anti-Invasion Defences of WWII* (supporting paper A1/S/3). York: Council for British Archaeology

Hellis, J, 1996 The Taunton Stop-Line, *Fortress*, 39–47

Warren, D, 2000 *Now You See It – Then You Didn't: The Inter-Channel Stop Line of 1940*. Taunton: Somerset Industrial Archaeological Society

Documentary Sources

'Taunton Stop Line' (record map folios of Major F B Goodman RE, DCRE, Taunton), 1940 – Wills Collection, NMR

'Southern Command Home Defence Programme, 1940' (map from General Headquarters Papers, Defence Works) – TNA: PRO WO 199/48

516th Corps Field Survey Company Royal Engineers War Diary, 1940 – TNA: PRO WO 166/3781

551st Army Troops Company Royal Engineers War Diary, 1940 – TNA: PRO WO 166/3789

552nd Army Troops Company Royal Engineers War Diary, 1940 – TNA: PRO WO 166/3790

144th Infantry Brigade War Diary, 1940 – TNA: PRO WO 166/1007

'Somerset Sub-Area Defence Scheme', August 1940 (from Somerset Sub-Area HQ War Diary) – TNA: PRO WO 166/1317

'Home Defence Progress Report: Taunton Line', 30.10.1940 (from General Headquarters Papers, Home Forces) – TNA: PRO WO 199/1803

'Report on Taunton Stop Line', December 1940 (from General Headquarters Papers, Home Defence - Stop Lines) – TNA: PRO WO 199/1810

'Operation Instruction No 5' – Taunton Stop Line', 4.1.1941 (from Southern Area HQ War Diary) – TNA: PRO WO 166/1243

'Western Area Defence Scheme', 23.6.1941 (from Western Area HQ War Diary) – TNA: PRO WO 166/1251

'Somerset and Bristol Area Defence Scheme', 1942 (from Somerset and Bristol Area War Diary) – TNA: PRO WO 166/6713

'Operation Instruction No 4', 7.3.1942 (from South Somerset Sub-Area War Diary) – TNA: PRO WO 166/6775

'Somerset Sub-District Defence Scheme', 1943 (from Somerset Sub-District War Diary) – TNA: PRO WO 166/11001

'Somerset and Bristol Area Defence Scheme', 1943 (from Somerset and Bristol Area War Diary) – TNA: PRO WO 166/10824

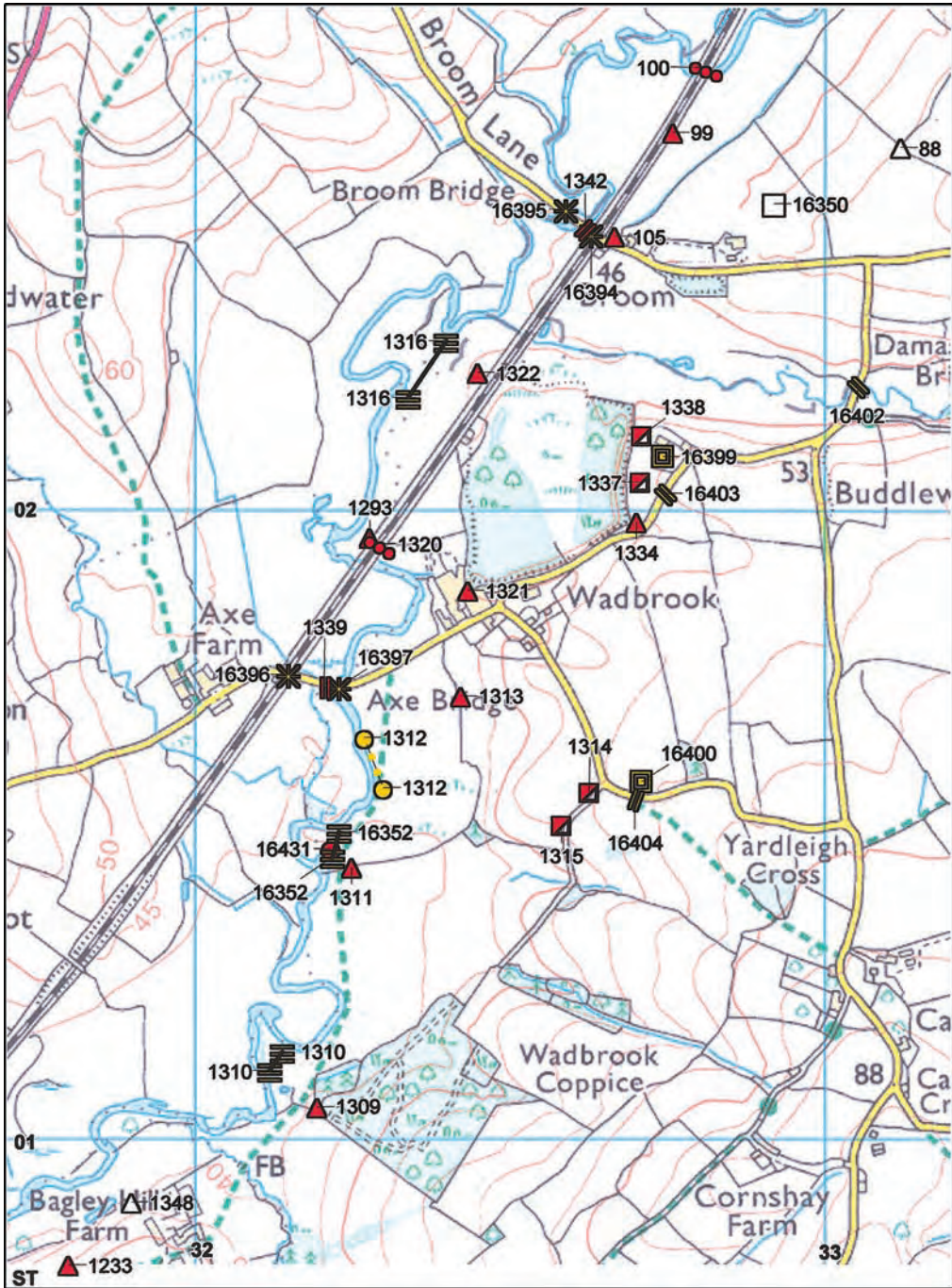
B Horner, 'Weycroft Mill, Axminster: Features Relating to the 1940 Taunton Stop-Line', 28.4.1997 (unpublished memorandum and plan in Defence of Britain Project Archive, NMR)

Letter to Defence of Britain Project from Mr P Davies – late 552nd Army Troops Company Royal Engineers – re the construction of the Taunton Stop Line, 26.10.1997 (Defence of Britain Project Archive, NMR)

Weycroft: Defence components

Database site reference	NGR	Defence work type	Survival status
1220	SY 3047099892	PILLBOX (TYPE 24)	E
1227	ST 3090200081	PILLBOX (TYPE 24)	E
1228	ST 3109200134	PILLBOX (TYPE 24)	E
1229	ST 3144000572	PILLBOX (TYPE 24)	E
1234	ST 3120600140	VICKERS MACHINE GUN EMPLACEMENT	E
1242	SY 30249971	CUBE	E
1243	SY 30689999 – SY 30629986	CUBE	E
1349	SY 3023299678	PILLBOX (VARIANT)	E
13509	SY 30689990	DEFENDED BUILDING	E
16271	SY 30469991	RAILBLOCK	R
16272	ST 31060041	ROADBLOCK	R
16273	ST 30910037	ROADBLOCK	R
16274	ST 30700070	ROADBLOCK	R
16298	SY 3048099823	PILLBOX (TYPE 22)	E
16302	ST 3118800121	VICKERS MACHINE GUN EMPLACEMENT	E
16344	SY 30479989 – SY 30269968	ANTI TANK DITCH	E
16345	SY 30239970 – SY 30159962	POST	E
16346	SY 3076099920	PILLBOX (TYPE 22)	E
16348	ST 30700001	ROADBLOCK	R
16349	SY 30769996	CUBE	E
16393	ST 30700001	MINED BRIDGE	R
16398	SY 30459991	MINED BRIDGE	R
16401	ST 31030006	ANTI TANK GUN POSITION	R
16405	ST 31150005	ROADBLOCK	R
16428	SY 30659988	POST	E
16429	ST 30840009	CUBE	E
16430	SY 3025099710	RAILBLOCK	E
16970	SY 30689986	ROADBLOCK	R

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Wadbrook

Stop Line Defence

Location Details

3 miles (5km) NE of Axminster

County: Devon

Parish: Hawkchurch

National Grid Reference (Axe Bridge): ST 322017

Landscape

The defence area lies predominantly to the north and south of the small farming community of Wadbrook, principally on the east side of the River Axe where low hills rise from the river's floodplain. It is crossed on its western side by the Exeter to Yeovil railway line. This is an enclosed agricultural landscape with small fields and stands of woodland, through which run narrow winding lanes. At the centre of the area, both the railway and the river are crossed at Axe Bridge by a lane leading from the A358 road, and another lane crosses both river and railway at Broom Bridge to the north.

Defences

The defence works at Wadbrook formed part of the Taunton Stop Line, which ran from Seaton on the Devon coast to Highbridge on the Bristol Channel, cutting across the waist of the South West peninsula. (See also Weycroft defence area). Air photographs show construction of this sector of the line in July 1940. As with Weycroft defence area, the Home Guard unit responsible for manning and maintaining the defence works, once the Taunton Stop Line had been abandoned as a potential Field Army battle position late in 1940, was the Axminster Company of the Seaton Battalion, Devon Home Guard.

The expected direction of enemy attack against the line was from the west, with the River Axe forming the main linear anti-tank obstacle at Wadbrook, its banks being cut back and steepened, and short lengths of ditch dug across the base of the outward-facing loops to strengthen their anti-tank capability.

At one point just south of Axe Bridge, a row of concrete cubes was erected on the river bank as an additional anti-tank obstacle [1312]. Blocks were set up at road and rail crossings of the river: at Axe Bridge the concrete slotted blocks of a horizontal steel rail roadblock survive [1339]. Roadblocks were also established at three positions on the lanes winding through the higher land to the east of the river.

Some good examples of the Vickers medium machine gun emplacement survive within the area. Two such emplacements, with their large main embrasures, stand close together on the brow of the hill overlooking the river, and are in good condition [1314 and 1315].



FIGURE 127 Air photograph taken 11 April 1947 of the Wadbroom defence area, showing the twisting course of the River Axe and the straight line of the railway. Towards the bottom left of the photograph, the river is crossed by a lane at Axe Bridge. The defence line was straightened and strengthened by digging short lengths of anti-tank ditch across the base of several of the river loops. These ditches still awaited backfilling when the photograph was taken. (RAF/CPE/UK/1974 fr4323. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)

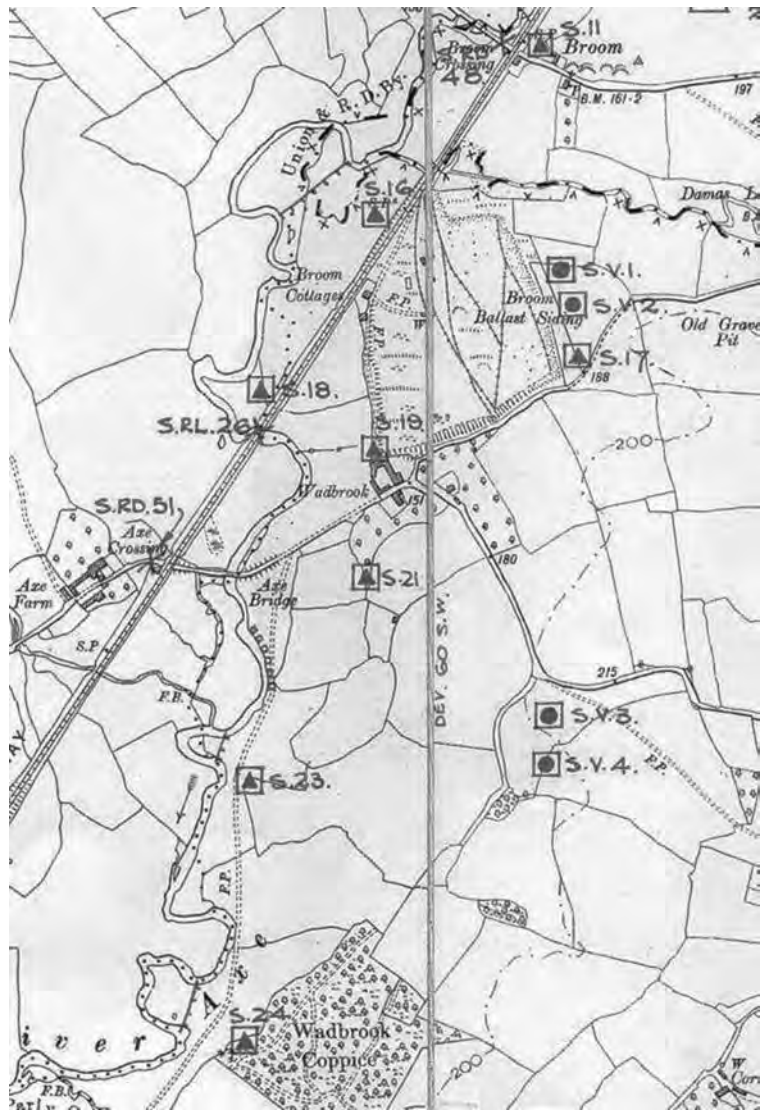
The concrete tables on which the weapons were placed are intact. Two further emplacements were positioned together further to the north, but they are overgrown and largely inaccessible [1337 and 1338].

Examples of Type 24 infantry pillboxes can also be found, although in the main these are all either badly overgrown or unapproachable (without permission) on private land. The slotted blocks of the horizontal rail roadblock at Axe Bridge make a rare survival, as such structures were usually removed as obstructions soon after the end of the war [1339].

Significance

The landscape of the defence area remains very substantially as it was in 1940. Air photographs show that a number of hedgerows of fields within the river's floodplain have been removed, but the essential pattern of small fields, woods, and narrow lanes, in an undulating landscape above the river valley, still remains. Within this landscape there is a

FIGURE 128 Portion of a Royal Engineers' record map of August 1940 showing the defences at Wadbrook. (WILLS COLLECTION, NMR)



high survival of defence works: infantry pillboxes, machine gun emplacements, and anti-tank blocks.

From a position by the river bank, it can be seen how pillboxes (for light machine gun and rifle fire) were positioned at this front-edge anti-tank obstacle, while the stronger Vickers emplacements were placed on the slopes behind. Earthworks were also prepared on the higher land as firing positions for 2pdr anti-tank guns. This is the opposite strategy to that which prevailed, for example, in Essex where the larger shell-proof pillboxes were placed at the river edge while the smaller, thin-walled pillboxes covered the rising land behind (see Hartford End defence area).

There were two defended localities set around roadblocks within the defence area, the first south of Wadbrook settlement, with two Vickers emplacements firing across the river valley below, and the second at the edge of a steep slope overlooking what in 1940 were the



FIGURE 129 Axe Bridge defended by a horizontal rail roadblock, the supporting blocks for which survive [1339]. The rising land beyond the river was defended by infantry pillboxes and Vickers machine gun emplacements. (PHOTO: THE AUTHOR, 14 JANUARY 2003)

railway sidings of a quarry; two Vickers emplacements and a Type 24 pillbox here fired west towards the railway line. Both defended localities, if manned by the Field Army, would have been supported by anti-tank guns.

The defence area provides a good illustration of how the anti-tank capability of a river was supplemented by short lengths of anti-tank ditch cut across its loops, and by the strengthening of its bank by concrete obstacles. Such a defence adaptation of the natural topography is found elsewhere (see, for example, Weycroft and Waverley Abbey defence



FIGURE 130 The bank of the River Axe south of Axe Bridge. The Royal Engineers' map (see Fig 128) shows that a line of concrete blocks was positioned here to strengthen the river bank as an anti-tank obstacle; only the raised earth bank on which the blocks were set remains [1312]. (PHOTO: THE AUTHOR, 14 JANUARY 2003)

FIGURE 131 Vickers machine gun emplacement [1315], with large stepped embrasure and detached blast wall covering the entrance. The breeze-block shuttering is falling away in part revealing the reinforced concrete core of the wall. The emplacement is one of two standing together on the crest of the higher land overlooking the river. (PHOTO: THE AUTHOR, 14 JANUARY 2003)



areas). At Wadbrook, the presence of the railway line also supported the anti-tank barrier of the river, and to the north of Axe Bridge the defence works were placed alongside the railway rather than on the river banks.

Access

Most of the defence works can be seen from the lanes and footpaths that cross the area. The Vickers emplacements stand on private land, and permission to approach them should be obtained from the nearby farms. It is recommended that the defence area be approached from Axe Bridge in order to appreciate best how the defences were sited, making use of the river and the railway with the rising land beyond.

This is a working agricultural landscape, and the narrow lanes are used by tractors and other farm vehicles; there are few passing, or parking, places. Visitors would be well advised to walk to the area from a distance beyond it.

Published Sources

Dobinson, C S, 1996 The Taunton stop-line: component listing, *Twentieth Century Fortifications in England, Vol II: Anti-Invasion Defences of WWII* (supporting paper AI/S/3). York: Council for British Archaeology

Warren, D, 2000 *Now You See It – Then You Didn't: The Inter-Channel Stop Line of 1940*. Taunton: Somerset Industrial Archaeological Society

Documentary Sources

'Taunton Stop Line' (record map folios of Major F B Goodman RE, DCRE, Taunton), 1940 – Wills Collection, NMR

'Southern Command Home Defence Programme, 1940' (map from General Headquarters Papers, Defence Works) – TNA: PRO WO 199/48

'Home Defence Progress Report: Taunton Line', 30.10.1940 (from General Headquarters Papers, Home Forces) – TNA: PRO WO 199/1803

'Report on Taunton Stop Line', December 1940 (from General Headquarters Papers, Home Defence – Stop Lines) – TNA: PRO WO 199/1810

'Operation Instruction No 5 – Taunton Stop Line', 4.1.1941 (from Southern Area HQ War Diary) – TNA: PRO WO 166/1243

Letter to Defence of Britain Project from Mr P Davies – late 552nd Army Troops Company Royal Engineers – re the construction of the Taunton Stop Line, 26.10.1997 (Defence of Britain Project Archive, NMR)

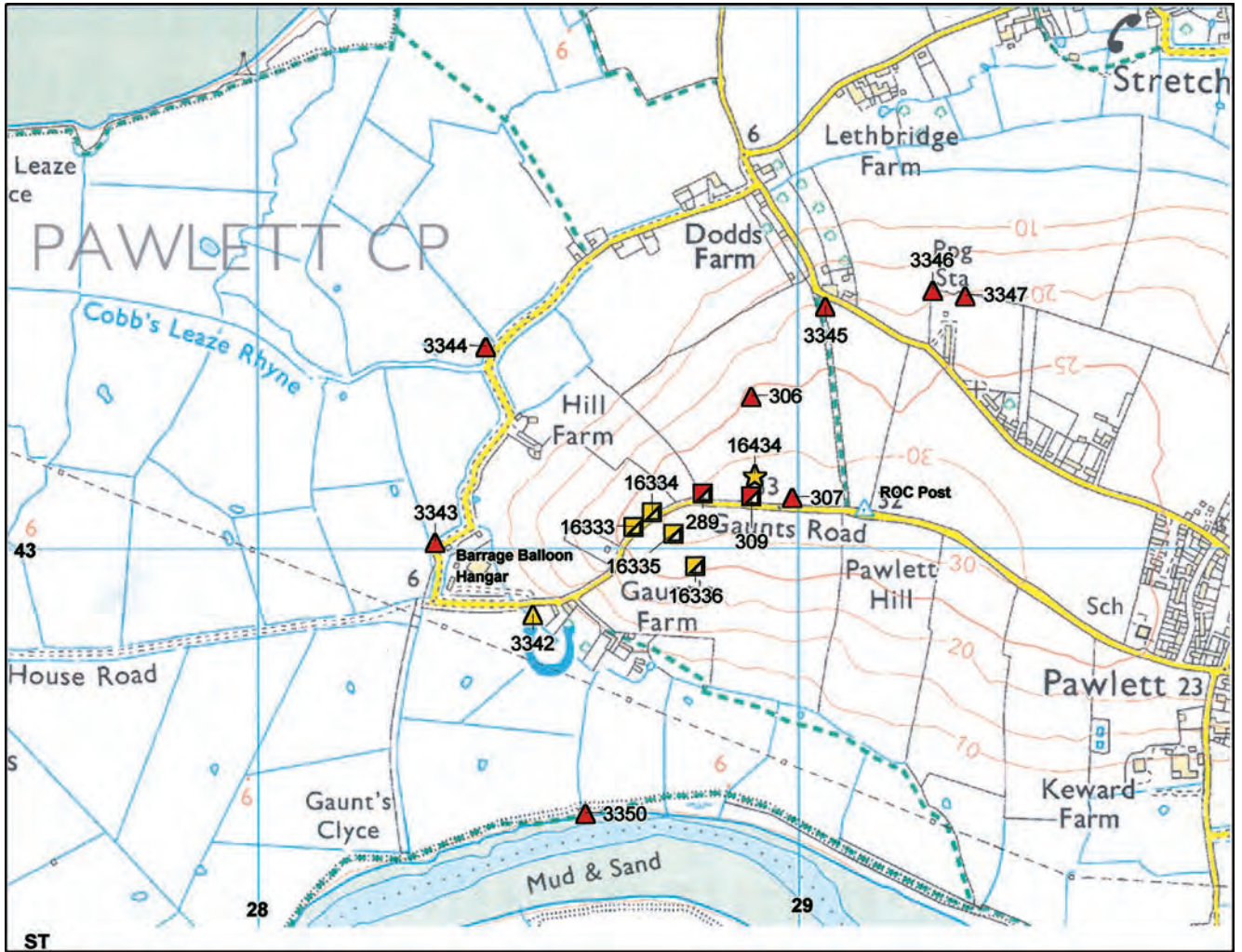
Wadbrook: Defence components

Database site reference	NGR	Defence work type	Survival status
59	ST 33320298	PILLBOX (TYPE 24)	E
87	ST 3310002872	PILLBOX (TYPE 24)	E
88	ST 3312102580	PILLBOX (TYPE 24)	U
98	ST 33470247	PILLBOX	E
99	ST 3275902603	PILLBOX (TYPE 24)	E
100	ST 32820271	RAILBLOCK	E
102	ST 334028	ARTILLERY GUN POSITION	R
105	ST 32670243	PILLBOX	E
1229	ST 3144000572	PILLBOX (TYPE 24)	E
1233	ST 3174300730	PILLBOX (TYPE 24)	E
1234	ST 3120600140	VICKERS MACHINE GUN EMPLACEMENT	E
1293	ST 3229001950	PILLBOX (TYPE 26)	E
1309	ST 3219501052	PILLBOX (TYPE 24)	E
1310	ST 32120111 – ST 32140114	ANTI TANK DITCH	I
1311	ST 3225001434	PILLBOX (TYPE 24)	E
1312	ST 32270164 – ST 32300156	ANTI TANK BLOCK	R
1313	ST 3242301706	PILLBOX (TYPE 24)	E
1314	ST 3263101551	VICKERS MACHINE GUN EMPLACEMENT	E
1315	ST 3258901499	VICKERS MACHINE GUN EMPLACEMENT	E
1316	ST 32340218 – ST 32400227	ANTI TANK DITCH	I
1320	ST 32290195	RAILBLOCK	E
1321	ST 3243401873	PILLBOX (TYPE 24)	E
1322	ST 32450222	PILLBOX (TYPE 26)	E
1334	ST 3270001978	PILLBOX (TYPE 24)	E
1337	ST 3270802046	VICKERS MACHINE GUN EMPLACEMENT	E
1338	ST 32710212	VICKERS MACHINE GUN EMPLACEMENT	E
1339	ST 3222601735	ROADBLOCK	E
1342	ST 32620245	ROADBLOCK	E
1348	ST 3193000900	PILLBOX (TYPE 24)	U
16296	ST 3288802815	PILLBOX	U
16350	ST 32920249	ANTI TANK GUN EMPLACEMENT	U
16352	ST 32220145 – ST 32230149	ANTI TANK DITCH	I
16394	ST 32630244	MINED BRIDGE	R
16395	ST 32590248	MINED BRIDGE	R
16396	ST 32150174	MINED BRIDGE	R
16397	ST 32230172	MINED BRIDGE	R
16399	ST 32740208	ANTI TANK GUN POSITION	R

Wadbrook: Continued

Database site reference	NGR	Defence work type	Survival status
16400	ST 32710157	ANTI TANK GUN POSITION	R
16402	ST 33070220	ROADBLOCK	R
16403	ST 32740203	ROADBLOCK	R
16404	ST 32700155	ROADBLOCK	R
16431	ST 3221701463	CUBE	E

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Pawlett Hill

Stop Line and Area Defence

Location Details

1 mile (1.5km) W of Pawlett village and 3½ miles (5.5km) N of Bridgwater

County: Somerset

Parish: Pawlett

National Grid Reference (Gaunts Road): ST 289431

Landscape

The defence area is centred on the summit of Pawlett Hill, which lies across the base of a west-facing loop of the River Parrett, rising to a height of some 100ft (30m). To the west of the hill, within the curve of the river, is an area of flat, drained wetland – the Pawlett Hams. The northern and southern slopes of the hill are a farmed landscape, predominantly of pasture fields, falling away to the drains of the encircling Somerset Levels. The flat summit of the hill, however, is one large, open arable field. The village of Pawlett stands on the east side of the hill, and there are a number of farms and cottages dotted around its slopes connected by narrow, twisting lanes.

Defences

Pawlett Hill formed a strong defended locality towards the northern end of the Taunton Stop Line. A reason for the particular concentration of defences here was that there were not sufficient troops in this sector to man the whole of the front-edge anti-tank obstacle, which was the line of the River Parrett as it made a wide loop to the west of the hill. Consequently, only observation posts were sited on the river banks, while the main defence was placed to the rear on Pawlett Hill, which commanded the river loop below. The army units manning the Pawlett Hill defences in July 1940 came from 144 Infantry Brigade. Home Guard support was provided by the Polden Company of the Somerset (Bridgwater) Battalion.

The defence works built at Pawlett Hill were positioned either on its crest, on its northern and southern slopes, or at the edge of the Levels to the west. Further south, two pillboxes were built on the bank of the River Parrett. The defence works on the hill itself were predominantly square emplacements with a single massive embrasure for the fire of the Vickers medium machine gun. Type 24 hexagonal infantry pillboxes supplemented the Vickers emplacements, some on the summit of the hill and the rest scattered across the forward slopes and the flat land beneath. These hardened field defences provided the Forward Defended Localities (FDLs) and platoon posts, which themselves had perimeter defences of slit trenches and barbed wire. Each Vickers emplacement and pillbox received a comprehensive camouflage scheme. Two observation posts for a field artillery battery were



FIGURE 132 A recent air photograph showing the position of Pawlett Hill at the base of the loop of the River Parrett. Type 24 pillbox [306] can be seen facing north on the summit of the hill.
(13.1.2005. NMR: 2369/-36. © ENGLISH HERITAGE. NMR)

also established on Pawlett Hill, although it is not clear from the documentary evidence where the guns themselves were positioned.

Building work on the defences began probably in the last week of July 1940, and several had yet to be completed by the end of August as they show clearly on air photographs as being under construction at that time. It has been debated whether the two south-facing Vickers emplacements [16335 and 16336] were ever in fact built as there is no evidence for them at all on the ground today and apparently no local oral history of their construction. However, all the available documentary evidence includes them, and there are surviving drawings of their camouflage schemes. It seems reasonably certain, therefore, that they were built, but probably removed within a few years of the end of the war.

An outstation of the Royal Aircraft Establishment at Farnborough was set up beneath the western slopes of Pawlett Hill early in the war for carrying out experiments with barrage balloons, and a hangar for the balloons and other related buildings survive (ST 284429), as well as a tethering post for the balloons, by White House Road on Pawlett Hams (ST 276428). An underground Royal Observer Corps Post was constructed in the 1960s on Gaunts Road just to the east of the track from Chapel Road (ST 291431).

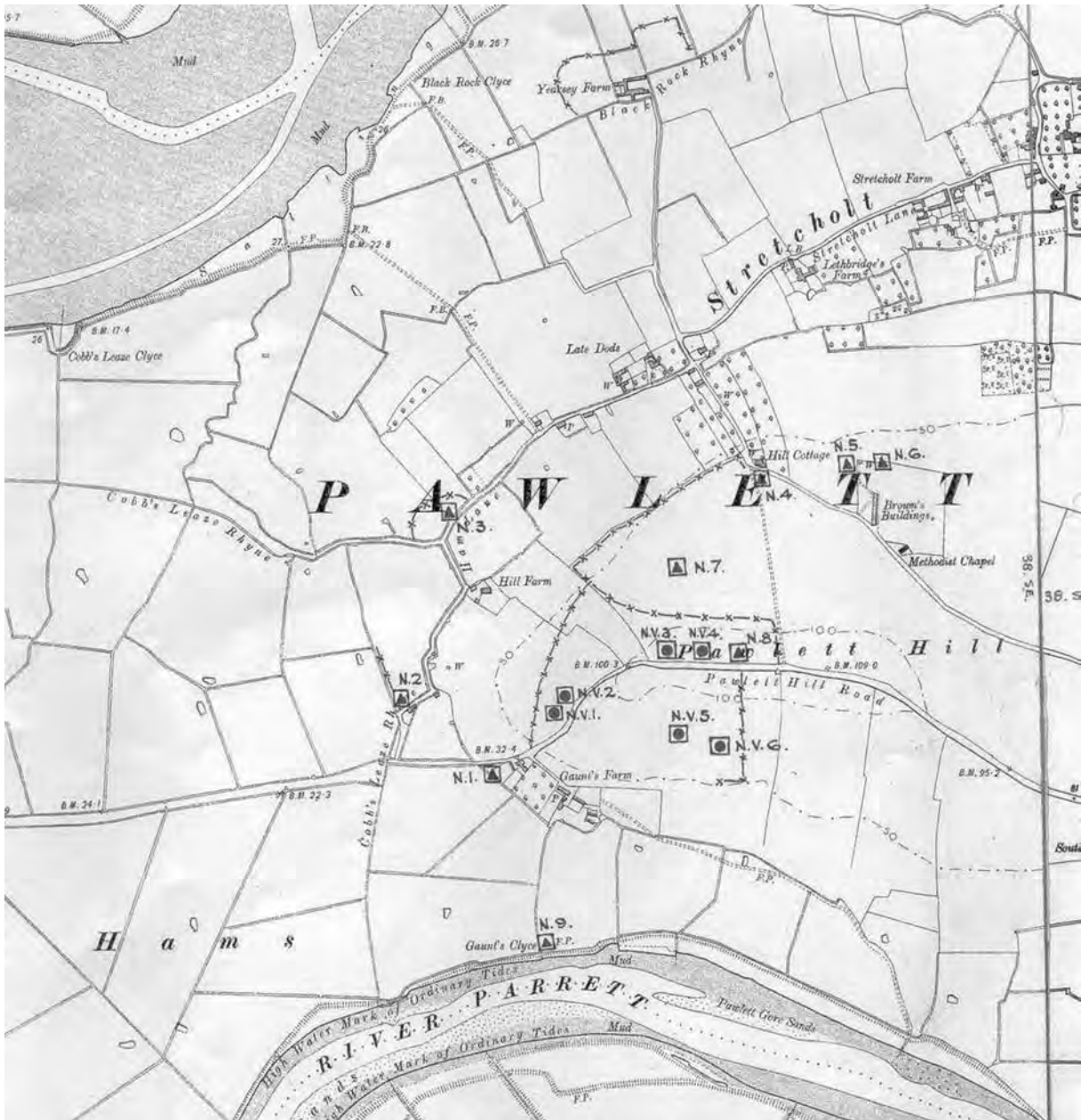


FIGURE 133 Portion of a Royal Engineers' record map of the Taunton Stop Line showing the defences at Pawlett Hill in August 1940. The barbed wire perimeters around many of the defence works are indicated. (WILLS COLLECTION, NMR)

Significance

The defence area provides an excellent illustration of a defended locality on the Taunton Stop Line, with the landscape preserving much of its appearance at the time of the Second World War. There has been no significant building development, and the basic pattern of



FIGURE 134 Recent air photograph looking east across Pawlett Hill. The hexagonal shape of pillbox [3344] can be seen in the left foreground, with that of pillbox [306] in the background. Gaunts Road running on the crest of Pawlett Hill is at the upper right margin of the photograph. At the bottom right corner, the barrage balloon hangar just comes into the picture. The field across the lane from pillbox [3344] shows evidence of a grid pattern of cultivation or drainage.
(13.I.2005. NMR: 23779/-23. © ENGLISH HERITAGE. NMR)

field and lane in relation to the few houses and farms remains the same. The open expanse of the field on the summit of Pawlett Hill, and those on its southern slopes, are as they were in 1940, although there is now more woodland on the margins of Gaunts Road that runs along the crest of the hill.

FIGURE 135 Thick-walled Type 24 pillbox [307] on the northern edge of Gaunts Road.
(PHOTO: R J C THOMAS, DECEMBER 2004)



FIGURE 136 Type 24 pillbox [306] on the summit of Pawlett Hill with a background of the confluence of the River Parrett with the Bristol Channel. In 1940, the pillbox was disguised as a square building with a pitched roof to which a sign stating 'blacksmith' was affixed.
(PHOTO: R J C THOMAS, DECEMBER 2004)





FIGURE 137 Vickers machine gun emplacement [309]. Its main field of fire was north across the open flat top of Pawlett Hill. It was camouflaged as a haystack. (PHOTO: R J C THOMAS, DECEMBER 2004)

Some good examples of Type 24 infantry pillboxes and Vickers machine gun emplacements survive. The Vickers emplacements [289 and 309] are now the only survivors of six such emplacements within a closely spaced group that once covered the northern and southern slopes of the hill. There are eight examples of the Type 24 pillbox, with the shell-proof, thick-walled [307] being perhaps the most accessible. However, it is the number of the defence works within such a small compass that makes this area unusual.

The pillboxes and machine gun emplacements were sited in hedgerows and at the sides of drains and roads, and the surviving defence works can still be found in close relation to the landscape features that determined their position and assisted in their camouflage. The only exception is pillbox [306] that stood prominently in the centre of the open field on the summit of the hill, as it does today; it was given a pitched roof and disguised as a building with 'blacksmith' painted on the side.

The principal direction of fire of all the defence works was to the north, with the exception of the removed Vickers emplacements [16335 and 16336], which would almost certainly have been to the south. Whereas one aim of the Pawlett Hill defences was undoubtedly to command the river loop to the west, the northerly focus of fire shows that the main purpose was probably to act as a strongpoint at the northern end of the Taunton Stop Line to prevent the line being outflanked by an attack from the Bristol Channel to the north.

Several Vickers emplacements and pillboxes have been removed, but enough survive, when considered with the extensive documentary evidence, to understand the dispositions of the defence and the strategy behind it. The surviving structures still make a coherent pattern of defence embedded within the landscape both on and surrounding the hill. The

documentation supplements the field evidence and makes it possible to determine the totality of the defence, the relationship of individual defence works, and how each was disguised within the landscape. Such a complete overview is almost unique in the field of anti-invasion studies, and is important also for an understanding of other comparable areas.

The importance of the defence area is supplemented by the presence of the rare structure of a barrage balloon hangar and by a Cold War-period Royal Observer Corps monitoring post.

Access

The circuit of lanes around Pawlett Hill, and the public footpath that climbs the hill from the north, enable most of the defence works to be seen. Several, however, are on private land and can only be viewed at a distance. Parking is possible on the grass verges to Gaunts Lane.

Published Sources

- Dobinson, C S, 1996 The Taunton stop-line: component listing, *Twentieth Century Fortifications in England, Vol II: Anti-Invasion Defences of WWII* (supporting paper AI/S/3). York: Council for British Archaeology
- Green, M (Maj) & Plant, J, 1995 The Pawlett Strongpoint, *Loopholes*, **12**, 20–6
- Warren, D, 2000 *Now You See It – Then You Didn't: The Inter-Channel Stop Line of 1940*. Taunton: Somerset Industrial Archaeological Society

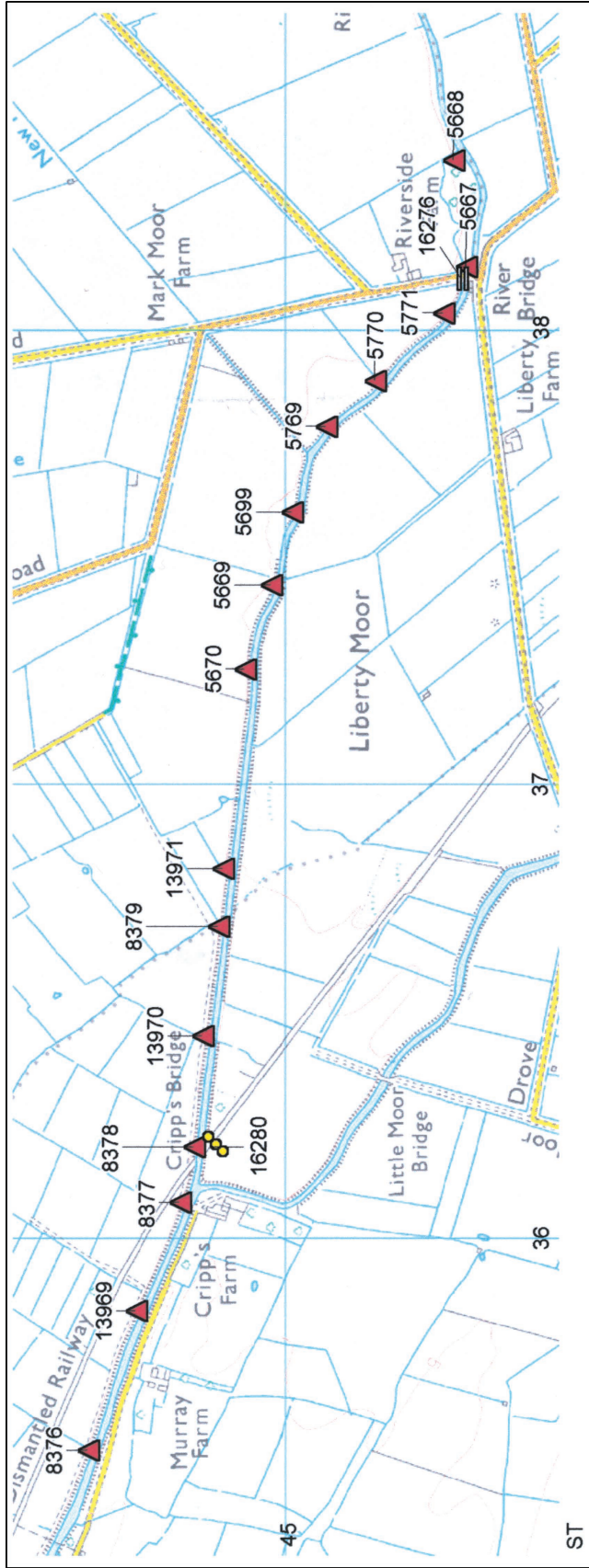
Documentary Sources

- 'Taunton Stop Line' (record map folios of Major F B Goodman RE, DCRE Taunton), 1940 – Wills Collection, NMR
- 'Southern Command Home Defence Programme, 1940' (map from General Headquarters Papers, Defence Works) – TNA: PRO WO 199/48
- 144th Infantry Brigade War Diary, 1940 – TNA: PRO WO 166/1007
- 'Somerset Sub-Area Defence Scheme', August 1940 (from Somerset Sub-Area War Diary HQ) – TNA: PRO WO 166/1317
- 'Home Defence Progress Report: Taunton Line', 30.10.1940 (from General Headquarters Papers, Home Forces) – TNA: PRO WO 199/1803
- 'Report on Taunton Stop Line', December 1940 (from General Headquarters Papers, Home Defence – Stop Lines) – TNA: PRO WO 199/1810
- 'Operation Instruction No 5' – Taunton Stop Line', 4.1.1941 (from Southern Area HQ War Diary) – TNA: PRO WO 166/1243
- 'Western Area Defence Scheme', 23.6.1941 (from Western Area HQ War Diary) – TNA: PRO WO 166/1251

Pawlett Hill: Defence components

Database site reference	NGR	Defence work type	Survival status
289	ST 2882443105	VICKERS MACHINE GUN EMPLACEMENT	E
306	ST 2891443285	PILLBOX (TYPE 24)	E
307	ST 2899443084	PILLBOX (TYPE 24)	E
309	ST 2891543086	VICKERS MACHINE GUN EMPLACEMENT	E
3342	ST 28514287	PILLBOX (TYPE 24)	R
3343	ST 2833043005	PILLBOX (TYPE 24)	E
3344	ST 2843243370	PILLBOX (TYPE 24)	E
3345	ST 2905143452	PILLBOX (TYPE 24)	E
3346	ST 2925043482	PILLBOX (TYPE 24)	E
3347	ST 2931043472	PILLBOX (TYPE 24)	E
3350	ST 2860642512	PILLBOX (TYPE 22)	E
16333	ST 28694305	VICKERS MACHINE GUN EMPLACEMENT	R
16334	ST 28734307	VICKERS MACHINE GUN EMPLACEMENT	R
16335	ST 28774303	VICKERS MACHINE GUN EMPLACEMENT	R
16336	ST 28814297	VICKERS MACHINE GUN EMPLACEMENT	R
16434	ST 28924314	OBSERVATION POST	R

E = Extant; R = Removed; I = Infilled; U = Unknown.



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River Brue: Cripp's Bridge

Stop Line Defence

Location Details

1 mile (1.5km) E of Bason Bridge and 3 miles (5km) SE of Highbridge

County: Somerset

Parishes: Mark; East Huntspill; Burtle

National Grid Reference (Cripp's Bridge): ST 361452

Landscape

The defence area follows the canalised course of the River Brue, from a point just west of the footbridge at Cripp's Bridge, as far as River Bridge (a crossing of a minor road) some one and a half miles (2.5km) to the east. The area is part of the Somerset Levels, intersected by many drains and rhynes. This is a fertile farming landscape of mixed arable crops and cattle pasture. The traffic on the narrow roads, raised on causeways with sharp-angled corners, is mainly local. At the time of the Second World War, a railway running from Highbridge to Glastonbury crossed the river near Cripp's Bridge, but it has long been disused and there is little evidence of the line or the bridge today. An element of tourism is indicated by the presence of several caravan parks on farms adjacent to Cripp's Bridge.

Defences

The defences on the River Brue formed part of GHQ Line Green, which ran for some 90 miles (145km) from Highbridge on the Bristol Channel to Upper Framilode on the River Severn, curving in a great loop around Bristol for which it formed the outer defence line. The initial reconnaissance for GHQ Line Green was carried out in June 1940, with further surveys in July and September to determine the positions of individual defence works. Construction work was carried out at first by the 224th Field Company RE, and, from the end of July, by the 246th and 253rd Field Companies.

As with other stop lines, GHQ Line Green was primarily an anti-tank obstacle that was formed, wherever possible, by natural waterways. Pillboxes were built at regular intervals to defend it, in particular at the crossing points of roads and railways, which themselves were set with concrete road and rail blocks. Bridges along its course were also prepared for demolition. The fifteen pillboxes within this study area are exclusively infantry pillboxes, all of the hexagonal Type 24 pattern with an attached entrance porch that in some cases [8379 and 13970] has collapsed. The three examples nearest to Cripp's Bridge, to which there is public access [13969, 8377, and 8378], survive in good condition, and another good



FIGURE 138 Low-level air photograph taken in July 1943 showing the railway crossing of the River Brue at Cripp's Bridge. The railway and bridge have now disappeared, but the pillbox in the foreground [8378] survives, as does pillbox [8377], covered by camouflage netting and vegetation, close to the footbridge. These pillboxes are hexagonal Type 24s, and the rectangular shape of [8378] must be on account of a structure erected over it for camouflage. Timbers can be seen through holes in the roof and loopholes have been cut across the forward-facing corners of the disguised structure. (17.7.1943. NMR: MSO 31089/0-3005. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)

example can be seen adjacent to River Bridge [5667]. The blocks at Cripp's Bridge, and a roadblock at River Bridge, have been removed.

GHQ Line Green was the responsibility of 144 Infantry Brigade, part of the 48th Division of VIII Corps. Manning of the Line would have been carried out in collaboration with local Home Guard units: in the Cripp's Bridge area this was the Highbridge platoon of the Somerset Home Guard. A report on the line in July 1940 stated that to hold it in full sixteen divisions would be required.

FIGURE 139 River
Bridge with pillbox
[5771] on the bank
of the Brue in the
distance.

(PHOTO: THE AUTHOR,
17 JANUARY 2003)



FIGURE 140 Type 24
pillbox [8378]
(see Fig 138).

(PHOTO: R J C
THOMAS, DECEMBER
2004)





FIGURE 141 Type 24 pillbox [13971]. It has lost a great deal of its exterior brick shuttering and its entry porch has collapsed. (PHOTO: R J C THOMAS, DECEMBER 2004)



FIGURE 142 Type 24 pillbox [5667] close to River Bridge. (PHOTO: THE AUTHOR, 17 JANUARY 2003)

Significance

This defence area consists of a section of GHQ Line Green that includes a complete run of fifteen pillboxes, being the full complement as originally designed and built, between the two points of Cripp's Bridge and River Bridge; all survive largely in good condition. Their placing in defence of the anti-tank obstacle formed by the river can be fully understood, all being sited on the north bank against an anticipated attack from the south. The great majority were positioned to fire across the river, but a few also to enfilade it.

Apart from the closure of the railway line, there have been few changes to the landscape of the defence area. The canalised river cuts through the flat landscape with its close-set pattern of interlinking drains and rhynes. An enemy advance here would have encountered great difficulty with the movement of tanks and vehicles, and the capture of communication routes would have been essential. A demolition belt followed GHQ Line Green, with all crossing points, both on the line itself and in front of it, prepared for destruction.

Of the total length of GHQ Line Green, over 170 infantry pillboxes survive. (See also Godney, Hog Wood, and Avening defence areas). This River Brue section, with its complete line of regularly spaced pillboxes at the edge of a linear anti-tank barrier, not only forms an important sector of that line but stands in its own right as a monument to a type of mid-20th-century military defence that was soon to be outmoded.

Access

The majority of the pillboxes lie in fields to which there is no public access as there is no right of way along the banks of the River Brue. However, the footbridge at Cripp's Bridge (dangerous, with slats missing) provides access to the three pillboxes nearest the bridge [13969, 8377, and 8378]. River Bridge is narrow, with little facility for car parking. Pillbox [5667] can be seen here, as can, in the distance, the first pillbox [5771] of the line of thirteen stretching to the area of Cripp's Bridge.

Published Sources

Alexander, C, 1999 *Ironside's Line*. Storrington: Historic Military Press
Green, M (Maj), 1999 *Warwalks: Stop Line Green*. Cheltenham: Reardon Publishing

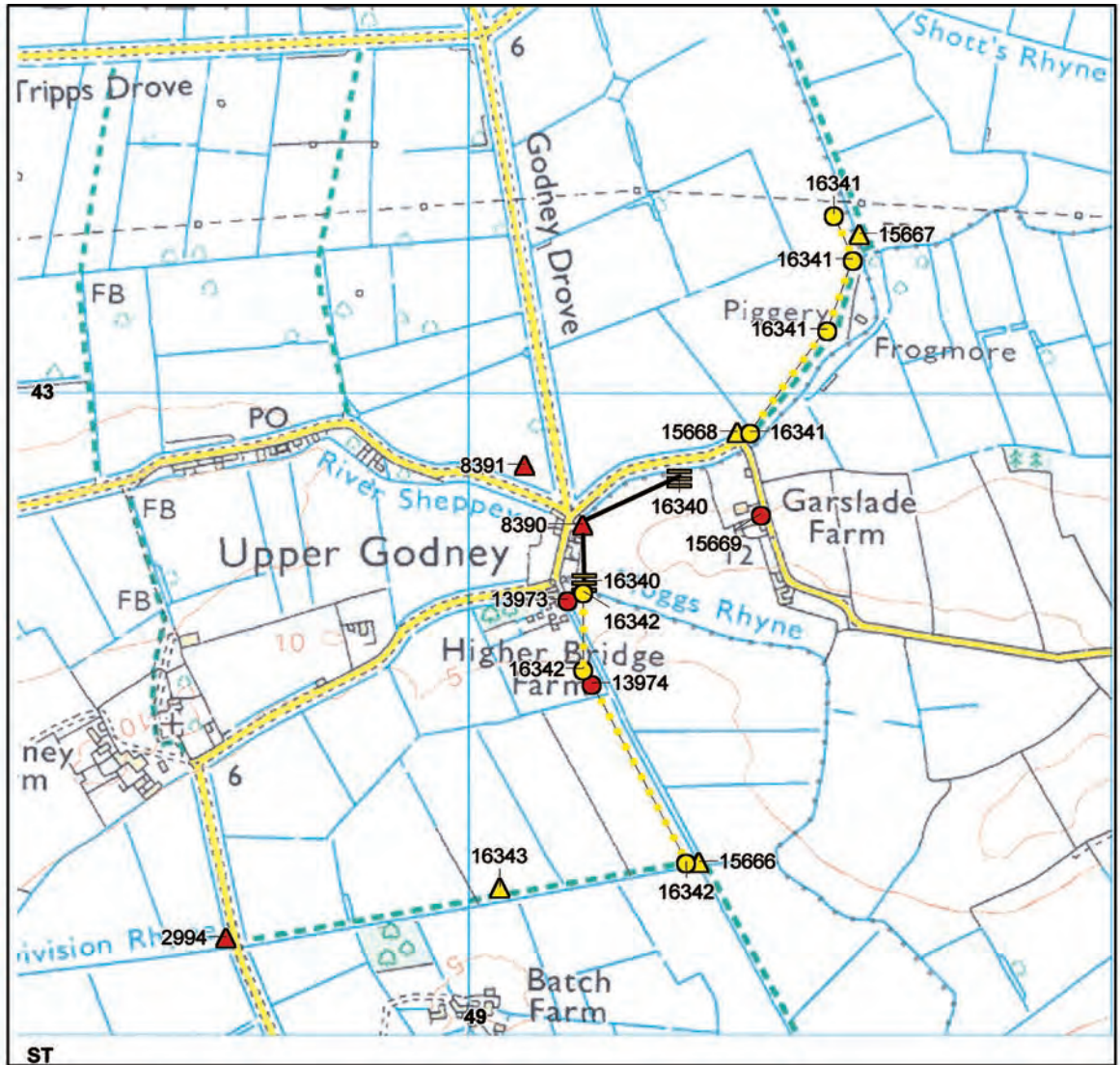
Documentary Sources

224th Field Company Royal Engineers War Diary, 1940 – TNA: PRO WO 166/3693
246th Field Company Royal Engineers War Diary, 1940 – TNA: PRO WO 166/3715
516th Corps Field Survey Company Royal Engineers War Diary, 1940 – TNA: PRO WO 166/3781
'Southern Command Home Defence Programme, 1940' (map from General Headquarters Papers, Defence Works) – TNA: PRO WO 199/48
'Report on Reconnaissance of Outer Bristol Defence Position', 18.6.1940 (from 48 Division 'GS' War Diary) – TNA: PRO WO 166/578
'Somerset Sub-Area Defence Scheme', August 1940 (from Somerset Sub-Area HQ War Diary) – TNA: PRO WO 166/1317
'Western Area Defence Scheme', 23.6.1941 (from Western Area HQ War Diary) – TNA: PRO WO 166/1251
'Somerset and Bristol Area Defence Scheme', 1943 (from Somerset and Bristol Area War Diary) – TNA: PRO WO 166/10824

River Brue: Cripp's Bridge: Defence components

Database site reference	NGR	Defence work type	Survival status
5667	ST 3813544601	PILLBOX (TYPE 24)	E
5668	ST 3836944630	PILLBOX (TYPE 24)	E
5669	ST 3744045034	PILLBOX (TYPE 24)	E
5670	ST 3725445085	PILLBOX (TYPE 24)	E
5699	ST 3759944981	PILLBOX (TYPE 24)	E
5769	ST 3778744912	PILLBOX (TYPE 24)	E
5770	ST 3788044800	PILLBOX (TYPE 24)	E
5771	ST 3802944649	PILLBOX (TYPE 24)	E
8376	ST 35544544	PILLBOX (TYPE 24)	E
8377	ST 3608645222	PILLBOX (TYPE 24)	E
8378	ST 3620645205	PILLBOX (TYPE 24)	E
8379	ST 3668745140	PILLBOX (TYPE 24)	E
13969	ST 3584745333	PILLBOX (TYPE 24)	E
13970	ST 3645045172	PILLBOX (TYPE 24)	E
13971	ST 3681645130	PILLBOX (TYPE 24)	E
16276	ST 38124458	ROADBLOCK	R
16280	ST 36214518	RAILBLOCK	R

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Godney

Stop Line Defence

Location Details

2½ miles (4km) NNW of Glastonbury

County: Somerset

Parish: Godney

National Grid Reference (Nine Acre Bridge): ST 491428

Landscape

The defence area is centred on the small settlement of Upper Godney in the Somerset Levels, which is made up of farms and a few houses situated in a flat landscape intersected by many ditches, drains, and rhynes flowing into the canalised stream of the River Sheppey. The focus of the area is the road junction at Upper Godney where the River Sheppey is crossed at Nine Acre Bridge. The roads are narrow and set on causeways above ditches on either side. The area is in sight of Glastonbury Tor, which rises dramatically on the southern horizon. This is a working agricultural landscape which few tourists visit.

Defences

The defences at Godney formed part of GHQ Line Green (see also River Brue: Cripp's Bridge defence area). The River Brue formed the principal anti-tank obstacle from the west as far as Meare, where the Line left the river to take a course more directly to the east, eventually passing to the south and east of Wells. From Meare it followed a series of waterways, including, at Godney, the Division Rhyne and a short length of the River Sheppey. Within Upper Godney, however, it was considered necessary to strengthen the anti-tank capability of the water obstacle by lines of 4ft (1.3m) high concrete cubes and a machine-dug anti-tank ditch, running from south of Higher Bridge Farm past Nine Acre Bridge to the Frogmore Rhyne. The line was defended by pillboxes and roadblocks, with bridges at crossing points prepared for demolition. These defences were designed to check an attack coming from the south or the east.

Prominent at the centre of Upper Godney are two Type 24 brick-shuttered pillboxes [8390 and 8391]. The former stood at a gap in the anti-tank ditch. Other pillboxes to the north have been removed, but are visible on 1947 air photographs. At Higher Bridge Farm, some of the anti-tank cubes survive, although these have been moved from their original position and are lined up at the side of a track. These were constructed using corrugated-iron shuttering [13973 and 13974].

At Garslade Farm on the lane to Polsham is the site of a roadblock, with the plugged concrete sockets to take vertical steel rails still visible [15669].



FIGURE 143 Portion of an air photograph taken in January 1947 showing Upper Godney at the centre. The angled line of the anti-tank ditch can be seen behind the River Sheppey with a gap where pillbox [8390] stands. A line of cubes continues the anti-tank obstacle to the north-east. To the south, a further line of cubes joins with the Division Rhyne, which runs towards the west; there are three pillboxes on its north bank of which one [2994] survives. The anti-tank ditch was infilled later in 1947. (RAF/CPE/UK/1924 fr1069. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)



FIGURE 144 At Upper Godney, the anti-tank ditch [16340] ran diagonally across this meadow supplementing the obstacle provided by the River Sheppey in the foreground. Pillbox [8390] can be seen by the houses. (PHOTO: THE AUTHOR, 17 JANUARY 2003)



FIGURE 145 Anti-tank cubes [13973] from the line on the east side of Higher Bridge Farm. They have been moved from their original position and lined up by a farm track. The concrete shows evidence of the corrugated-iron shuttering used in their construction.

(PHOTO: THE AUTHOR, 17 JANUARY 2003)

FIGURE 146 The plugged concrete sockets for a vertical rail roadblock outside Garslade Farm [15669]. More sockets probably survive under the road surface.

(PHOTO: THE AUTHOR, 17 JANUARY 2003)





FIGURE 147 Brick-shuttered Type 24 pillbox [2994] at the crossing of the Division Rhyne by Godney Road (SEE FIG 143). (PHOTO: THE AUTHOR, 17 JANUARY 2003)

A further Type 24 pillbox stands at the south-west corner of the defence area where the Godney Road crosses the Division Rhyne [2994]. There was undoubtedly a roadblock here as well, but no trace survives.

Significance

Godney is a small, remote settlement, which in 1940 had to face the sudden reality of a major defence line being placed through it. The evidence of that incursion surviving on the unchanged landscape of today, otherwise returned to its peaceful seclusion, makes a most interesting study. The anti-tank obstacle followed the straight course of the 5m-wide Division Rhyne into the study area from the west to a point where it made a junction with a drain that provided a much less substantial obstacle to the north. A line of 4ft (1.3m) concrete cubes was constructed on the west side of this drain, turning to cross it close to Higher Bridge Farm and join with a section of artificial anti-tank ditch dug at Nine Acre Bridge to supplement the obstacle now provided by the River Sheppey to the rear. A gap was left at the angle of this chevron-shaped section of ditch in which pillbox [8390] was positioned. A break of this sort in an anti-tank ditch is unusual: crossings for agricultural purposes, for instance, were normally provided by temporary wooden bridges that could be removed in an emergency. Possibly it was felt that the River Sheppey behind provided a sufficient barrier at this point. There was a further gap to the north between the end of the ditch and the beginning of another line of concrete blocks running at the edge of a meadow to the west of the river. The defence line was then taken east, out of the study area, along the Frogmore Rhyne.

The importance of the defence area lies in its illustration of the artificial strengthening of the anti-tank obstacle of a stop line when it was required to pass through a landscape without a waterway wide enough or deep enough to provide an adequate natural barrier

for the complete distance required. The manner in which the surviving pillboxes and cubes relate to the front-edge anti-tank obstacle, whether a natural or purpose-built feature, can be readily understood when walking the ground. The area still provides coherent evidence of the way the landscape was adapted to meet the defence requirements of 65 years ago.

Access

All the defence works can be seen from the roads and from footpaths following the Division Rhyme (to the south) and the River Sheppey (to the north). Permission should be sought from Higher Bridge Farm to inspect the anti-tank cubes. The roads are narrow and there is little parking.

Published Source

Green, M (Maj), 1999 *Warwalks: Stop Line Green*. Cheltenham: Reardon Publishing

Documentary Sources

'Southern Command Home Defence Programme, 1940' (map from General Headquarters Papers, Defence Works) – TNA: PRO WO 199/48

'Report on Reconnaissance of Outer Bristol Defence Position', 18.6.1940 (from 48 Division 'GS' War Diary) – TNA: PRO WO 166/578

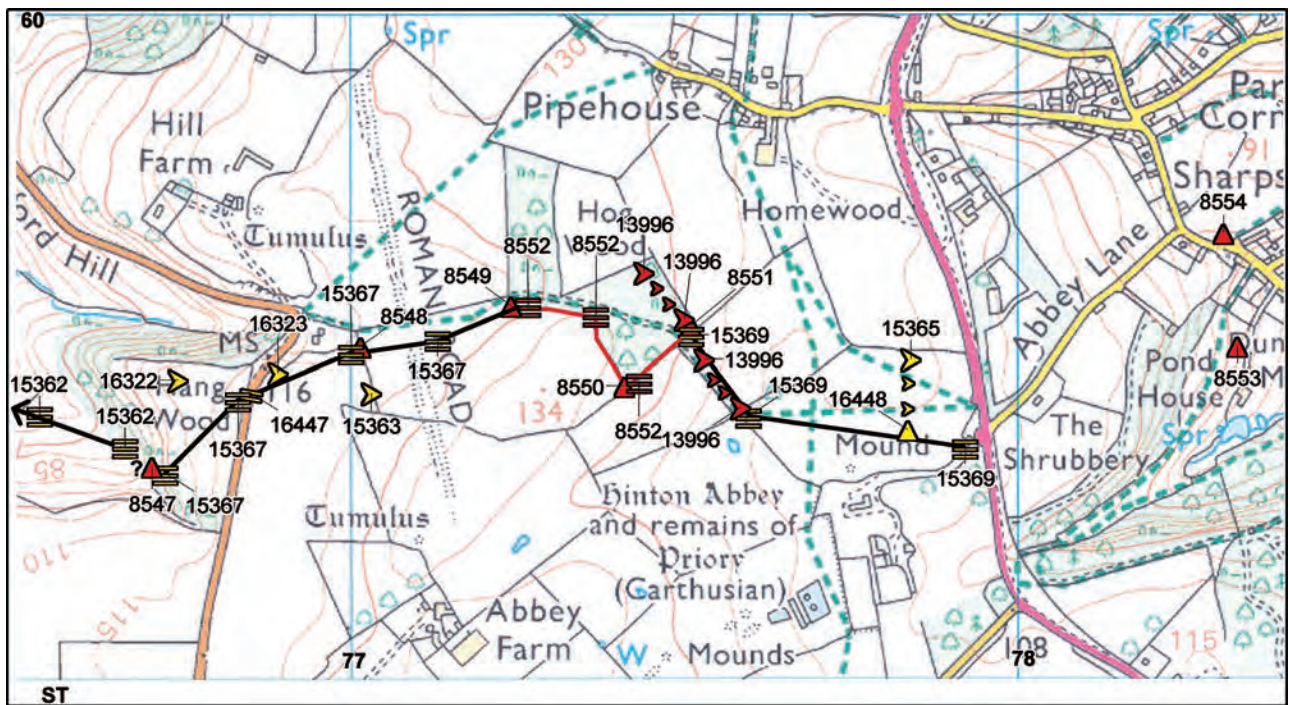
'Somerset Sub-Area Defence Scheme', August 1940 (from Somerset Sub-Area HQ War Diary) – TNA: PRO WO 166/1317

'Western Area Defence Scheme', 23.6.1941 (from Western Area HQ War Diary) – TNA: PRO WO 166/1251

Godney: Defence components

Database site reference	NGR	Defence work type	Survival status
2994	ST 4862442152	PILLBOX (TYPE 24)	E
8390	ST 4917942795	PILLBOX (TYPE 24)	E
8391	ST 4908942888	PILLBOX (TYPE 24)	E
13973	ST 49194268	CUBE	E
13974	ST 49224256	CUBE	E
15666	ST 49364227	PILLBOX	R
15667	ST 49614325	PILLBOX (TYPE 24)	R
15668	ST 49424294	PILLBOX (TYPE 24)	R
15669	ST 4945742812	ANTI TANK VERTICAL RAIL	E
16340	ST 49334287 – ST 49204281 – ST 49194280 – ST 49184269	ANTI TANK DITCH	I
16341	ST 49444294 – ST 49564310 – ST 49604321 – ST 49574328	ANTI TANK BLOCK	R
16342	ST 49184269 – ST 49184257 – ST 49344227	ANTI TANK BLOCK	R
16343	ST 49054223	PILLBOX	R

E=Extant; R=Removed; I=Infilled; U=Unknown.



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Hog Wood

Stop Line Defence

Location Details

1 mile (1.5km) N of Hinton Charterhouse and 3½ miles (5.5km) SE of Bath

Unitary Authority: Bath and North East Somerset

Parish: Hinton Charterhouse

National Grid Reference (Hog Wood): ST 774595

Landscape

Hog Wood is a small area of deciduous woodland occupying the summit of a spur of land between the Wellow Brook to the west and the River Avon to the east. This is high limestone country intersected by steep river valleys. The defence area is bordered to the west by the B3110 road and to the east by the main A36, both running to Bath. The focus of the area is Hog Wood, to the west of which lie open, arable fields that are crossed from north to south by the line of a Roman road. To the east, the wood overlooks parkland of nearby Hinton Abbey.

Defences

The defences of the Hog Wood area formed part of GHQ Line Green (see also River Brue: Cripp's Bridge defence area). This section of the line defended against an attack from the south.

From Radstock, the principal anti-tank obstacle was the course of the Wellow Brook. However, rather than carrying the line along this stream to its junction with the River Avon north of Limpley Stoke, which would have created a salient into the defended area, an artificial anti-tank ditch was cut over the spur of high land crowned by Hog Wood to join eventually with the River Avon south of Freshford. Within the study area, it ran from the B3110 road, cutting across the fields to the east. It then followed the southern perimeter of the wood, being constructed just within the shelter of the trees. It emerged from the long strip of woodland at the south-east corner of Hog Wood and crossed the meadow by Hinton Abbey to reach the A36 road. Pillboxes were sited in defence of the line, and various slit trenches and other earthworks dug alongside it. There were almost certainly roadblocks at the crossing points of the two roads.

The most remarkable surviving features of the defences are the lengths of unfilled anti-tank ditch running at the edge of Hog Wood [8552]. Some sections survive probably to their original depth and width – 10ft (3m) deep and 15ft (4.5m) wide at the top – and the bank on the north side is also clearly defined. The sharp-angled corners of the ditch are still sharply defined, and short spur lengths can be seen running up to the various pillboxes that



FIGURE 148 Air photograph taken 14 January 1946. Hog Wood lies at the centre, approached by the anti-tank ditch that has climbed from the valley of the Wellow Brook to the west (left) and crossed the B3110 road (this crossing point in 1940 was almost certainly protected by a roadblock). The ditch then followed the sharp-angled perimeter of Hog Wood, emerging from its southern spur and making an eventual junction with the A36 road. The right-angled bays of trench [15363] can be seen towards the left edge of the picture and the sinuous course of another trench towards the right [15365].

(RAF/3G/TUD/UK/25 fr5166. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)



FIGURE 149 Hog Wood seen from the west. The Roman road crosses from right to left at about the position of the camera. The line of the anti-tank ditch can be made out as a slight ridge in the middle distance running towards Hog Wood.

(PHOTO: THE AUTHOR, 5 FEBRUARY 2003)

FIGURE 150 Anti-tank ditch [8552] within Hog Wood running east from pillbox [8549]; although silted, the ditch is close to its original width and profile. (PHOTO: THE AUTHOR, 13 MARCH 2003)



are set on its flanks. About 300m of the ditch are extant, and the reason it has survived appears to be its position within woodland. It must have been extremely difficult to excavate the ditch in such a wooded location, and its subsequent infilling was clearly not considered worth the trouble. Air-photographic evidence shows that sections of the ditch beyond Hog Wood were being infilled in April 1946.

FIGURE 151 The curving lines of slit trenches [13996] at the eastern edge of Hog Wood. (PHOTO: THE AUTHOR, 5 FEBRUARY 2003)





FIGURE 152 Type 24 pillbox [8550] at a corner of Hog Wood, seen from woodland at a lower level to the south.

(PHOTO: THE AUTHOR, 5 FEBRUARY 2003)

Also preserved within Hog Wood is an elaborate series of slit trenches running parallel with the eastern margins of the wood [13996]. The trenches follow a sinuous course, and sometimes are in two lines, with other trenches leading into them. They were almost certainly part of the defences of GHQ Line Green rather than being, for example, training trenches dug later in the war. Their concealed position at the edge of the wood was in direct support of the line at this point, or could have laid down flanking fire against any crossing of the line further to the east.

Air photographs provide evidence of other earthworks dug in the fields to the west and east of Hog Wood. A zig-zag slit trench [15365] ran across the meadow north of Hinton Abbey, with one end resting on a square pillbox (now removed). On the south side of the anti-tank ditch, running along the line of a hedgerow near the B3110 road, is an earthwork with four right-angled fighting bays like a frontline infantry trench of the First World War [15363]. The position of this trench on the attack side of the GHQ Line Green is perhaps surprising, but it was almost certainly part of its defence: it is hard to think of an earlier or later purpose for it.¹

Set at intervals along the anti-tank ditch, and within Hog Wood at its sharp-angled turns, are a number of infantry pillboxes. These are mainly brick-shuttered hexagonal Type 24s, but square Type 26s were also constructed on this section of the line, with one example surviving at the south-west corner of the wood [8549]. The pillboxes are all overgrown, but their interior condition is very good, with no evidence of vandalism.

Significance

This defence area is of importance because of the preservation within Hog Wood of the earthwork components of a major stop line. The survival of unfilled anti-tank ditches in any condition is extremely rare, and here some 300m are extant, with certain sections surviving to their full depth and with their original profile. The infantry trenches dug in

support of the ditch within the wood are also a rare survival: most such surviving trenches are from training exercises at a later period in the war. This fossilised defence landscape, with its earthworks and pillboxes, is thus of significance to the archaeology of the anti-invasion period, making it one of the most important surviving sections of a 1940 stop line.

There has been little change in the broader landscape of the study area since the Second World War. The same pattern of field and wood, road and path, exists today as prevailed in 1940, making it possible to view the surviving defence works in their original landscape context and to reconstruct mentally those that have been removed or infilled. The route of the anti-tank ditch running from the B3110 road to Hog Wood can still be seen as a slight ridge when the field is not in crop. The surviving lengths of ditch running at the margins of the wood show that advantage was taken of the shape of the wood to create a small salient towards the expected direction of attack. A pillbox [8550] commanded the point of the salient, the south-east flank of which could also have been covered by fire from the infantry trenches within the wood. The ditch was engineered to take maximum advantage of the cover of the wood by following its narrow south-eastern extent for as far as possible before emerging to cross the meadows by Hinton Abbey.

In addition to the infantry trenches that survive in Hog Wood, two further areas of trenches, now infilled, provide evidence of their differing forms and tactical siting. Both the zig-zag trench [15365] and square-cut bay trench [15363] were dug at right-angles to the anti-tank ditch, the former lying to its rear in association with a pillbox, but the latter forward of it along a hedgerow that survives today. Trench [15365] would have allowed flanking fire against enemy infantry crossing the ditch to west or east, but the fighting bays of trench [15363] faced west to cover the nearby roadblock.

Access

A public footpath passes through Hog Wood between the B3110 and A36 roads. The defence sites are adjacent to the path, although in the wood the walker is cautioned not to stray from it. Parking is difficult by the side of both roads.

Note

¹ Fire trenches of this type are included in 1941 Field Engineering manuals.

Published Source

Green, M (Maj), 1999 *Warwalks: Stop Line Green*. Cheltenham: Reardon Publishing

Documentary Sources

'Southern Command Home Defence Programme, 1940' (map from General Headquarters Papers, Defence Works) – TNA: PRO WO 199/48

'Report on Reconnaissance of Outer Bristol Defence Position', 18.6.1940 (from 48 Division 'GS' War Diary) – TNA: PRO WO 166/578

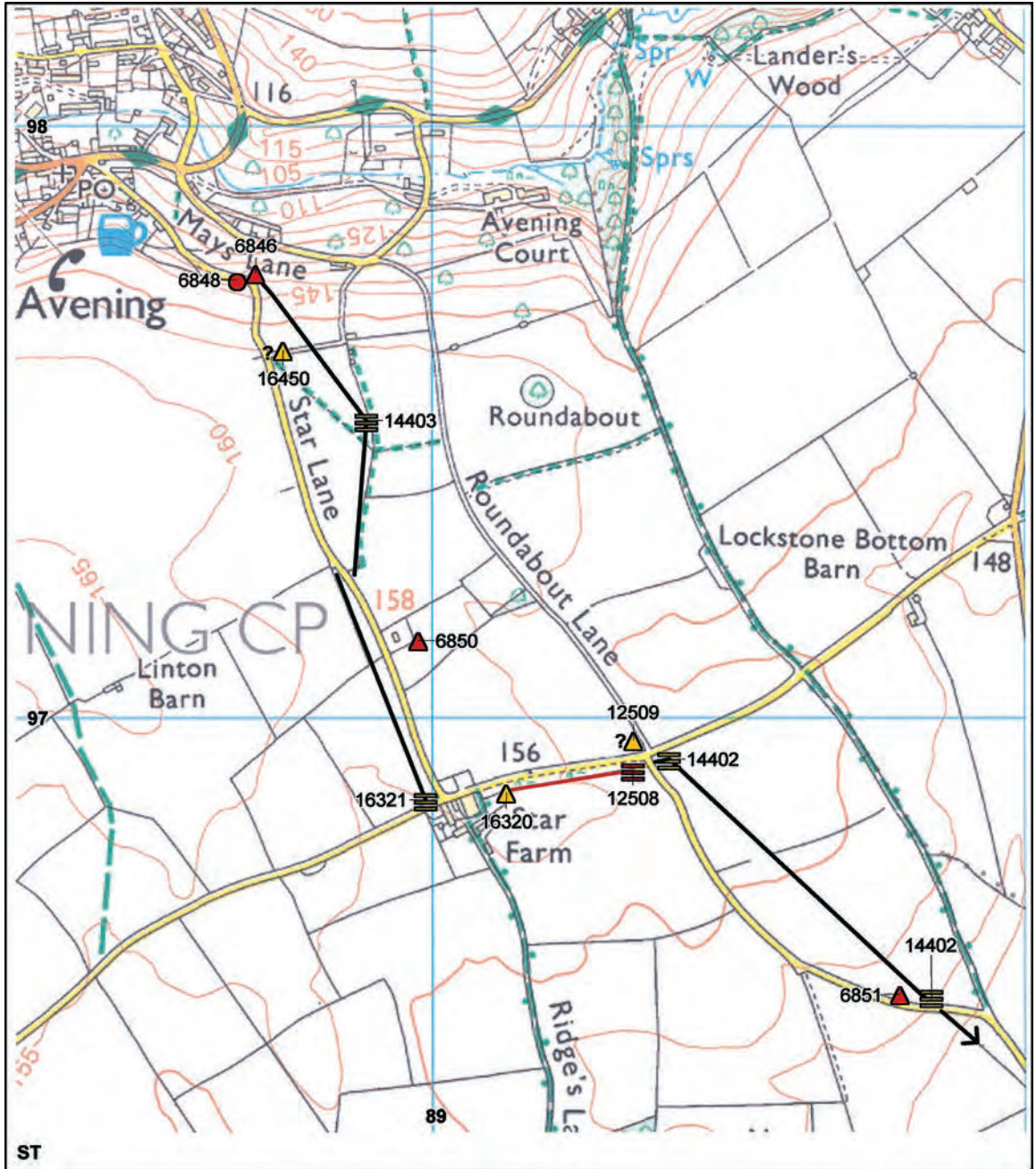
'Somerset Sub-Area Defence Scheme', August 1940 (from Somerset Sub-Area HQ War Diary) – TNA: PRO WO 166/1317

'Western Area Defence Scheme', 23.6.1941 (from Western Area HQ War Diary) – TNA: PRO WO 166/1251

Hog Wood: Defence components

Database site reference	NGR	Defence work type	Survival status
8547	ST 76705932	PILLBOX (TYPE 24)	E
8548	ST 7701459499	PILLBOX (TYPE 24)	E
8549	ST 77245956	PILLBOX (TYPE 26)	E
8550	ST 77415944	PILLBOX (TYPE 24)	E
8551	ST 77515953	PILLBOX (TYPE 24)	E
8552	ST 77255956 – ST 77375955 – ST 77375952 – ST 77425945 – ST 77495952	ANTI TANK DITCH	E
13996	ST 77445961 – ST 77505954 – ST 77535948 – ST 77585940	SLIT TRENCH	E
15362	ST 76345957 – ST 76525940 – ST 76665935	ANTI TANK DITCH	I
15363	ST 77035943	TRENCH	I
15365	ST 77835940 – ST 77845948	SLIT TRENCH	I
15367	ST 76725931 – ST 76835942 – ST 76855942 – ST 77005949 – ST 77135951 – ST 77225955	ANTI TANK DITCH	I
15369	ST 77515952 – ST 77605939 – ST 77925935	ANTI TANK DITCH	I
16322	ST 76745945	WEAPON PIT	I
16323	ST 76895946	WEAPON PIT	I
16447	ST 76845942	ROADBLOCK	R
16448	ST 77835938	PILLBOX	R

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Avening

Stop Line Defence

Location Details

6 miles (9.5km) S of Stroud and 3 miles (5km) N of Tetbury

County: Gloucestershire

Parish: Avening

National Grid Reference (Star Farm): ST 890968

Landscape

The defence area lies to the south-east of the village of Avening, which stands at the head of a steep-sided valley that runs north-east to Nailsworth. This is high Cotswold limestone country, and the defence area lies upon a broadly flat plateau. At the north of the area are the south-east outskirts of Avening and a gorge that runs west to east. To the west, east, and south of the area is a landscape of small stone-walled fields intersected by narrow lanes and trackways. At the south-centre of the area, Star Farm is positioned at a crossing of lanes and a track, which provides a focal point for the area.

A few fields have been opened up by the removal of stone walls, but otherwise, the pattern of fields, lanes, and strips of woodland remains as it was in 1940. There has been no other development.

Defences

The defence area occupied a position in the northern sector of GHQ Line Green. The reconnaissance report on the defence line made in mid-June 1940 stated that the crossing of the Cotswold plateau would create difficulties owing to the hard limestone close to the surface that the mechanical excavators digging the necessary anti-tank ditch would find difficult to work. The task was, however, completed satisfactorily.

The anti-tank ditch was defended by Type 24 infantry pillboxes, with concrete blocks at points where the line was cut by roads and trackways. The defences of this sector of the line faced east to prevent an advance on Bristol. In front, Gloucester and Cirencester were designated anti-tank islands providing all-round defence against enemy armoured fighting vehicles. Tetbury on the line to the south was a 'centre of resistance', with a garrison in 1941 of 125 men of the 6th Bn King's Own Yorkshire Light Infantry.

The principal surviving feature of the defence area is the anti-tank ditch [14403], which, although almost entirely infilled (probably during 1945), can still be seen in part on the ground.

The pillboxes are all constructed with walls formed of prefabricated concrete panels bolted into place, both externally and internally. They have attached brick entry porches



FIGURE 153 Portion of a 1946 air photograph showing Avening at the top centre with the defence line approaching it from the south-east (bottom right). The anti-tank ditch has been infilled but shows in the pasture fields as a ridge.

(RAF/3G/TUD/UK/102 fr5218. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)

that serve as well as blast walls. Pillbox [6846] is positioned at the edge of a steep-sided valley near to Avening, while [6850], in very good condition, stands on private land by Star Farm Cottages. The third pillbox [6851], positioned at the edge of the lane, is badly overgrown, but its interior, to which there is now no access, appears to be excellently preserved.

Significance

The Avening defence area is important as an example of a section of stop line where the principal anti-tank obstacle has had to be artificially created. The fact that much of the line of the anti-tank ditch can be seen on the ground, with several covering pillboxes, makes it particularly significant.

The strategy was the close defence of this enclosed, upland landscape from an anticipated attack from the east, where there were few natural linear features to supplement the anti-tank obstacle. The anti-tank ditch was, therefore, engineered to take advantage of



FIGURE 154 Length of anti-tank ditch [14403] showing on the ground as a substantial ridge, used as a track today by the local farmer. The ridge was created because of the amount of limestone that had been excavated during the construction of the ditch and which was hard to consolidate when it was infilled.
(PHOTO: THE AUTHOR, 6 FEBRUARY 2003)

FIGURE 155 Type 24 infantry pillbox [6846] overlooking the steep-sided valley that runs south-east from the village of Avening. The external and internal shuttering consists of prefabricated concrete panelling fixed in place with steel bolts. The rounded roof edge softened the outline of the pillbox and served to deflect incoming shell fire.
(PHOTO: THE AUTHOR, 6 FEBRUARY 2003)





FIGURE 156 Type 24 pillbox [6850] at Star Farm Cottages on the attack side of the anti-tank ditch. It has a brick and concrete entry porch which served to protect the interior from blast. (PHOTO: THE AUTHOR, 6 FEBRUARY 2003)

various existing features that helped determine its course. South of a steep-sided valley close to Avening, it ran in two sharp-angled lengths to cross Star Lane, and then followed the west side of the road to Star Farm. Pillbox [6850] at Star Cottages is forward of the defence line – an unusual occurrence – and the purpose may have been to better support the left flank of a salient formed by the right-angled turn of the anti-tank ditch at Star Farm. This farm stood at a key defensive position, and was almost certainly fortified in its own right, although there appears to be no external evidence of this today. There was, however, a pillbox (now removed) close by [16320]. At a point just beyond a crossroads, the anti-tank ditch turned to the south again, crossing a series of three fields that have now been made into one. It crossed the lane again at a point where there was almost certainly a roadblock, supported by a surviving pillbox [6851].

The modern landscape still retains striking evidence of the anti-tank ditch. A ridge follows its course, complete with sharp-angled corner, in the field east of Star Lane. This ridge has resulted from the infilling of a large amount of excavated rock that could not be consolidated adequately under a thin topsoil. Where the land has remained as pasture, the ridge survives; in fields that have been ploughed, the ridge has been reduced and spread, resulting in soilmarks that can be seen in air photographs. To the east of Star Farm, a length of some 100m of the anti-tank ditch survives, only partly infilled, within a strip of woodland [12508]. Such lengths of open anti-tank ditch are extremely rare (see Hog Wood defence area).

The three surviving pillboxes are of an unusual type of construction: a basic Type 24 design has been adapted in detail and in the building materials used. Pillboxes that make use of prefabricated concrete sections are relatively rare, and all three of these examples are in good condition.

Access

The defence sites can be seen on foot from the lanes and by following a footpath that crosses the ridge of the infilled anti-tank ditch. Parking is best made in Avening village: there is little scope for roadside parking within the defence area.

Published Source

Green, M (Maj), 1999 *Warwalks: Stop Line Green*. Cheltenham: Reardon Publishing

Documentary Sources

'Southern Command Home Defence Programme, 1940' (map from General Headquarters Papers, Defence Works) – TNA: PRO WO 199/48

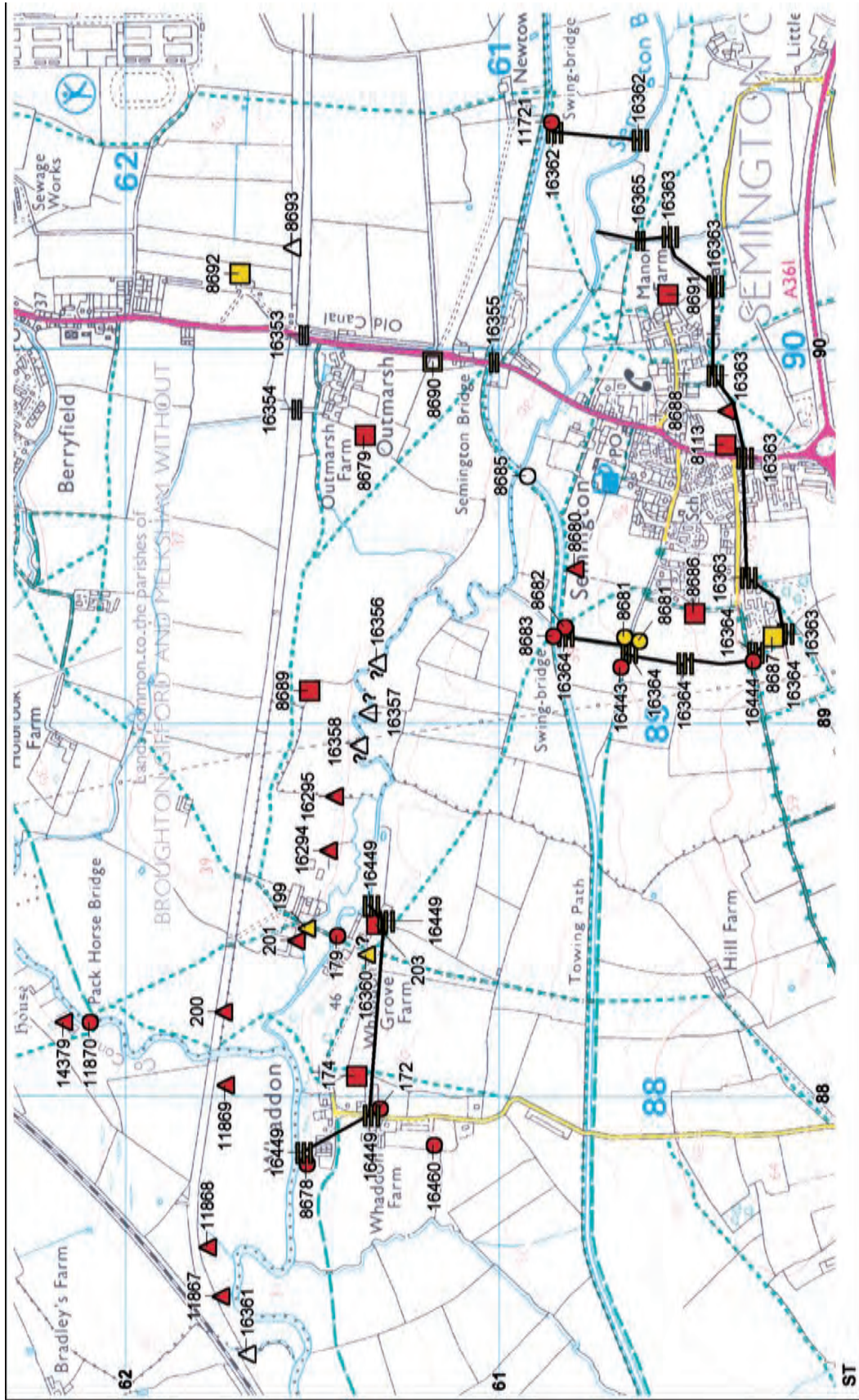
'Report on Reconnaissance of Outer Bristol Defence Position', 18.6.1940 (from 48 Division 'GS' War Diary) – TNA: PRO WO 166/578

'Operational Instruction No 1', 24.9.1941 (from Gloucestershire Sub-Area War Diary) – TNA: PRO WO 166/1285

Avening: Defence components

Database site reference	NGR	Defence work type	Survival status
6846	ST 8870497750	PILLBOX (TYPE 24)	E
6848	ST 88679773	ANTI TANK OBSTACLE	E
6850	ST 8897897130	PILLBOX (TYPE 24)	E
6851	ST 8979296522	PILLBOX (TYPE 24)	E
12508	ST 89159688 – ST 89349691	ANTI TANK DITCH	E
12509	ST 89359695	PILLBOX	R
14402	ST 89389692 – ST 89839652 – ST 89869649 – ST 90049637	ANTI TANK DITCH	I
14403	ST 88729773 – ST 8889197501 – ST 88879724	ANTI TANK DITCH	I
16320	ST 8912696872	PILLBOX	R
16321	ST 88849724 – ST 88999686	ANTI TANK DITCH	I
16450	ST 88759762	PILLBOX	R

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Semington – Whaddon

Stop Line and Nodal Point Defence

Location Details

2 miles (3km) S of Melksham and 2½ miles (4km) NE of Trowbridge

County: Wiltshire

Parishes: Semington; Holt

National Grid Reference (Whaddon Grove Farm): ST 884614

Landscape

The defence area is set in a flat, farmed landscape around the large village of Semington, which until recently lay on the busy A350 road but is now by-passed. To the west lies the small settlement of Whaddon, once a much larger village but now consisting of an isolated church, two farms, and a few houses only. The two places are connected by the Semington Brook, by the Kennet and Avon Canal (which passes Whaddon to its south), and by the Trowbridge to Devizes railway line (now disused), the embankment of which still survives. At Whaddon, the Semington Brook makes a junction with the River Avon, which curves away to the north.

Semington has developed with areas of new housing, particularly on its west side, and the suburbs of Melksham encroach to the north, with housing and industrial estates, and a leisure complex, on the site of the former RAF Melksham. A widened A361 road, with a roundabout, borders the area to the south, and the Semington by-pass, opened in March 2004, now carries the A350 road across fields to the east.

The railway has been dismantled, and its river and road bridges pulled down, but the Kennet and Avon Canal is carefully maintained, with some new works creating a short length of secondary channel east of Semington. In the summer, the canal is used extensively by holidaymakers, and the towpath on the north bank serves as a route for walkers and cyclists.

Defences

The defence area consists partly of the defences of GHQ Line Green and partly those of GHQ Line Blue, the junction of the two being at Whaddon. Whaddon itself was a defended locality with anti-tank capability, and Semington a 'centre of resistance', also with anti-tank defences.

GHQ Line Blue, beginning at Whaddon, largely followed the line of the Kennet and Avon Canal to a point just west of Reading. The line was surveyed in July 1940 by V Corps, and from September that year it became the responsibility of the Salisbury Plain Area Command. As with other stop lines, it was fortified with pillboxes, anti-tank gun



FIGURE 157 Recent air photograph of Whaddon looking north-east. The junction of the Semington Brook with the River Avon that can be seen beyond Whaddon church marked the point where GHQ Line Blue left Line Green on its course to the east following the Kennet and Avon Canal. Whaddon Grove Farm at the upper right of the photograph was a strongly defended position between Semington Brook and the embankment of the railway (now disused) behind. An anti-tank ditch ran from the Avon at Whaddon Farm (centre left) to Semington Brook at Whaddon Grove Farm protected by two anti-tank gun emplacements, one of which [174] can be seen in the photograph on the far side of the lane from Whaddon Farm.

(13.1.2005 NMR: 23780 01. © ENGLISH HERITAGE. NMR)

FIGURE 158 The junction between the River Avon and the Semington Brook and the meeting point of two branches of the GHQ Line.
(PHOTO: THE AUTHOR, 5 FEBRUARY 2003)



emplacements, and roadblocks, and also served as a demolition belt with bridges and other crossing points mined for destruction in the event of an enemy advance. Within the defence area, GHQ Line Blue ran first along the Semington Brook, then joined with the northern perimeter defences of Semington along the Kennet and Avon Canal, which it followed out of the area to the east.

No documentary source can be found that refers to Whaddon as a defended locality although the evidence of its defences make it clear that it had such status. The sites of defence works that have been removed both here and at Semington can be determined from air photographs and from a Home Guard map that shows the defences of the Kennet and Avon Canal from Whaddon to Stanton St Bernard. A machine-dug anti-tank ditch protected Whaddon from the south, as well as the junction of the two branches of the GHQ Line. Within a perimeter formed by the ditch and the River Avon and Semington Brook to the north, were concentrated two anti-tank gun emplacements and five pillboxes, as well as anti-tank obstacles, barbed wire entanglements, and possibly land mines. All these were set amongst farm buildings, some of which were probably fortified.

Semington's designation as a 'centre of resistance' is attested by documentary evidence. In 1941, it had a nominal garrison of four officers and 100 other ranks drawn from a training battalion of the Royal Signals based at Trowbridge, with the 4th Bn Wiltshire Home Guard also assisting in its defence. Semington had a southern perimeter formed to the west and east by existing ditches 'improved' to create an anti-tank obstacle, and at the centre by a machine-cut ditch. These anti-tank defences joined with the Kennet and Avon Canal that served as the perimeter to the north. Crossings of the perimeter defences were protected by roadblocks, as were crossings of the railway line to the north. The various road and swing bridges over the Kennet and Avon Canal were blocked with rows of concrete cylinders.

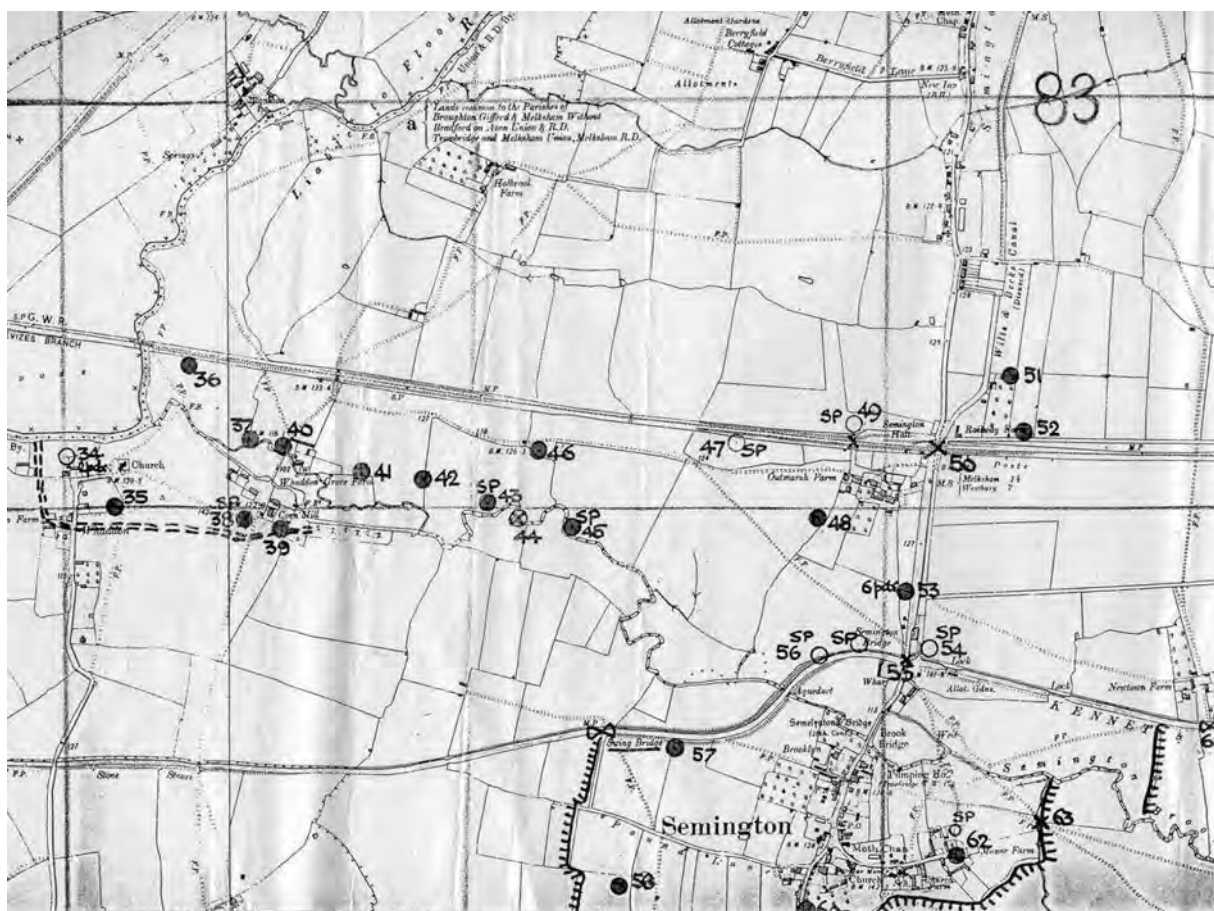


FIGURE 159 Portion of 4th Bn Wiltshire Home Guard map dating from December 1940 showing the defences between Whaddon and Semington. Not all these defence works appear to have been built, and there is no available key to the symbols. SP may mean 'site proposed'. The dashed double line is the course of the anti-tank ditch at Whaddon. (COURTESY OF KENNET AND AVON CANAL TRUST)

Within the defended area of Semington were four anti-tank gun emplacements, with a further two beyond the perimeter to the north protecting GHQ Line Blue. It seems strange, therefore, that Semington was not accorded the status of an anti-tank island, a designation given to both Melksham and Trowbridge nearby. The difference may have been that it was perceived as an adjunct to the defence line itself rather than as a defended town that formed part of the system of area defence.

A feature of the defence works in the Semington – Whaddon area are the number of two-chamber Type 28a anti-tank gun emplacements. These were constructed with a mixture of wood, brick, and breeze-block shuttering. The bricks used were of a particular local type, hollow in part and placed end on. Examples of the emplacements survive in good condition: one is used as a cattle shelter [174] and two as stores [203 and 8679], while another still commands the road into Semington village from the south [8113]. Two have been removed recently: one to the north of the area on the site of the new Melksham Police Station [8692], and another by a housing development alongside the former St George's

FIGURE 160 Type 28A
2pdr anti-tank gun
emplacement [8113]
with a side chamber
for an infantry
section. It
commanded the road
into Semington close
to the anti-tank
ditch on the southern
perimeter.
(PHOTO: THE AUTHOR,
4 FEBRUARY 2003)



Hospital [8687]. The latter loss is particularly unfortunate as it stood at a pivotal point in the southern perimeter defences of Semington.

There are also examples of hexagonal infantry pillboxes within the defence area, but several are very badly overgrown [8680 and 8688] and others lie on private land without public access – the best example that can be inspected at close quarters is on the railway embankment north of Whaddon [200]. Outstanding amongst the surviving concrete

FIGURE 161 Eight anti-
tank cylinders [179]
still stand at a
crossing of the
Semington Brook at
Whaddon Grove
Farm. A further
cylinder on the far
side has fallen into
the stream.
(PHOTO: THE AUTHOR,
4 FEBRUARY 2003)





FIGURE 162 Conical-topped anti-tank cylinder [8683], one of two surviving on the north bank of the Kennet and Avon Canal with a further four on the south bank [8682], at the point where the anti-tank ditch forming the western perimeter of Semington met the Canal.

(PHOTO: THE AUTHOR, 4 FEBRUARY 2003)

anti-tank obstacles are the cylinders at the bridge over the Semington Brook at Whaddon Grove Farm [179]; although one has now fallen into the river, the survival of the remaining nine is remarkable in this position on a busy working farm. Further examples of cylinders can be found on the banks of the Kennet and Avon Canal. At Whaddon Farm, at the extreme west of the defence area, are two massive anti-tank cubes that formed part of a roadblock on the line of the anti-tank ditch [172].

Significance

Some development has taken place within the Semington part of the defence area, but the basic landscape pattern of the settlement in relation to its surrounding countryside still prevails as it did 65 years ago. At Whaddon, the landscape is largely unchanged. Some additions have been made to Whaddon Grove Farm, but otherwise the buildings and fields are much as they were in 1940. In the area between Semington and Whaddon, a number of hedgerows have been removed to create larger fields. The landscape can thus be seen to define the two separate parts of the defence area while at the same time linking them through the linear defences built along the waterways and the railway.

At Whaddon, the physical junction of GHQ Lines Green and Blue can be viewed in the union of the Semington Brook with the River Avon. A fortified position was created here, taking advantage of the natural defences provided by the waterways and the steep river cliffs, and linking them with an artificial anti-tank ditch. Defence works were set amongst the various farm buildings creating an overall position of considerable strength against an anticipated attack from the south. Other works were positioned in hedgerows or beside ditches where their landscape context survives today. To the north, the railway embankment provided a further line of defence.

To the south-east of Whaddon, the defences of Semington acted as a bastion projecting forward of GHQ Line Blue. Existing water-channels were adapted to form part of the perimeter, to the east linking the Semington Brook with the Kennet and Avon Canal. The machine-dug ditch forming the southern perimeter was engineered to incorporate St George's Hospital at its south-west corner, the buildings adding to the strength of the defence positions here. To the east, Manor Farm also formed a strongly defended position overlooking the anti-tank ditch.

The two localities of Whaddon and Semington are joined by linear defences to form an overall defence area of considerable importance. Semington provides an excellent example of all-round anti-tank defence, with a large number of surviving defence works including anti-tank gun emplacements, pillboxes, and concrete blocks. Their survival in a peri-urban environment, where much more deliberate removal in the immediate post-war years might have been expected, is exceptional. Whaddon provides an excellent illustration of a fortified place at a critical point on a defence line. The surviving defence works around Whaddon Grove Farm are outstanding, incorporating as they do the different components of anti-tank defence.

Access

A network of footpaths and lanes, and the towpath of the Kennet and Avon Canal, provide public access to many of the surviving defence works. Parking is possible within Semington and by the church at Whaddon, the latter reached by Whaddon Lane from Hilperton.

Published Sources

Alexander, C., 1999 *Ironsides's Line*. Storrington: Historic Military Press

Green, M (Maj), 1999 *Warwalks: Stop Line Green*. Cheltenham: Reardon Publishing

Documentary Sources

'Southern Command Home Defence Programme, 1940' (map from General Headquarters Papers, Defence Works) – TNA: PRO WO 199/48

'Report on Reconnaissance of Outer Bristol Defence Position', 18.6.40 (from 48 Division 'GS' War Diary) – TNA: PRO WO 166/578

Copy of map of 4th Bn Wiltshire Home Guard showing defence positions on the Kennet and Avon Canal, December 1940 – Kennet and Avon Canal Trust records (Defence of Britain Project Archive)

South Wiltshire Sub-Area War Diary, 1941 – TNA: PRO WO 166/1941

'South Wiltshire Sub-Area Defence Scheme', 1942 (from 'South Wiltshire Sub-Area War Diary' – TNA: PRO WO 166/6785

'Operation Instruction No 20', 16.4.1942 (from Salisbury Plain District War Diary) – TNA: PRO WO 166/6831

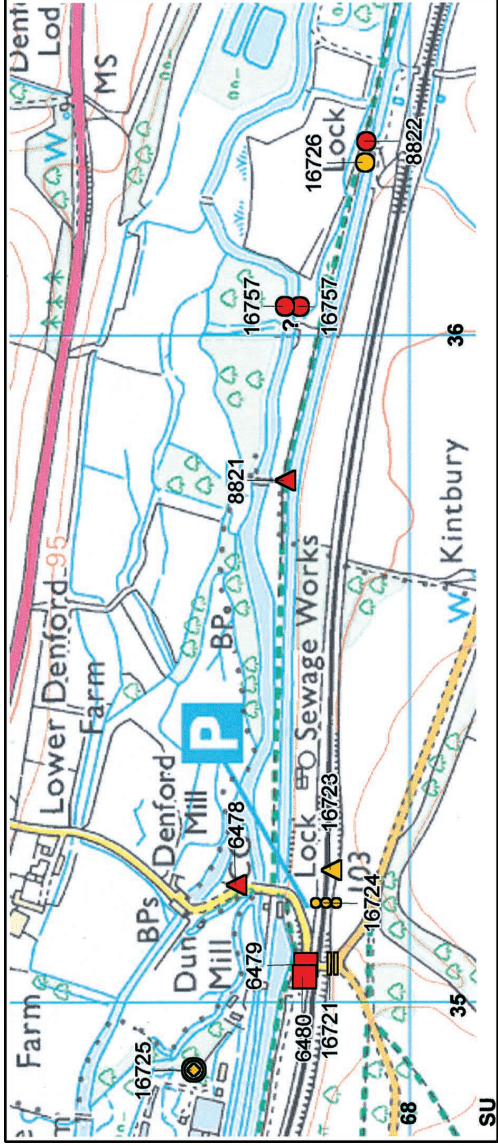
Semington – Whaddon: Defence components

Database site reference	NGR	Defence work type	Survival status
172	ST 8796061351	CUBE	E
174	ST 8805561388	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
179	ST 8843161439	CYLINDER	E
199	ST 88456152	PILLBOX (TYPE 22)	R
200	ST 8822661742	PILLBOX (TYPE 22)	E
201	ST 8841661548	PILLBOX (TYPE 22)	E
203	ST 8846161335	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
8113	ST 8974560400	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
8678	ST 87826152	CYLINDER	E
8679	ST 8976961365	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
8680	ST 8941260802	PILLBOX (TYPE 22)	E
8681	ST 89236067 – ST 89226063	ANTI TANK BLOCK	R
8682	ST 8925760830	CYLINDER	E
8683	ST 8923360860	CYLINDER	E
8685	ST 89666094 – ST 89696093	CYLINDER	U
8686	ST 8929460483	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
8687	ST 8923160272	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	R
8688	ST 8983360388	PILLBOX (TYPE 22)	E
8689	ST 8908061507	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
8690	ST 89966119	ANTI TANK GUN POSITION	R
8691	ST 9014560555	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
8692	ST 902617	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	R
8693	ST 90276156	PILLBOX (TYPE 22)	U
11721	ST 9060660866	CYLINDER	E
11867	ST 8746561750	PILLBOX (TYPE 24)	E
11868	ST 8759661785	PILLBOX (TYPE 24)	E
11869	ST 8803161754	PILLBOX (TYPE 24)	E
11870	ST 882621	ANTI TANK VERTICAL RAIL	E
14379	ST 88206217	PILLBOX (TYPE 24)	E
16294	ST 8864361459	PILLBOX (TYPE 22)	E
16295	ST 8880261445	PILLBOX (TYPE 22)	E
16353	ST 90036153	ROADBLOCK	R

Semington – Whaddon: Continued

Database site reference	NGR	Defence work type	Survival status
16354	ST 89836155	ROADBLOCK	R
16355	ST 89966102	ROADBLOCK	R
16356	ST 89156133	PILLBOX	U
16357	ST 89026136	PILLBOX	U
16358	ST 88946138	PILLBOX	U
16360	ST 88386136	PILLBOX	R
16361	ST 87316168	PILLBOX	U
16362	ST 90586086 – ST 90566063	ANTI TANK DITCH (NATURAL IMPROVED)	I
16363	ST 89246024 – ST 89346028 – ST 89396034 – ST 89716035 – ST 89936043 – ST 90176043 – ST 90306055 – ST 90316074	ANTI TANK DITCH	I
16364	ST 89256083 – ST 89226066 – ST 89196066 – ST 89166051 – ST 89206051 – ST 89196032 – ST 89246024	ANTI TANK DITCH (NATURAL IMPROVED)	I
16365	ST 90296063	ROADBLOCK	R
16443	ST 89156068	ANTI TANK VERTICAL RAIL	E
16444	ST 8916760325	CYLINDER	E
16449	ST 87856153 – ST 87956135 – ST 88476131 – ST 88516135	ANTI TANK DITCH	I
16460	ST 87876118	CYLINDER	E

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Dunmill Lock

Stop Line Defence

Location Details

1 mile (1.5km) E of Hungerford

County: Berkshire

Parish: Hungerford

National Grid Reference (Dunmill Lock): SU 351682

Landscape

The defence area lies on the Kennet and Avon Canal that runs from Bath to Reading; Dunmill Lock is lock no 75, Wire Lock to the east is no 76. Flowing parallel with the canal to its north is the River Kennet, and to the south is the Newbury to Hungerford railway line. A lane runs south to Dunmill Lock from the main A4 road, passing through the small settlement of Lower Denford just north of the River Kennet. The lane crosses the river, the canal, and the railway by three bridges, the last approached by a sharp left-hand bend above the cutting of the canal.

The north bank of the canal is followed by a towpath east towards Wire Lock. Between the canal and the river is an area of thick undergrowth, with private parkland beyond stretching to the bank of the river. Wire Lock, with a hump-backed bridge carrying a track over the canal, marks the east boundary of the defence area.

The principal changes in the landscape of the defence area since the Second World War relate more to its modern-day use than any physical development. The growth of leisure and tourism has resulted in Dunmill Lock becoming a popular spot for visitors, and the lane here is very busy. There is also a considerable traffic of holidaymakers in narrow boats on the canal, and both Wire Lock and Dunmill Lock are in constant use in the summer months.

Defences

GHQ Line Blue was constructed from a junction with GHQ Line Green at Whaddon in Wiltshire (see Semington – Whaddon defence area), entirely following the line of the Kennet and Avon Canal to Theale, south-west of Reading, a distance of some 50 miles (80km). The line was planned in July 1940 by officers from V Corps. It was intended to protect the heartland of England from an advance by enemy forces from the south coast, and to prevent a movement to encircle London from the west. To its rear lay GHQ Line Red, and on its right flank GHQ Line Green protecting the port of Bristol.

The Kennet and Avon Canal was the line's principal front-edge anti-tank obstacle, but lengths of artificial anti-tank ditch were also dug behind it to strengthen points where the canal was vulnerable to a crossing by enemy armour. The main emphasis was the defence



FIGURE 163 Dunmill Lock on the Kennet and Avon Canal. The two anti-tank gun emplacements [6479 and 6480] stand behind the trees to the left at the top of the bank of the canal cutting. (PHOTO: THE AUTHOR, 3 SEPTEMBER 2003)

of the canal's locks, which not only provided bridging points but which, if captured, would allow the canal to be drained. At these places anti-tank gun emplacements were sited, some 30 being constructed in the section between Hungerford and Reading, and 53 planned for the complete length of the line.

Dunmill Lock, and to its east, Wire Lock, were two of the locks that were defended. Dunmill Lock, where the canal ran in a cutting and was crossed by a road, was considered particularly vulnerable to attack. Two anti-tank gun emplacements were constructed here [6479 and 6480], with a pillbox protecting the meandering waterways of the River Kennet to the north [6478], and another on the canal towpath to the east [8821].

The three bridges were undoubtedly prepared for demolition, and there was a substantial roadblock south of the railway bridge. There were probably other earthwork defences, including section posts and infantry trenches. The bridge at Wire Lock was blocked and almost certainly mined, and there appear to have been further blocks on adjacent sluices.

Blocks were also constructed on the railway line, running for a considerable distance parallel with the canal, and pillboxes sited on its embankments. By the autumn of 1940, the defence works on the line were substantially complete, but it seems that some of those that were planned, including a number of the anti-tank ditches, were never started.

In the event of an invasion, troops for the defence of the line east of Hungerford (itself a nodal point) were to come from the Berkshire Home Guard until such time as elements of the Field Army arrived to relieve them.

Significance

The Dunmill Lock defence area provides a good illustration of the defences of a sector of GHQ Line Blue constructed along the line of the Kennet and Avon Canal. The various



FIGURE 164 An air photograph taken in June 1941 shows Dunmill Lock at the point where the lane crosses the canal. The two anti-tank gun emplacements [6479 and 6480] can be seen at the sharp bend in the lane to the south of the canal. They have been given pitched roofs as part of their camouflage scheme. A roadblock is positioned at the triangular junction of roads south of the railway bridge. (RAF/210TU/BR352 fr4. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)

components of defence are well-illustrated: anti-tank gun emplacements, infantry pillboxes, and roadblocks. In the surface of the bridge at Wire Lock are some excellent examples of the plugged sockets to take vertical rails or posts to form a block [8822].

The major importance of the area, however, rests in the structures of the twin anti-tank gun emplacements. The Defence of Britain Project database records seventeen individual Type 28A emplacements in 'Good' condition on GHQ Line Blue, and only a further 46 in England. Pairs of type 28A emplacements are comparatively rare nationally, and it is unusual to find them surviving in relatively good condition in such a prominent and publicly accessible location. Only two other comparable pairs on GHQ Line Blue are recorded. Most of the accessible examples come from GHQ Line Red (see Sulham Valley and Frilford / Fyfield defence areas).

The emplacements [6479] and [6480] are situated side by side on top of the southern bank of the canal in its cutting just west of Dunmill Lock. The eastern of the two [6479] is the larger, and has twin main embrasures, each pointing in a different direction along the lane that makes a sharp corner at this point. Emplacement [6480] has a single anti-tank gun embrasure facing west. Both emplacements appear to have been camouflaged and given pitched roofs. They are used today as cattle shelters, and are full of dirt and rubbish.



FIGURE 165 The two embrasures of anti-tank gun emplacement [6479] would have enabled the 2pdr gun to be moved to fire in either direction along the lane. Emplacement [6480] stands in the background. (PHOTO: THE AUTHOR, 3 SEPTEMBER 2003)

An imaginative proposal to turn them into a restaurant appears not to have been granted planning permission.

The defence area provides a good illustration of linear defences organised around a river, canal, and railway in a rural landscape, intersected by roads and trackways. The anti-tank gun emplacements still command this landscape as they did in 1940.



FIGURE 166 The interior of anti-tank gun emplacement [6479], showing in the foreground the wall dividing the main gun chamber from the infantry chamber. The emplacement is used as a cattle shelter, and attracts graffiti and litter. (PHOTO: THE AUTHOR, 3 SEPTEMBER 2003)

FIGURE 167 Plugged
concrete sockets [8822]
to take vertical rails to
form a block on the
bridge over the Kennet
and Avon Canal at
Wire Lock.
(PHOTO: THE AUTHOR,
3 SEPTEMBER 2003)



Access

All the surviving defence works can be reached from the lane at Dunmill Lock, or from the towpath to Wire Lock. There is a car park on the south side of the canal.

Published Sources

Alexander, C, 1999 *Ironside's Line*. Storrington: Historic Military Press
Berkshire County Council, nd *Bastions of Berkshire*, pamphlet

Documentary Sources

'Southern Command Home Defence Programme, 1940' (map from General Headquarters Papers, Defence Works) – TNA: PRO WO 199/48

South Midland Area HQ War Diary, 1940 – TNA: PRO WO 166/1224

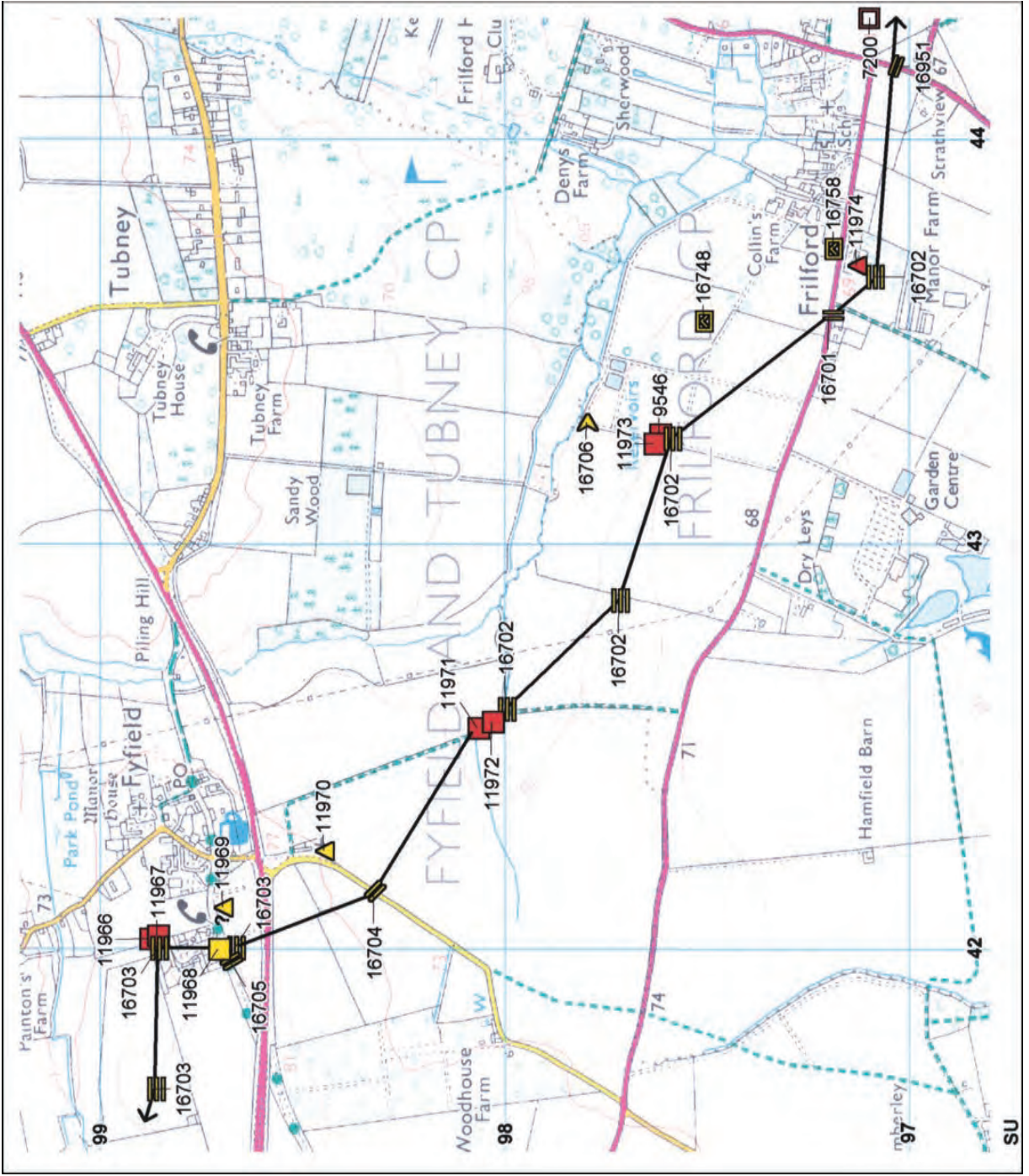
'Construction of GHQ Zones, defence lines, road blocks, etc', July–October 1940 – TNA: PRO WO 199/1801

'Construction of Anti-Tank Islands and Centres of Resistance', 1940–41 – TNA: PRO WO 199/1714

Dunmill Lock: Defence components

Database site reference	NGR	Defence work type	Survival status
6478	SU 3517568264	PILLBOX (TYPE 22)	E
6479	SU 3505868160	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
6480	SU 3504068162	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
8821	SU 3578468189	PILLBOX (TYPE 22)	E
8822	SU 3629268068	ANTI TANK VERTICAL RAIL	E
16721	SU 35066812	ROADBLOCK	R
16723	SU 35206812	PILLBOX	R
16724	SU 35156814	RAILBLOCK	R
16726	SU 36266807	ANTI TANK BLOCK	R
16757	SU 3604368181	ANTI TANK BLOCK	E

E = Extant; R = Removed; I = Infilled; U = Unknown.



Frilford – Fyfield

Stop Line Defence

Location Details

4 miles (6.5km) W of Abingdon and 9 miles (14.5km) ENE of Faringdon

County: Oxfordshire

Parishes: Frilford; Fyfield and Tubney

National Grid Reference: SU 425980

Landscape

The defence area lies between the villages of Frilford and Fyfield, in a flat landscape of large arable fields and the occasional stand of woodland. Frilford lies on the A415 road to Abingdon, and, to its north, Fyfield is now by-passed by a new stretch of the A420 road. The two roads are connected by Digging Lane. In the south-east of the area are the land and buildings of Collins Farm, and beyond the area's south-west border is the now disused airfield of Kingston Bagpuize. The only housing development that affects the study area has been on the west side of Fyfield where a small cul-de-sac of houses has been built.

Defences

The defence area was crossed by GHQ Line Red, the front-edge anti-tank obstacle in this section being a machine-dug ditch that ran from the River Thames south-west of Abingdon to rejoin it near Appleton north of Fyfield, thereby cutting off a great loop of the river that included Oxford.

A particular feature of the defences of the line here were its 2pdr anti-tank gun emplacements, of Type 28A with an additional light machine gun chamber, often arranged in pairs at angles of the anti-tank ditch. Three such pairs can be seen within the defence area. All these emplacements have a single main embrasure for the anti-tank gun, and presumably it was considered more practical to place two emplacements back to back in this way rather than construct the twin embrasure type, with fields of fire at 90 degree angles, that can be seen elsewhere (see Sulham Valley defence area).

The first pair of emplacements west of Frilford stands on the border of Collins Farm [9546 and 11973]. Emplacement [9546] is today used as a chemicals store, and there is no interior access, but [11973] is open and in exceptionally good condition. Close by, an 82ft (25m) section of the anti-tank ditch has been re-excavated by the farmer in recent years and left open, so that the width, depth, and profile of the earthwork can be seen; it measures 22ft (7m) across and 8ft (2.5m) deep.

The 2pdr emplacements were interspersed with gun pits for the 6pdr Hotchkiss gun that could swivel through 360 degrees. Eight of these were planned in the eastern section of



FIGURE 168 USAAF air photograph taken 8 March 1944 showing the open anti-tank ditch of GHQ Line Red between Frilford and Fyfield: the ditch was filled in later that year. Frilford is off the photograph at its centre right edge and Fyfield is at the upper left. Part of Kingston Bagpuize airfield can be seen at the bottom left. Anti-tank gun emplacements are positioned in twos at three locations. At the first angle of the anti-tank ditch from the right margin of the photograph, emplacements [9546] and [11973] stand at the western border of Collins Farm. A section of ditch in front of the right-hand of these emplacements has been recently re-excavated. Pillboxes, slit trenches, a possible section post [16748], and roadblocks can also be seen in the photograph.
(8.8.1944 US/7PH/GP/LOC208 fr5004. ENGLISH HERITAGE (NMR) USAAF PHOTOGRAPHY)

FIGURE 169 The flat landscape of the defence area, looking north-west towards Digginglane Cottages, south of Fyfield, from the position of the anti-tank gun emplacements [11971] and [11972]. The darker area to the left of the photograph was covered by a wood at the time of the war.
(PHOTO: THE AUTHOR, 4 SEPTEMBER 2003)



GHQ Line Red, and one survives within the study area complete with its concrete ammunition lockers [7200]. Type 22 pillboxes, usually with strengthened, shell-proof walls, also formed part of the hardened field defences of the line and one stands in private grounds at Frilford, surviving in pristine condition [11974].

FIGURE 170 The 2pdr anti-tank gun emplacement [9546] now converted into a store for dangerous chemicals.
(PHOTO: THE AUTHOR, 4 SEPTEMBER 2003)





FIGURE 171 Reference number stencilled on the anti-ricochet wall of a shell-proof Type 22 pillbox at Frilford [11974]. (PHOTO: THE AUTHOR, 4 SEPTEMBER 2003)



FIGURE 172 A 6pdr gun pit at Frilford [7200], with central pedestal and hold-fast to mount the swivelling Hotchkiss 'QF' gun. Lockers for ammunition surround the emplacement. (PHOTO: L C SMITH)

Two section posts are included within the defence area, one of which can be seen as a V-shaped earthwork in a 1944 USAAF air photograph [16748]. Evidence of the form of this category of defence work is rare.

Significance

The defence area provides an excellent illustration of a section of GHQ Line Red, with its pairs of anti-tank gun emplacements placed at strategic points along the course of the anti-tank ditch designed to protect the line against an attack from the south. In the 60 years since the Second World War, this predominantly flat, open landscape has been opened up further, with some field divisions removed and at least one area of woodland grubbed out. The anti-tank ditch ran across the landscape in a series of angled lengths, changes of direction being made at hedgerows, lanes, or the edges of woodland. The pairs of anti-tank gun emplacements were positioned at the angles in the anti-tank ditch, being sited so that they could fire across the ditch in both directions. Emplacements [11973] and [9546] were separated in 1940 by a fence line, as today, whereas [11971] and [11972] originally stood at the edge of a wood which has now been removed. At Fyfield, [11966] and [11967] were positioned at a right-angled bend in the anti-tank ditch on the boundary of land of Manor Farm, now adjacent to houses built since the war.

The three pairs of Type 28A anti-tank gun emplacements all survive, with most in good condition, providing good examples of their type. The open 6pdr emplacement [7200] is a rare and important structure, and it survives with its pedestal, holdfast, and ammunition lockers complete. The section of anti-tank ditch that has been re-excavated and left open is the only example that is known where such work has been undertaken, and is thus important for the information it provides on these earthworks, as well as their position in relation to the defence structures built alongside them (see also Hog Wood defence area).

Access

The two anti-tank gun emplacements in Fyfield village can be seen at a distance from the village streets, where parking is possible. A public footpath runs between Fyfield and the A415 road passing two more of the emplacements. The defence works on the land of Collins Farm can only be visited by prior permission.

Published Sources

Alexander, C, 1999 *Ironside's Line*. Storrington: Historic Military Press

Dawe, N, 1993 An Anti-Tank Ditch Restored, *Loopholes*, 5, 20–1

Smith, L & Money, T, 1999 Invasion 1940: Britain's Defence Line near Radley, *Old Radleian*, 3–16

Documentary Sources

'Southern Command Home Defence Programme, 1940' (map from General Headquarters Papers, Defence Works) – TNA: PRO WO 199/48

Home Guard maps, 1940 – in possession of Mr Murray Maclean, Collins Farm, Frilford

South Midland Area HQ War Diary, 1940 – TNA: PRO WO 166/1224

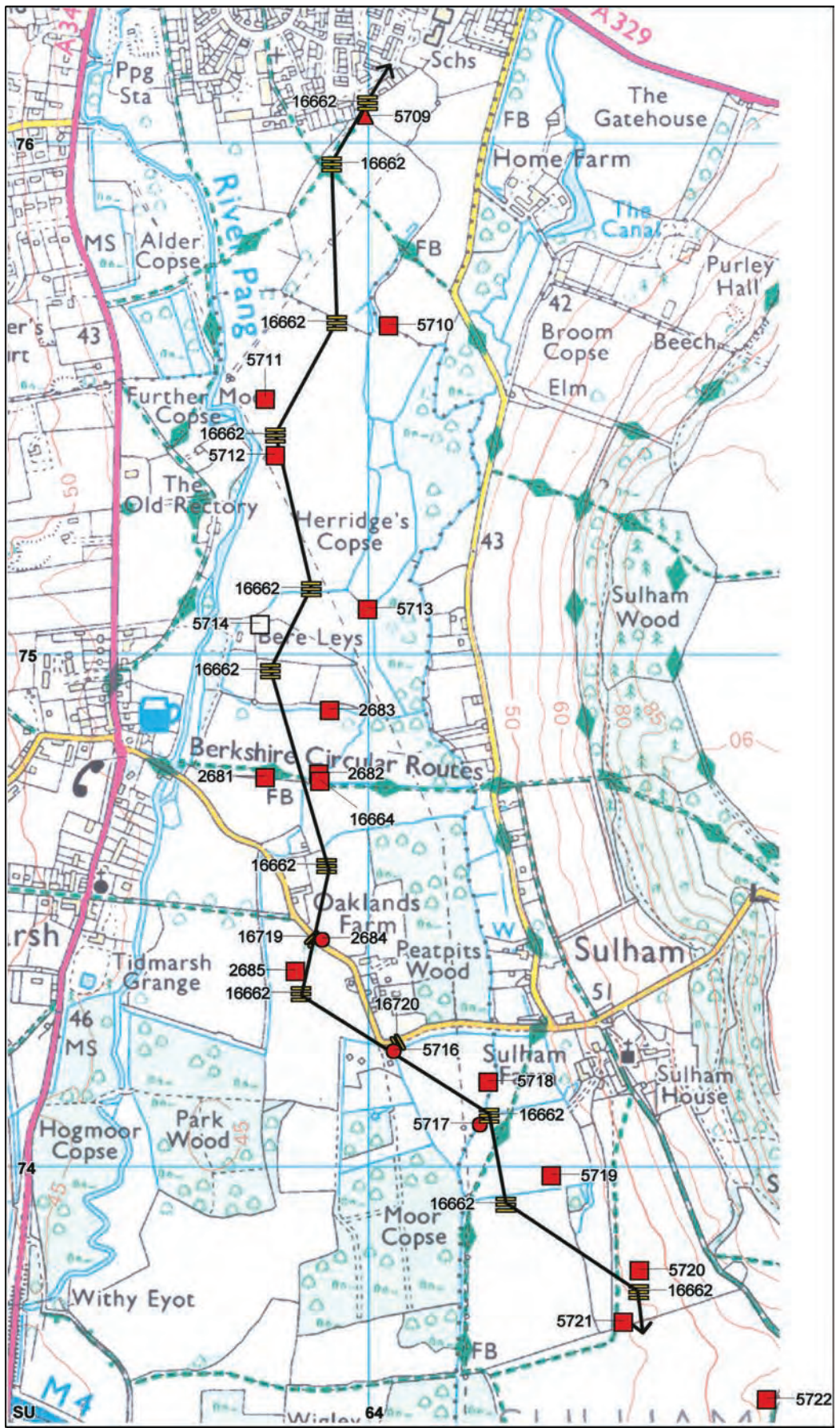
'Construction of GHQ Zones, defence lines, road blocks, etc', July–October 1940 – TNA: PRO WO 199/1801

'Construction of Anti-Tank Islands and Centres of Resistance', 1940–41 – TNA: PRO WO 199/1714
'Restoration of Land Used for Anti-Tank Trenches' (Berkshire County War Agricultural Executive Committee), 1941–44 – TNA: PRO MAF 169/64
Berkshire and Oxfordshire Sub-Area War Diary, 1942 – TNA: PRO WO 166/6720
'Acquisition of Agricultural Land for an Airfield at Kingston Bagpuize', 1943–44 – TNA: PRO MAF 48/385
'GHQ Line Rear or Section Red: Research Report' (anon, c 1990s) – copy with Defence of Britain Project Archive, NMR

Frilford–Fyfield: Defence components

Database site reference	NGR	Defence work type	Survival status
7200	SU 443971	GUN EMPLACEMENT	E
9546	SU 4327797630	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
11966	SU 4202298881	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
11967	SU 4203098862	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
11968	SU 41979870	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	R
11969	SU 421987	PILLBOX (TYPE 22)	R
11970	SU 42249845	PILLBOX (TYPE 22)	R
11971	SU 4254398070	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
11972	SU 4255898035	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
11973	SU 4324797635	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
11974	SU 4368897133	PILLBOX (TYPE 22)	E
16701	SU 43569721	ROADBLOCK	R
16702	SU 44409685 – SU 43669709 – SU 43269759 – SU 42869772 – SU 42599800	ANTI TANK DITCH	I
16703	SU 42539807 – SU 42159831 – SU 42009867 – SU 41959868 – SU 42009886 – SU 41659885 – SU 41419897	ANTI TANK DITCH	I
16704	SU 42159832	ROADBLOCK	R
16705	SU 41979868	ROADBLOCK	R
16706	SU 43309780	SLIT TRENCH	I
16748	SU 43559751	SECTION POST	R
16758	SU 43739719	SECTION POST	R
16951	SU 44189704	ROADBLOCK	R

E = Extant; R = Removed; I = Infilled; U = Unknown



Sulham Valley

Stop Line Defence

Location Details

1 mile (1.5km) SSE of Pangbourne and 5 miles (8km) W of Reading centre

County: Berkshire

Parishes: Pangbourne; Tidmarsh; Sulham

National Grid Reference (Oaklands Farm): SU 639745

Landscape

The Sulham Valley runs north to south for some two miles (3.2km) from Pangbourne, on the south bank of the River Thames, to a point just south of the village of Sulham. The River Pang flows through the valley, rising to the south-west of Tidmarsh and reaching the Thames at Pangbourne. The hills on either flank of the valley rise some 130ft (40m) above its floor and are heavily wooded above Sulham to the east. Suburbs spreading from Reading now end only half a mile (1km) from the edge of the heights above Sulham.

A busy, narrow lane crosses the valley from Tidmarsh to Sulham, and another runs below the Sulham heights. The western edge of the valley is followed by the main A340 road running from Theale to Pangbourne, and beyond the valley to the south, a more open, semi-industrialised landscape, bordered by the River Kennet and its accompanying Kennet and Avon Canal, is crossed by the M4 motorway following its route to the west.

The Sulham Valley contains rich agricultural land, including pasture and open grassland, especially to the north of the defence area. It has a dispersed pattern of settlement, with several large properties standing on the banks of the River Pang. The Valley falls under a countryside stewardship scheme, sponsored by West Berkshire County Council, English Nature, and other partners, and forms part of the North Wessex Downs Area of Outstanding Natural Beauty (AONB). Moor Copse, together with other woodland at the southern border of the defence area, is a nature reserve and a site of special scientific interest (SSSI).

Defences

GHQ Line Red, to the rear of GHQ Line Blue, providing defence in depth against an attempt by enemy forces to encircle London and advance into the Midlands, was constructed from late June 1940. It ran from a junction with GHQ Line Green at Great Somerford in Wiltshire, across what is now the south of Oxfordshire to join the course of the River Thames from Abingdon to Pangbourne. Perhaps its most important section

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FIGURE 173 An RAF air photograph taken in August 1943 showing the line of the anti-tank ditch in the Sulham Valley. Spoil has been dumped on both sides of the ditch, which is engineered in angled lengths so that each could be covered by enfilading fire. Oaklands Farm is to the left of the ditch towards the bottom right of the photograph, and a strongpoint of three anti-tank gun emplacements stands astride a footpath to the north.

(RAF/16A/AC467 fr5004. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)

strategically was its southernmost, where it was routed south from Pangbourne through the Sulham Valley to meet the River Kennet and GHQ Line Blue at Theale. In the event of an enemy advance from the west, this would undoubtedly have formed a key hinge that the Germans would have had to force open in an assault on the anti-tank island of Reading for an advance against London.

Reconnaissances of the Sulham Valley sector of GHQ Line Red were carried out by 1 Canadian Infantry Brigade. As the River Pang did not constitute a sufficient anti-tank obstacle, an artificial anti-tank ditch was dug the length of the valley. This was defended by 24 2pdr anti-tank gun emplacements in the sector between Pangbourne and Theale, as well as five shell-proof infantry pillboxes; of these, ten emplacements and a pillbox lie within the study defence area. By mid-August, the defence works in the Sulham Valley were either finished or were well in hand, and, by mid-December, the eastern part of GHQ Line Red is recorded as complete.

The anti-tank gun emplacements built were of Type 28A, with a main gun chamber plus one (sometimes two) light machine gun chambers. There were two basic types: those with a single main embrasure for the 2pdr gun, or those with two main embrasures normally set at an angle of 90 degrees to each other. The latter type was generally positioned close to an angled corner of the anti-tank ditch so that it was possible to fire in both directions along it [for example, 5719 and 2685].

The principal anticipated direction of attack was from the west, and the majority of the anti-tank gun emplacements were positioned on the eastern, defended side of the anti-tank ditch. Several emplacements, however, projected in front of it, their positions clearly chosen for the clearer field of fire they provided of crossing points of the line, and also supporting a possible two-way defence of the line. Many emplacements were positioned at hedgerows or

FIGURE 174 Type 28A
2pdr anti-tank gun
emplacement [5719]
with two main
embrasures (now
blocked in) facing
different angled
lengths of the anti-
tank ditch in front
of it.
(PHOTO: THE AUTHOR,
3 SEPTEMBER 2003)





FIGURE 175 Single embrasure Type 28A anti-tank gun emplacements positioned back-to-back north of Oaklands Farm [16664 and 2682]. Each of these emplacements had a separate chamber for light machine gun fire. (PHOTO: THE AUTHOR, 3 SEPTEMBER 2003)

beneath tree cover [for example, 5710, 5718, and 2683], but others stood in open field positions [5711 and 5719] where they would have relied on a camouflage scheme to blend with the landscape.

North of Oaklands Farm was a strongpoint of three anti-tank gun emplacements positioned to block a west to east path that was a potential approach route to the strategic Sulham heights beyond overlooking Reading. Here emplacement [2681] fired in two directions at a straight length of ditch, the east embrasure being restricted to fire across the ditch rather than along it. Its firepower was supplemented by two further single embrasure emplacements placed back-to-back a short distance to the east [2682 and 16664], in a similar manner to those constructed elsewhere on GHQ Line Red (see Frilford / Fyfield defence area). A further two-embrasure emplacement [2683] stood 200m to the north.

There are some substantial remains of the two roadblocks that stood within the defence area. Two anti-tank pimples (dragon's teeth) lie by the side of the lane at the sharp corner south of Oaklands Farm [5716], and closer to the farm, where the anti-tank ditch re-crossed the lane, there are four massive anti-tank cylinders standing 6ft (1.8m) high [2684]. South of Sulham, at a point where air photographs show there was a gap in the anti-tank ditch, at least two steel vertical posts set in concrete survive [5717].

Although GHQ Line Red was intended to be occupied by the Field Army in the event of a German invasion, it was accepted that Area Troops, together with the Home Guard, would have to man it pending the arrival of Field Army units. In December 1940, the Area Troops came from 164 Infantry Brigade, with three platoons of a training company of the Royal Berkshire Regiment being allocated to 21 posts in the sector from Pangbourne to GHQ Line Blue. Additionally, the toll bridge at Pangbourne was a designated a 'centre of resistance', with defences manned by the 4th (Pangbourne) Battalion, Berkshire Home Guard.

FIGURE 176 Anti-tank cylinders [2684] (made from drainage pipes filled with concrete and with added conical tops) at a roadblock site at Oaklands Farm.

There were originally six cylinders forming a triangular group, of which four remain. (PHOTO: THE AUTHOR, 3 SEPTEMBER 2003)



Significance

The defence area represents a critical sector of GHQ Line Red covering the approaches towards London from the west. The concentration here of the rare Type 28A two-chambered anti-tank gun emplacement makes the area unique in field studies of 1940 anti-invasion defences. Nowhere else in the country are there so many of these

FIGURE 177 These two vertical steel rails set in a concrete base [5717], used today as posts for a barbed wire fence, once blocked a gap in the anti-tank ditch south of Sulham. Other rails may be hidden by bushes. (PHOTO: THE AUTHOR, 3 SEPTEMBER 2003)



emplacements positioned so close together, and to which there is such good access, externally and internally. It has been calculated that, to build the anti-tank gun emplacements in this sector of GHQ Line Red, some 5% of the total concrete available to General Headquarters was needed. To arm them would also have used up a large proportion of the fewer than 200 2pdr anti-tank guns available to Home Forces after the losses at Dunkirk (Alexander 1999, 50).

Despite the spread of suburbs from Pangbourne to the north, and from Reading to the east, the landscape of the Sulham Valley within the study area has remained substantially unaltered from that of 65 years ago. Although there is no trace of the anti-tank ditch today, its course can be traced exactly from air photographs, so that the defended landscape can be determined in relation to the ditch which formed the front-edge defence. Similarly, the positions of roadblocks can be identified, and the sites of these confirmed by surviving evidence on the ground. No emplacement or pillbox within the area has been destroyed, and even emplacement [5710], which was blown up possibly during a wartime exercise, survives intact enough for its position and fields of fire to be understood.

It is perhaps surprising that the defence works, which must have been considered an eyesore after the war, were allowed to remain in such a location of outstanding natural beauty. The reason is probably that they did not interfere with the agriculture of the valley, and indeed served a purpose in some cases in providing shelters for cattle. Consequently, there was no official impetus to remove them, and, because of the massive nature of many, such removal would have been very difficult for private individuals to accomplish. They have thus simply been left, many in hedgerows and under trees, merging into the landscape that it was once their purpose to protect, where their defence significance can still be appreciated today.

Access

A good network of footpaths enables most of the sites in the defence area to be reached, although some will require permission from landowners for a close inspection. The lanes that cross the valley are narrow and busy and there are few places where a car may be safely parked. There is a small lay-by near the River Pang on Sulham Hill, and, for customers, the car park of The Greyhound public house at Tidmarsh.

Published Sources

- Alexander, C, 1994 Sulham Valley: A Heavy Concentration of Anti-Tank Pillboxes, *Loopholes*, **10**, 10–18
Alexander, C, 1999 *Ironsides's Line*. Storrington: Historic Military Press
Berkshire County Council, nd *Bastions of Berkshire*, pamphlet
Wills, H, 1985 *Pillboxes: A Study of UK Defences 1940*. London: Leo Cooper

Documentary Sources

- 'Southern Command Home Defence Programme, 1940' (map from General Headquarters Papers, Defence Works) – TNA: PRO WO 199/48
South Midland Area HQ War Diary, 1940 – TNA: PRO WO 166/1224
'Emergency Defence Works' (Berkshire County War Agricultural Executive Committee), July 1940 – TNA: PRO MAF 169/26

- 'Construction of GHQ Zones, defence lines, road blocks, etc', July–October 1940 – TNA: PRO WO 199/1801
- 'Operation Instruction No 20', 26.12.1940 (from 164th Infantry Brigade War Diary) – TNA: PRO WO 166/1037
- 'Construction of Anti-Tank Islands and Centres of Resistance', 1940–41 – TNA: PRO WO 199/1714
- 'Restoration of Land Used for Anti-Tank Trenches' (Berkshire County War Agricultural Executive Committee), 1941–44 – TNA: PRO MAF 169/64
- 'GHQ Line Rear or Section Red: Research Report' (anon, c 1990s) – copy with Defence of Britain Project Archive, NMR

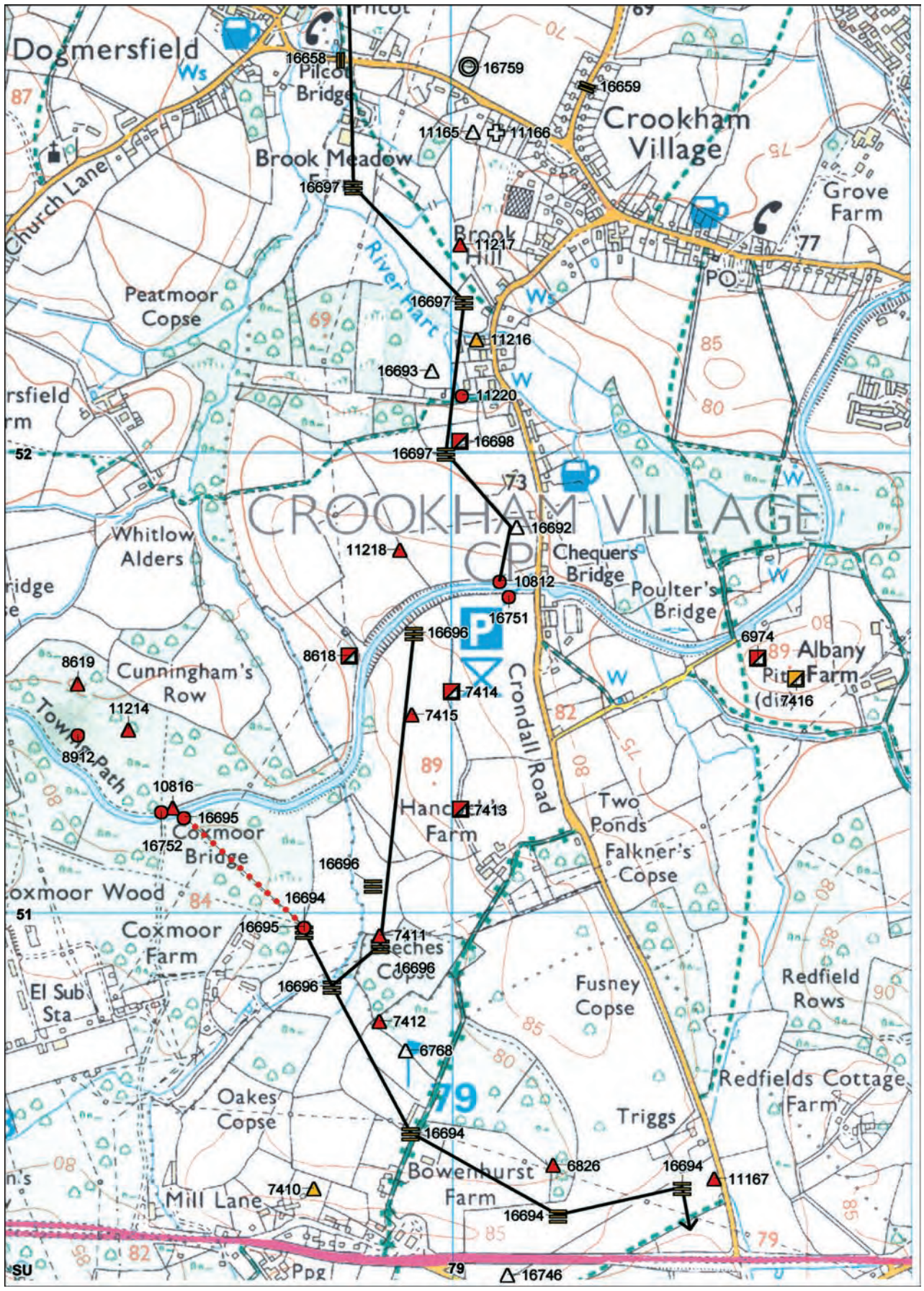
Sulham Valley: Defence components

Database site reference	NGR	Defence work type	Survival status
2681	SU 6380074762	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
2682	SU 6390574769	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
2683	SU 6392674893	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
2684	SU 63917444	CYLINDER	E
2685	SU 6385974384	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
5705	SU 63977663	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
5706	SU 63917655	RAILBLOCK	E
5707	SU 63897642	ROADBLOCK	R
5708	SU 641763	WEAPON PIT	I
5709	SU 6399676052	PILLBOX (TYPE 22)	E
5710	SU 6404175644	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
5711	SU 638755	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
5712	SU 63827539	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
5713	SU 64007509	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
5714	SU 63797506	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	U
5716	SU 6405174249	PIMPLE	E
5717	SU 6423174097	ANTI TANK VERTICAL RAIL	E
5718	SU 6423674168	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
5719	SU 6435973986	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
5720	SU 6453173801	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
5721	SU 645737	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
5722	SU 6478073549	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E

Sulham Valley: Continued

Database site reference	NGR	Defence work type	Survival status
16662	SU 64007608 –	ANTI TANK DITCH	I
	SU 63937596 –		
	SU 63947565 –		
	SU 63827543 –		
	SU 63897513 –		
	SU 63817497 –		
	SU 63927459 –		
	SU 63877434 –		
	SU 64237410 –		
	SU 64277393 –		
	SU 64537376 –		
	SU 64607325 –		
	SU 64767291 –		
	SU 64747255 –		
	SU 64917225 –		
	SU 64887212 –		
	SU 65037206 –		
	SU 65107203 –		
	SU 65197198		
16664	SU 6390774755	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
16675	SU 63887653	SECTION POST	U
16719	SU 63897445	ROADBLOCK	R
16720	SU 64037424	ROADBLOCK	R

E = Extant; R = Removed; I = Infilled; U = Unknown.



Chequers Bridge

Stop Line Defence

Location Details

5 miles (8km) NW of Farnham

County: Hampshire

Parish: Crookham Village

National Grid Reference (Crookham Wharf): SU 791517

Landscape

This is a large defence area consisting, to the north, of part of Crookham Village and its small neighbouring settlement of Pilcot, and, to the south of fields and woods crossed by the Basingstoke Canal running east to west from Poulter's Bridge via Chequers Bridge as far as the now demolished Coxmoor Bridge. It is a landscape of narrow leafy lanes, with houses tucked away behind high hedges, as well as of farms and open fields and belts of heavy woodland. Hancock's Farm stands on a hill towards the south of the area and its position commands the land towards Chequers Bridge. A small hill west of Albany Farm also commands the landscape to the south and east of Poulter's Bridge.

At Chequers Bridge, the Basingstoke Canal is crossed by the minor Crondall Road running from the main A287 Farnham to Odiham road that borders the area to the south. To the immediate west of Chequers Bridge, the Canal runs from Crookham Wharf in a cutting that is fringed by trees, and further west passes between thicker woodland that includes, on the south bank, Coxmoor Wood.

Much of the defence area is still intensively farmed, and the fields are a mixture of arable and pasture. A large electricity sub-station was built in the western extent of Coxmoor Wood after the war, and a new line for the A287 road constructed in recent years, with a small industrial park, a restaurant, and a golf club alongside it on the southern borders of the area. There has been an infill of housing bordering Crondall Road, and within Pilcot and Crookham Village.

Defences

GHQ Line 'A', protecting the approaches to London from the south-west, as well as the military concentrations of Aldershot Command, ran across the south of the area. Its principal anti-tank obstacle here was an artificial anti-tank ditch, in part at least hand-dug by troops from Aldershot Garrison, which crossed land now occupied by Bowenhurst golf course and was continued through Coxmoor Wood to the south bank of the Basingstoke Canal by a remarkable double line of closely spaced anti-tank cylinders [16695].

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FIGURE 178 Air photograph taken in January 1946 with Chequers Bridge at the upper centre crossing the curving line of the Basingstoke Canal. Hancock's Farm lies to the south, on the far side of the fields below the Canal at the edge of woodland, and Coxmoor Wood is at the left edge of the photograph. The line of the infilled anti-tank ditches can be made out both north and south of the Canal. The centre of Crookham village, and Pilcot, are off the photograph to the north. (RAF/106G/UK/1114 fr3031.)

In mid-July 1940, it was decided to add two short lengths of switch line for the better protection of Aldershot, one running to the east of the town and the other running from a point south-west of Coxmoor Wood via Chequers Bridge to the railway line north of Pilcot; this line faced west. Although its course was based on that of the River Hart, this stream was not considered a sufficient anti-tank obstacle, and an anti-tank ditch was machine-dug in a series of angled lengths to the Basingstoke Canal, being then carried north from Crookham Wharf west of Crondall Road to Pilcot Road, and so out of the defence area.

The two stop lines defending this critical area demanded an especially intense defence, and this was provided by six purpose-designed Vickers medium machine gun emplacements, a rare structure on the GHQ Line and generally only found in Aldershot Command. In addition to the machine gun emplacements, Type 22 and Type 24 infantry pillboxes were also constructed along the course of the switch line.

At the north of the defence area, Pilcot was a designated defended locality, with roadblocks, pillboxes, and spigot mortars, the defences being manned by 103 men of 'C' Coy, 25th Bn Hampshire Home Guard.

The defence area contains some excellent examples of the different types of defence works. The Vickers machine gun emplacements are square with a large stepped main embrasure, side embrasures for rifle or light machine gun fire, and an exterior blast wall. Inside is a concrete table below the main embrasure on which to mount the Vickers medium machine gun. Examples have hooks in their exterior brickwork to which camouflage netting was attached.

The emplacement [16698] is highly unusual in that it has two (possibly three – the structure is heavily overgrown and flooded) large machine gun embrasures. Its smaller embrasures still have hinged asbestos-cement shutters in place, a feature that can also be

FIGURE 179 Vickers machine gun emplacement [6974] on a hill above Poulter's Bridge, east of Chequers Bridge. (PHOTO: THE AUTHOR, 28 AUGUST 2003)





FIGURE 180 Vickers machine gun emplacement [7414] at Hancock's Farm, showing hooks fixed to the exterior walls probably for the attachment of camouflage. (PHOTO: THE AUTHOR, 28 AUGUST 2003)

found on a Type 24 pillbox [7412]. Pillbox [7415] is an unusual variant based on the Type 22, but octagonal and with an embrasure above the entrance.

The cylinders in Coxmoor Wood are an important survival [16695], although there is no public access to them. Examples of the same type of 6ft (1.8m) high cylinders with domed tops can be seen, however, by the towpath of the Basingstoke Canal [16752]. Examples of pimples (dragon's teeth) can be found close to Chequers Bridge [10812 and 16751]. During



FIGURE 181 Embrasure of a Type 24 pillbox [7412] on Bowenhurst golf course with an asbestos cement shutter in place that still swings on its hinges. Other pillboxes and Vickers emplacements in the area also have these shutters. (PHOTO: THE AUTHOR, 28 AUGUST 2003)

FIGURE 182 Massive domed anti-tank cylinders [16752] on the towpath of the Basingstoke Canal opposite Coxmoor Wood. This was the point where GHQ Line 'A' joined the Canal having crossed Coxmoor Wood by a double line of some 300 similar cylinders. (PHOTO: THE AUTHOR, 28 AUGUST 2003)



the field survey of the defence area in dry August weather, the line of the anti-tank ditch crossing Hancock's Farm was observed as a cropmark [16696].

Significance

This is a most important defence area on account of its vital position in the 1940 strategy of defence and its high level of survival of differing and unusual defence components. The latter are positioned in three groups with differing defence functions, the rationale of many of the sites being dictated by both strategic requirements and landscape features. The defence groups are: (1) the junction of the two stop lines; (2) Chequers Bridge; and (3) Pilcot defended locality. Given the pressures on the landscape in terms of housing, traffic movement, and agriculture over the past 65 years, it is perhaps surprising that so many of the defence works survive today. Most development, however, has been small area infill, leaving the overall pattern of fields, woods, and settlement largely unchanged.

- (1) This group of defence works towards the south of the area is characterised by the Type 24 infantry pillbox, several examples of which were positioned at the edge of woodland where they can be found today. Pillboxes [7411] and [7412] fired towards the junction of two anti-tank ditches, while [10816] protected the end of the GHQ Line where it reached the Basingstoke Canal. A Vickers machine gun emplacement [7413] was also positioned to fire towards the junction of the two stop lines. The GHQ Line was carried north through Coxmoor Wood by a double line of anti-tank cylinders, providing an obstacle here that was presumably easier to construct than a machine-dug anti-tank ditch.

- (2) Chequers Bridge was an important crossing by the Pilcot switch line of the Basingstoke Canal, which itself became the principal anti-tank obstacle of the GHQ Line further to the west. It was defended primarily by Vickers medium machine gun emplacements that were positioned on all four sides of the bridge to command its approaches and to enfilade the anti-tank ditch. Emplacement [8618] was dug into the north bank of the canal and defended the northern and western approaches while emplacement [7414] occupied a hilltop position north of Hancock's Farm, firing south along the line of the anti-tank ditch. To the east, two more Vickers emplacements on a hill near Poulter's Bridge protected that bridge as well as firing west and south-west to cover the approaches to Chequers Bridge. North of Chequers Bridge, a further Vickers emplacement was positioned to enfilade the anti-tank ditch both to the north and south. North of Chequers Bridge, the line of the anti-tank ditch running diagonally across a field is preserved today as a field division although the ditch was infilled by 1945.
- (3) Pillbox, spigot mortar, and roadblock sites at Pilcot relate to the defence of this location as a defended locality, also crossed by the switch line. Further fieldwork is required here to determine survival [for example, 11165 and 11166].

The defence area provides an excellent illustration of stop line defence crossing an enclosed landscape, making use of topographical features wherever possible yet setting them aside and cutting across 'the grain' of the countryside where necessary, as, for example, at Coxmoor Wood. Here, the double line of anti-tank cylinders [16695] is a major structure and equates with the finest examples of such lines of anti-tank obstacles surviving anywhere in the country (see, for example, Abbotsbury defence area, site [12099]).

Also of importance is the presence of five (out of six built) relatively rare Vickers medium machine gun emplacements, with one example being of a unique form [16698]. Such a concentration of these emplacements is exceptional for any part of England.

Access

The defence area can be visited from the Crookham Wharf Car Park on the north-west side of Chequers Bridge, where there are information boards on the history of the Basingstoke Canal and on the Second World War defences. The towpath and various footpaths north and south of the bridge allow access to several of the defence works, but others lie on private land and cannot be visited without permission.

Published Sources

Alexander, C, 1995 Defending Chequers Bridge, *Loopholes*, **11**, 6–8
Alexander, C, 1999 *Ironsides's Line*. Storrington: Historic Military Press

Documentary Sources

'Operation Instruction No 2', 20.6.1940; 'Operation Instruction No 5', 16.9.1940; and map, 4.11.1940, issued with 'Aldershot Command Defence Scheme' (from Aldershot Command 'G' War Diary) – TNA: PRO WO 166/151

Memorandum 'GHQ Line', 18.7.1940 (from file, 'Construction of GHQ Zones') – TNA: PRO WO 199/55

'Aldershot Area Defence Scheme', 15.3.1941 (from Aldershot Area War Diary) – TNA: PRO WO 166/1185

'Operation Instruction No 4', 1.4.1941 (from North Aldershot Sub-Area War Diary) – TNA: PRO WO 166/1256

'Plan to Defeat Invasion', 1942 (from Farnborough Sub-Area HQ War Diary) – TNA: PRO WO 166/6739

'Plan to Defeat Invasion', 1943 (from Farnborough Sub-District War Diary) – TNA: PRO WO 166/10962

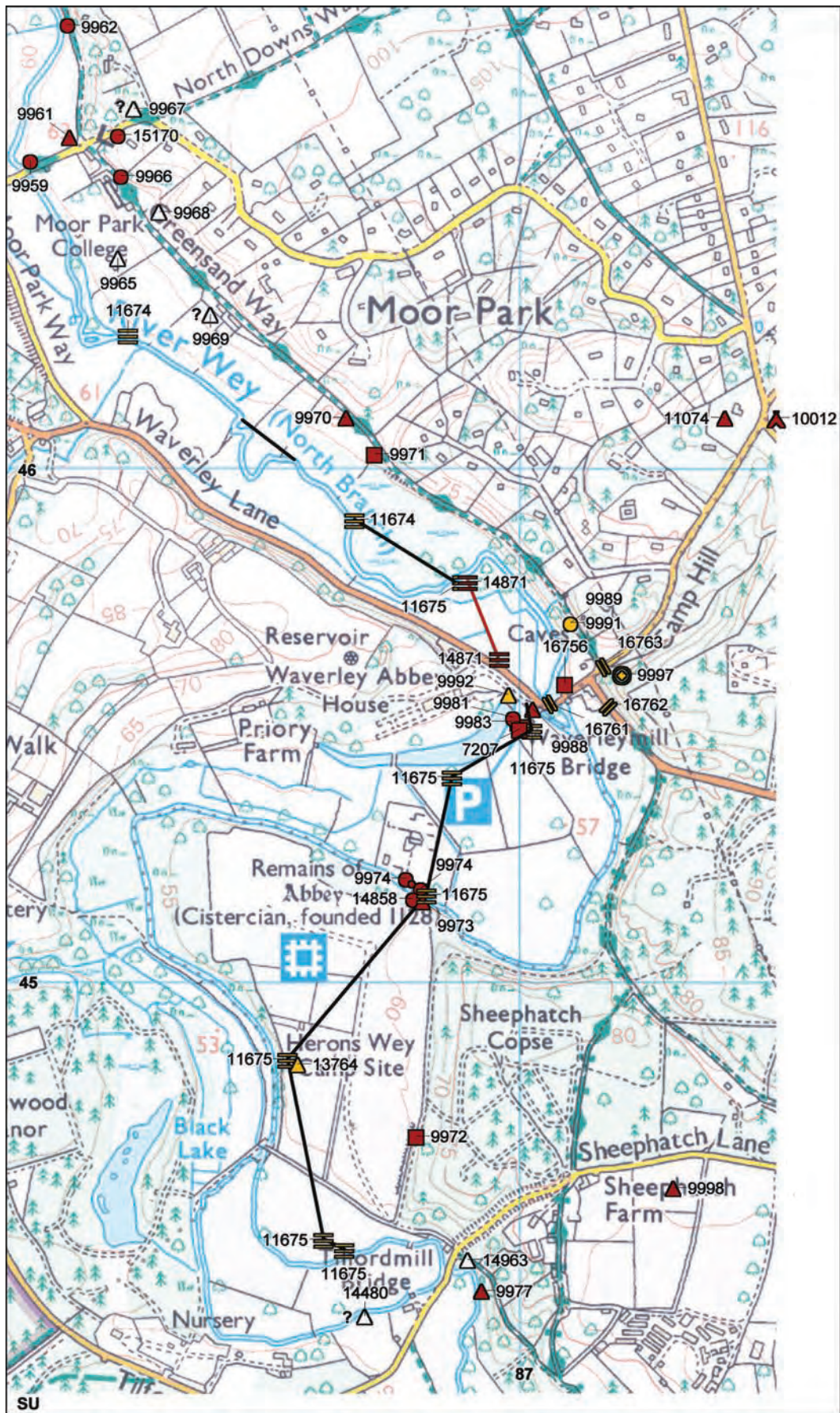
Chequers Bridge: Defence components

Database site reference	NGR	Defence work type	Survival status
6768	SU 789507	PILLBOX (TYPE 24)	U
6826	SU 79225045	PILLBOX (TYPE 24)	E
6974	SU 7966751555	VICKERS MACHINE GUN EMPLACEMENT	E
7410	SU 787504	PILLBOX	R
7411	SU 7884450951	PILLBOX (TYPE 24)	E
7412	SU 7884350764	PILLBOX (TYPE 24)	E
7413	SU 7902151226	VICKERS MACHINE GUN EMPLACEMENT	E
7414	SU 7900251482	VICKERS MACHINE GUN EMPLACEMENT	E
7415	SU 7888951432	PILLBOX (VARIANT)	E
7416	SU 79755151	VICKERS MACHINE GUN EMPLACEMENT	R
8618	SU 78785156	VICKERS MACHINE GUN EMPLACEMENT	E
10812	SU 7910651723	PIMPLE	E
10816	SU 78395123	PILLBOX (TYPE 24)	E
11165	SU 79055270	PILLBOX	U
11166	SU 79105270	SPIGOT MORTAR EMPLACEMENT	U
11167	SU 79575042	PILLBOX (TYPE 24)	E
11216	SU 7905752248	PILLBOX (TYPE 24)	R
11217	SU 7902252455	PILLBOX (TYPE 24)	E
11218	SU 78895179	PILLBOX	E
11220	SU 7902552127	PIMPLE	E
16658	SU 78765285	ROADBLOCK	R
16659	SU 79315280	ROADBLOCK	R
16661	SU 78665309	ARMY BATTLE HEADQUARTERS	U
16692	SU 79145184	PILLBOX	U
16693	SU 78965218	PILLBOX	U
16694	SU 79585004 – SU 79505040 – SU 79235034 – SU 78915052 – SU 78685096	ANTI TANK DITCH	I
16695	SU 78685097 – SU 78425121	CYLINDER	E
16696	SU 78745084 – SU 78845094 – SU 78835106 – SU 78925161	ANTI TANK DITCH	I
16697	SU 79115173 – SU 79135184 – SU 78995200 – SU 79035233 – SU 78795258 – SU 78785300	ANTI TANK DITCH	I

Chequers Bridge: Continued

Database site reference	NGR	Defence work type	Survival status
16698	SU 7902152026	VICKERS MACHINE GUN EMPLACEMENT	E
16751	SU 7912651690	PIMPLE	E
16752	SU 7837751222	CYLINDER	E
16759	SU 79045284	ARMY BATTLE HEADQUARTERS	U

E = Extant; R = Removed; I = Infilled; U = Unknown



Waverley Abbey

Stop Line Defence

Location Details

2½ miles (4km) SSE of Farnham

County: Surrey

Parishes: Farnham; Tilford

National Grid Reference (Waverleymill Bridge): SU 870455

Landscape

The defence area lies in the valley of the River Wey as it flows south from Farnham, making a series of large loops within a broad valley floor beneath wooded river cliffs. Within the northernmost of these loops lie the ruins of Waverley Abbey, the first Cistercian establishment in England. The busy B3001 road from Farnham runs through the valley and crosses the river at Waverleymill Bridge where there is a small settlement of houses, amongst which is the 18th-century Stella Cottage, where Esther Johnson (Jonathan Swift's 'Stella') is said to have lived.

Around Waverley Abbey is open pastureland, while to the north stands Waverley Abbey House, now a Christian teaching centre, surrounded by parkland and an ornamental lake. Further north is the 17th-century Moor Park House where Swift was employed, much later a school and now a business centre. To the east and south is higher land with a sandy soil bearing extensive woodland.

At the time of the Second World War, the Waverley Abbey ruins were overgrown and surrounded by trees, a condition that lasted until at least the late 1950s. A proposal by the post-war owner of Waverley Abbey House to demolish the ruins and lay out a racecourse in the valley was swiftly abandoned. Waverley Abbey is now in the care of English Heritage. Land within the southernmost of the river loops falling within the study area was quarried for gravel in the 1950s, leading to the removal of all evidence of the anti-tank ditch as well as destroying at least one pillbox [13764].

Defences

Between June and August 1940, GHQ Line 'B' was constructed south of Farnham, with the purpose of defending against expected German attacks from the west. It followed first a course to Godalming, and then to Shalford south of Guildford, from where it ran below the North Downs to its junction at Penshurst with the Newhaven to Cliffe branch of the GHQ Line.

In the sector immediately south of Farnham, GHQ Line 'B' ran along the valley of the River Wey, passing through the Bordon & Longmoor Sub-Area of Aldershot Command. A series of defended localities was set up, with one at Waverleymill Bridge named 'Stella

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FIGURE 183 Air photograph taken in December 1948 showing the winding course of the River Wey at Waverley with the wooded countryside around. The lake of Waverley Abbey House is at the centre, and the ruins of Waverley Abbey lie by the trees to its south (below). The infilled line of the anti-tank ditch can be seen crossing the open fields within the loops of the river, and running parallel with the river to the north, cutting across the base of its loops.

(RAF/541/217 fr4021. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)

Cottage'. Within this defended locality four roadblocks, formed of concrete cylinders, were constructed: at the bridge, on the roads to the north-east and south-east, and across the track running to Moor Park House (remains of this latter block survived until recently [1989 and 1991]). The bridge was commanded by an anti-tank gun emplacement in the garden of Stella Cottage [16756], and infantry pillboxes and a field gun emplacement [7207] were positioned a short distance to the west guarding the crossing of the anti-tank ditch. Attached to the latter is an angled brick-walled enclosure, loopholed for rifle and light machine gun fire, with rough castellations placed on the wall tops to break up their outline [1983]. This is a highly unusual and important defence structure that has survived in very good condition: the date '1940' can be seen stamped in metal above one loophole. Recesses in the floor of the emplacement indicate that it was probably intended to take an 18pdr or 75mm QF field gun, perhaps firing in an anti-tank role, rather than the 2pdr anti-tank gun itself. The loopholed courtyard protected the rear of the gun and was defended by an infantry section. A similar field gun emplacement of an irregular hexagon shape, also with an attached courtyard, stands between Waverleymill Bridge and Moor Park House [1971].

The roadblocks at Stella Cottage were manned by 'B' Coy 2nd Bn Surrey Home Guard, and the Home Guard soldiers would almost certainly have had a role in the other defences at Waverleymill Bridge. Field Army troops assigned to this sector were from 4 and 5 Canadian Infantry Brigades.

The River Wey was not considered a sufficient anti-tank obstacle in the Waverley area, so an anti-tank ditch was dug across the river loops, meeting the B3001 road west of Waverleymill Bridge and running on the east side of the Abbey ruins, eventually rejoining the Wey near Tilfordmill Bridge to the south.

The point where the ditch met the river alongside Waverley Abbey was covered by a pillbox firing from the opposite bank [1973], and rows of concrete pimples (dragon's teeth)

FIGURE 184 Open court [1983] behind gun emplacement [7207] at Waverleymill Bridge. The loopholed walls are topped with 'castellations' to break up their outline for camouflage purposes.

The court was intended to be defended by an infantry section protecting the rear of the gun emplacement where a field gun was probably positioned. (PHOTO: THE AUTHOR, MAY 2001)





FIGURE 185 Brick-shuttered Type 24 pillbox [9988] at Waverlymill Bridge. (PHOTO: THE AUTHOR, MAY 2001)

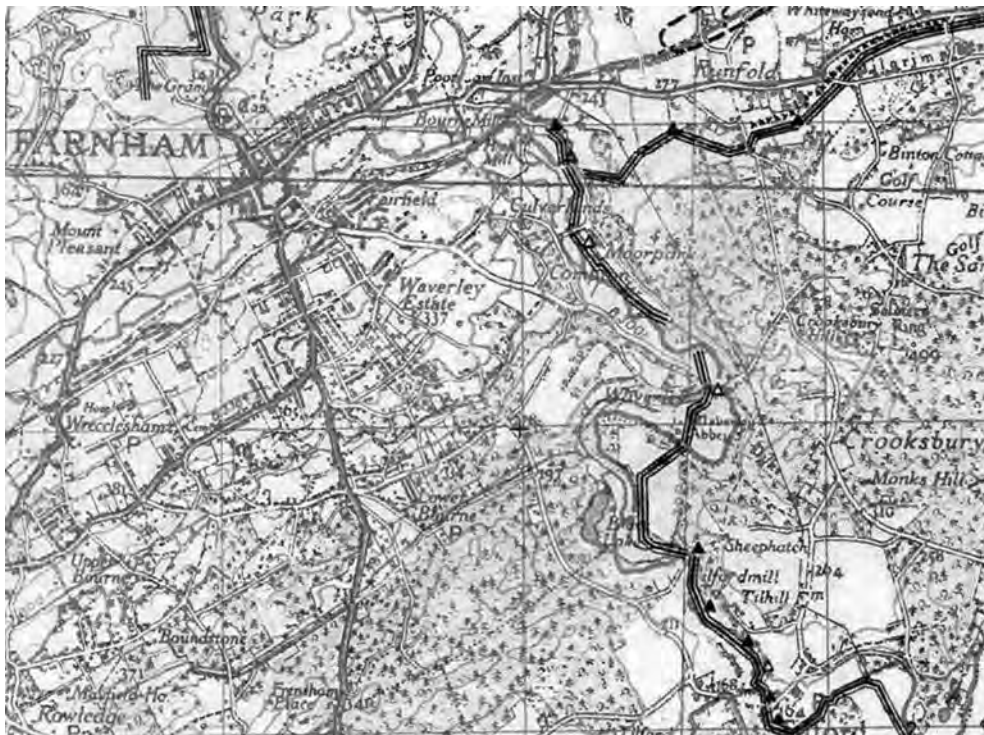


FIGURE 186 Portion of a German map dated June 1941, enlarged from the Ordnance Survey one-inch series and overprinted to show the defences in the Wey Valley south of Farnham. The triple parallel lines represent the course of the anti-tank ditch; triangles are pillboxes. (REPRODUCED BY PERMISSION OF THE BRITISH LIBRARY. BLML: 1305(13))

FIGURE 187 Dragon's teeth (anti-tank pimples) [9981] by the side of the lake of Waverley Abbey House. They have probably been moved from their original position alongside the roadblock at Waverlymill Bridge. Dragon's teeth are becoming relatively rare amongst surviving anti-invasion works as they are vulnerable to road-widening and other development and are relatively easy to remove. (PHOTO: THE AUTHOR, MAY 2001)



blocked the gaps between the end of the ditch and the river banks [9974 and 14858]. The name and unit of a soldier possibly involved in their construction could be seen until recently carved into a tree, but is now scarcely visible. It is likely that use was made of the Abbey ruins themselves for defence positions, but, if so, there are no surviving structural traces.

Although there is now no sign on the ground of the anti-tank ditch crossing the fields by Waverley Abbey, its course is still visible on modern air photographs. North of Waverley Lane, the ditch continued for a short distance to join the river and survives as a water-filled drain [14871]. Bends in the river further north had short lengths of ditch cut across their base to strengthen the anti-tank obstacle at these points.

Significance

The defence area presents an excellent example of a sector of stop line passing through an enclosed and wooded landscape. It enables the importance of the front-edge anti-tank obstacle, constructed here as a purpose-dug, revetted ditch of precise dimensions, to be understood. This ditch, running in angled lengths across the river loops, allowed the obstacle to be covered by both anti-tank and machine gun fire. Had the banks of the River Wey itself been chosen as the anti-tank obstacle, its winding course, in places beneath sharply rising river cliffs, would have been less easy to defend. The defence area thus shows the engineered anti-tank ditch to its best advantage within its surrounding topography.

The defences at Waverley were planned against an enemy advance from the west. The strategy was to channel an attack here within the river loops, with pillboxes and anti-tank gun emplacements covering the anti-tank obstacle from the higher, wooded land behind. This was a natural defence position of considerable strength, which the Germans would

have been forced to attack on a narrow front. Two anti-tank gun emplacements at Waverleymill Bridge, one possibly intended for a field gun, fired west at the bridge and south across the anti-tank ditch. With at least three additional pillboxes, they made this locality a formidable strongpoint commanding the defence line. The defences by the river close to the Waverley Abbey ruins also strengthened the line, with a pillbox dug into the wooded slopes across the river firing directly along the line of the anti-tank ditch.

There has been little change in the landscape of the Waverley area since the Second World War, and its intensely enclosed nature, with steep wooded hillsides, would have favoured defence, restricting the movement of the German armoured columns. It is a reasonable supposition that the flat fields, crossed by the anti-tank ditch, might have seen a considerable destruction of the enemy's forces.

Several of the defence works within the area are important examples of their type. Both the field gun emplacements, with their attached loop-holed courtyards, are highly unusual structures which have survived in good condition [7207 and 9971]. The fields of anti-tank pimples are also now relatively rare. They are a size of concrete obstacle that is easier to remove, or destroy *in situ*, than the larger cubes and cylinders found elsewhere. As their use was often to block the margins of roadblocks, they have usually been swept away as an impediment to traffic and pedestrians.

The presence of different and unusual components of stop line defence, surviving in an area adjacent to an English Heritage property, and with good public access, make this defence area of particular importance.

Access

A car park at the gates to Waverley Abbey House, off Waverley Lane (B3001), provides access to the footpath that runs to the Waverley Abbey ruins. Many of the defence structures by Waverleymill Bridge and at the Abbey itself can be inspected close-up. Others on private land, or on the opposite bank of the river, should be viewed at a distance.

A public footpath which runs from beside Stella Cottage to Moor Park House provides access to a number of other defence sites to the north.

Published Sources

Alexander, C, 1999 *Ironsides's Line*. Storrington: Historic Military Press

Osborne, M, 2004 *Defending Britain: Twentieth-Century Military Structures in the Landscape*. Stroud: Tempus Publishing

Documentary Sources

'Operation Instruction No 2', 20.6.1940; and map, 4.11.1940, issued with 'Aldershot Command Defence Scheme' (from Aldershot Command 'G' War Diary) – TNA: PRO WO 166/151

Befestigungskarte Großbritannien: 1:50,000 (Sheet 124), 1.6.1941 – BLML 1305(13)

'Bordon and Longmoor Sub-Area Defence Scheme No 3', June 1941 (from Bordon and Longmoor Sub-Area War Diary) – TNA: PRO WO 166/1264

Bordon Sub-Area War Diary, 1942 – TNA: PRO WO 166/6722

'Waverley Abbey: Works', 1934–53 – TNA: PRO WORK 14/1376

'List of Defence Works Remaining in South West Surrey', 1960 – Surrey Record Office CC 204/3

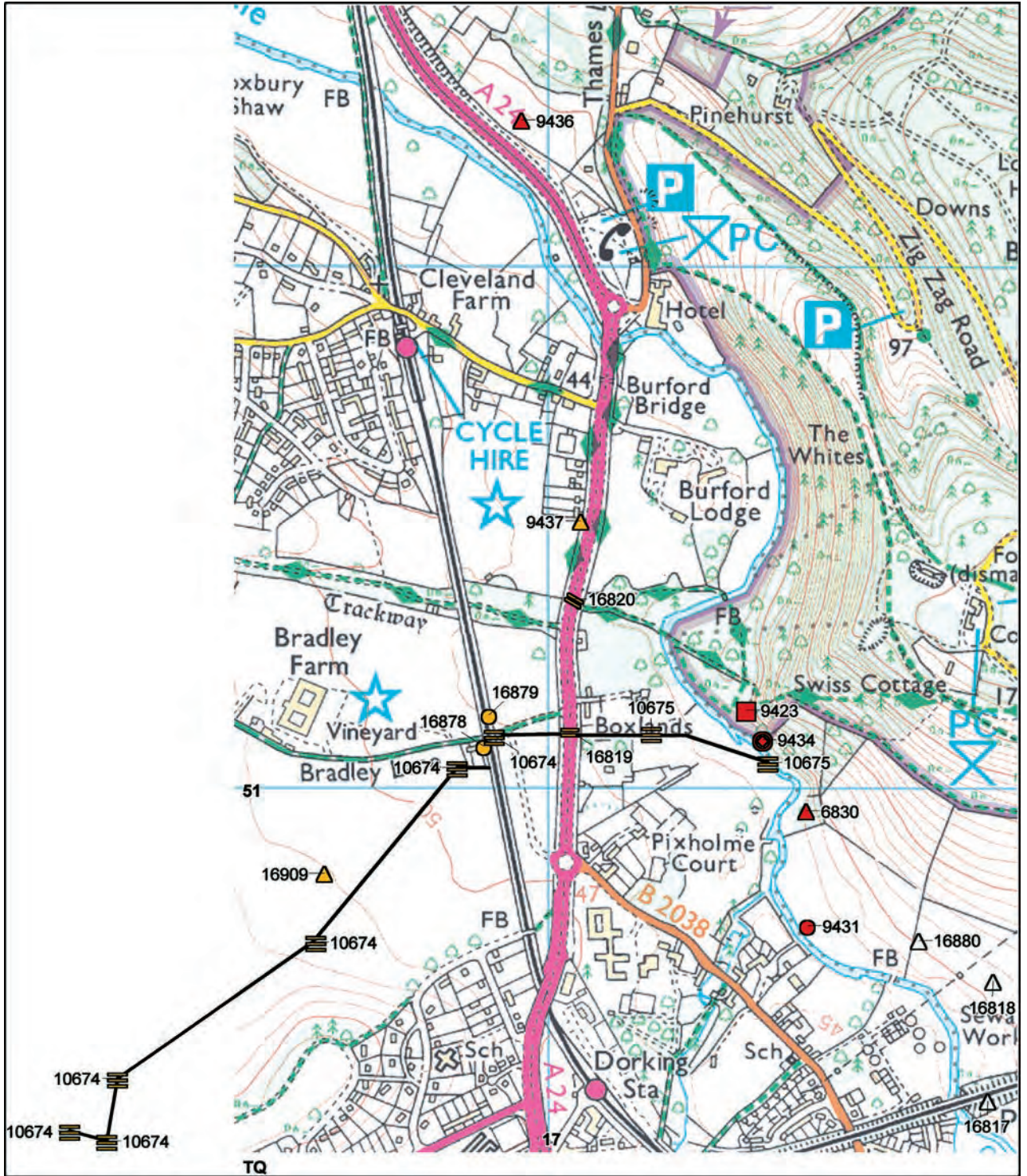
Waverley Abbey: Defence components

Database site reference	NGR	Defence work type	Survival status
7207	SU 8700145480	FIELD GUN EMPLACEMENT	E
7448	SU 86404704	PILLBOX (VARIANT)	E
9959	SU 86054660	CYLINDER	E
9961	SU 86134664	PILLBOX (TYPE 24)	E
9962	SU 86114686	PIMPLE	E
9965	SU 86224641	PILLBOX	U
9966	SU 8622646571	CYLINDER	E
9967	SU 86254670	PILLBOX	U
9968	SU 863465	PILLBOX	U
9969	SU 864463	PILLBOX (TYPE 24)	U
9970	SU 8666446099	PILLBOX (TYPE 24)	E
9971	SU 8671946028	FIELD GUN EMPLACEMENT	E
9972	SU 868447	ANTI TANK GUN EMPLACEMENT (TYPE 28)	E
9973	SU 8681345161	PILLBOX (TYPE 26)	E
9974	SU 8678145211 – SU 8680945182	PIMPLE	E
9977	SU 86934440	PILLBOX	E
9980	SU 870441	ANTI TANK GUN EMPLACEMENT (TYPE 28)	E
9981	SU 8698145522	PIMPLE	E
9983	SU 8700045506	LOOPHOLED WALL	E
9988	SU 8702745532	PILLBOX (TYPE 24)	E
9989	SU 871457	CYLINDER	R
9991	SU 871457	ANTI TANK VERTICAL RAIL	R
9992	SU 86984556	PILLBOX	R
9997	SU 872456	DEFENCE WORK	R
9998	SU 873446	PILLBOX (TYPE 25)	E
10012	SU 875461	AUXILIARY UNIT SITE	E
11074	SU 874461	PILLBOX (TYPE 25)	E
11083	SU 87144411	PILLBOX (TYPE 24)	E
11674	SU 86684590 – SU 86244626	ANTI TANK DITCH	I
11675	SU 87044550 – SU 86874540 – SU 86824517 – SU 86554485 – SU 86624450 – SU 86664448	ANTI TANK DITCH	I
13764	SU 86574484	PILLBOX	R
14480	SU 86704435	PILLBOX	U
14858	SU 86794516	PIMPLE	E

Waverley Abbey: Continued

Database site reference	NGR	Defence work type	Survival status
14871	SU 86904578 – SU 86964562	ANTI TANK DITCH	E
14963	SU 86904446	PILLBOX	U
15170	SU 86224665	CONE	E
16756	SU 87094559	ANTI TANK GUN EMPLACEMENT	E
16761	SU 87064554	ROADBLOCK	R
16762	SU 87174554	ROADBLOCK	R
16763	SU 87174562	ROADBLOCK	R

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Dorking Gap

Stop Line Defence

Location Details

1½ miles (2.5km) N of Dorking

County: Surrey

Parish: Dorking

National Grid Reference (Burford Bridge): TQ 171518

Landscape

The defence area lies in the valley of the River Mole as it flows through the North Downs, the pass through the hills being known as the Dorking Gap. To the west rise the heights of the Downs at Ranmore, while to the east the valley is dominated by the mass of Box Hill beneath whose precipitous slopes the Mole runs. Further north, the river is crossed by the main dual-carriageway A24 road running through the valley at Burford Bridge, while to the west of the road is the Horsham to London railway line. At the mouth of the valley to the south is the town of Dorking.

In recent years the northern suburbs of Dorking have spread close to the edge of the defence area alongside the A24 road, and a large vineyard now occupies land in the western half of the valley.

The Box Hill estate, including some of the surrounding farmland, is managed by the National Trust.

Defences

On the summit of Box Hill is Box Hill Fort, one of a line of Mobilisation Centres (for the storage of arms and ammunition and for the assembly of troops) built in the 1890s as part of a protective screen for London in the event of invasion. It is now a scheduled ancient monument. An attack on the Dorking Gap by invading German troops had been the scenario of a fictional work published in 1871 that did much to alert the Government of the day to the deficiencies in England's land defences (Chesney 1871).

In the Second World War, GHQ Line 'B' was constructed below the southern slopes of the North Downs, running from Farnham to the junction at Penshurst with the Newhaven to Cliffe branch of the line. The defence of this sector of GHQ Line 'B' was the responsibility of XII Corps reinforced by elements of the Mobile Reserve of VII Corps. The line crossed the Dorking Gap north of the Category 'A' nodal point of Dorking. This valley, through the rampart of the Downs, would have been an important route towards London for invading German forces, and the nodal point defences of Dorking were crucial



FIGURE 188 Portion of a German map dated June 1941 showing the defences in Dorking Gap. The anti-tank ditch followed a route from the west, cut into the scarp of the North Downs, and crossed the valley of the River Mole by a series of angled lengths engineered to join the river beneath the cliffs of Box Hill.
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in preventing access to it. They were backed by the defences of the GHQ Line itself set around defended localities at blocks on the rail and road routes.

A machine-dug anti-tank ditch carried the GHQ Line across the Dorking Gap for almost a mile (c 1.5km) from the western slopes of the North Downs below Ranmore to its junction with the River Mole beneath Box Hill, where the main anti-tank obstacle was continued by the river itself. The ditch was engineered in a series of angled lengths across the valley floor and made a staggered crossing of the railway line, supported by steel and concrete obstacles on each side of the line.

At the A24 road, a roadblock incorporating short lengths of anti-tank cubes on the roadside verges, with some cubes placed as well between the two carriageways, blocked this gap in the ditch [16819]. A further roadblock on the A24 was positioned a short distance to the north [16820]. At the point where the anti-tank ditch reached the bank of the Mole, a barricade, formed possibly of steel cables stretched from concrete piles driven into both banks of the river [9434], prevented any advance along the river to outflank the anti-tank line.

The southern roadblock and the eastern length of the anti-tank ditch were commanded by a powerful emplacement for a 6pdr Hotchkiss anti-tank gun dug into the steep slopes of Box Hill [9423]. It was protected from landslip by a brick and concrete revetment built at its rear: entry was from the side.

On the east bank of the Mole to the south is an unusual Type 24 pillbox constructed with vertical corrugated-iron shuttering [6830], and, nearby, a line of some twelve concrete cylinders erected to strengthen the anti-tank obstacle at a point where the river banks were considered insufficient for the purpose [9431]. North of Burford Bridge, a single brick-shuttered Type 24 pillbox guards what may have been the position of a further roadblock [9436]. Other pillboxes almost certainly followed the GHQ Line and protected the approaches to the Dorking Gap from the south and the north. The positions of some that have been removed are known, but others may have been destroyed without record.



FIGURE 189 RAF air photograph taken in March 1942 showing the course of the anti-tank ditch of the GHQ Line as it crosses the railway and the road before joining the River Mole to the east. Two roadblocks protected the crossing of the main A24 road, one on the line of the ditch and the other some 250m to the north. The staggered crossing of the railway line is protected on both sides by obstacles, possibly bent steel rails (hairpins).

(RAF/S/804 fr6042. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)

During the concentration of forces for D-Day in 1944, the northbound carriageway of the A24 running through Dorking Gap was used for the temporary storage of vehicles, guns, and ammunition. An air photograph taken in August 1944 shows structures for this purpose still in place at that date (106G/LA/30 fr 3208 (7.8.1944) – NMR).



FIGURE 190 The River Mole seen from the roof of anti-tank gun emplacement [9423] dug into the side of Box Hill. The line of the anti-tank ditch can be made out as a slight hollow crossing the far field diagonally on its way to meet the river.

(PHOTO: M SHACKEL, FEBRUARY 2000. DEFENCE OF BRITAIN PROJECT ARCHIVE, NMR)

FIGURE 191 Emplacement
for the 6pdr Hotchkiss
anti-tank gun [9423]
dug into the steep
side of Box Hill. It
commanded the line of
the anti-tank ditch and
the roadblock below.
(PHOTO: THE AUTHOR,
3 DECEMBER 2003)



Significance

The Dorking Gap was an important strategic point on GHQ Line 'B'. Enough defence works survive, together with air-photographic and documentary evidence, for the scheme of defence here to be understood. The fact that the Second World War defences represent the latest in a series of assessments of the military significance of the area over the past 100 years adds to the interest.

Although the suburbs of Dorking have spread in recent years, there have been few changes to the immediate landscape of the defence area since the end of the war. A view from the A24 road at Burford Bridge shows the commanding heights rising on both sides of the valley as well as the easy access between them provided by this one mile (1.5km) wide route through the North Downs. The strategic need to block the valley – the



FIGURE 192 One of two sets of concrete piles [9434] on the banks of the Mole which may be the remains of a barrier erected across the river to prevent the anti-tank line being outflanked. (PHOTO: THE AUTHOR, 3 DECEMBER 2003)

Dorking Gap – by a continuous anti-tank obstacle supported by pillboxes and other defence works can be readily appreciated. The steep slopes of Box Hill, beneath which the anti-tank ditch reaches the River Mole, can also be seen as a strong position for the siting of the anti-tank gun emplacement that protected the important crossing points of the defence line by road and railway. The dominating position of this emplacement can be appreciated by standing on the footpath immediately above it and looking across the meadows where the line of the anti-tank ditch can still be seen as a slight hollow.

This is a defence area where the air-photographic evidence enables the few surviving defence works to be understood in their strategic and topographic context. The anti-tank gun emplacement dug into the side of Box Hill is a key structure deserving of clearance and public presentation. Together with the 1890s Mobilisation Centre, it provides a particularly striking physical reminder of the strategic importance of the Dorking Gap in recent times.

FIGURE 193 The A24 dual-carriageway north of Burford Bridge in Dorking Gap. The northbound carriageway (left) was used in 1944 for the storage of vehicles, weapons, and ammunition before D-Day. (PHOTO: THE AUTHOR, 3 DECEMBER 2003)



Access

The National Trust visitor centre and car park is on the top of Box Hill, approached by the Zig Zag Road from Burford Bridge. Box Hill Fort (the Mobilisation Centre) is close-by. The most convenient car park from which to reach the anti-tank gun emplacement is that off the A24 road by the stepping-stones over the River Mole; a footbridge stands a short distance down stream. The concrete piles in the River Mole can be reached by a scramble along the bank, but there is no public access to the pillbox and anti-tank cylinders further upstream; they can, however, be seen at a distance from the heights of Box Hill. The northernmost pillbox also stands on private land, but can be seen from the side of the A24: the large car park at Burford Bridge is the closest for this purpose. It is instructive to determine the sites of the roadblocks and the line of the anti-tank ditch, and this can be done by walking beside the A24 road and by following Bradley Lane from it to the west.

Published Source

Alexander, C, 1999 *Ironside's Line*. Storrington: Historic Military Press
Chesney, G T, 1871 The Battle of Dorking, *Blackwood's Magazine*

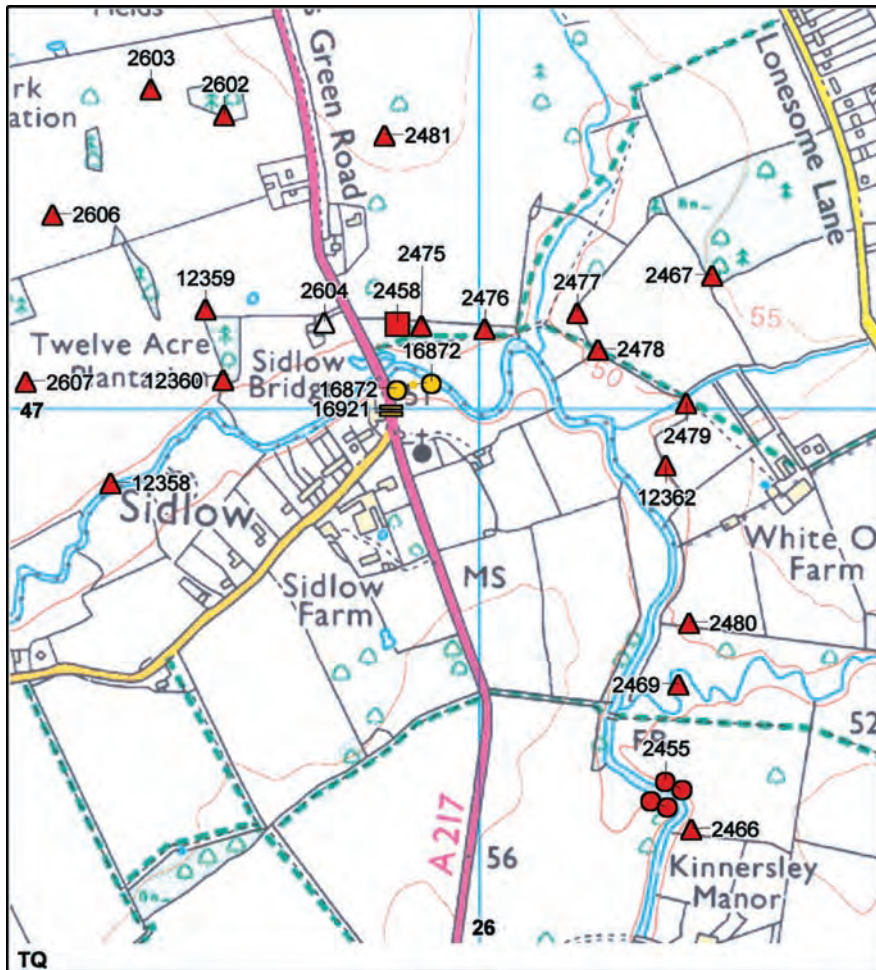
Documentary Sources

Home Counties Area 'G' War Diary, December 1940 – TNA: PRO WO 166/1214
Befestigungskarte Großbritannien: 1:50,000 (Sheet 124), 1.6.1941 – BLML 1305(13)

Dorking Gap: defence components

Database site reference	NGR	Defence work type	Survival status
6830	TQ 1748850951	PILLBOX (TYPE 24)	E
9423	TQ 1737551145	ANTI TANK GUN EMPLACEMENT (TYPE 28)	E
9431	TQ 17495073	CYLINDER	E
9434	TQ 1740651078	DEFENCE WORK	E
9436	TQ 1695152280	PILLBOX (TYPE 24)	E
9437	TQ 17075151	PILLBOX (TYPE 26)	R
10674	TQ 16105035 – TQ16175033 – TQ 16195045 – TQ 16555072 – TQ 16835104 – TQ 16895104 – TQ 16905110 –	ANTI TANK DITCH	I
10675	TQ 17035111 TQ 17075111 – TQ 17195111 – TQ 17425105	ANTI TANK DITCH	I
16817	TQ 17835039	PILLBOX	U
16818	TQ 17845062	PILLBOX	U
16819	TQ 17055111	ROADBLOCK	R
16820	TQ 17055136	ROADBLOCK	R
16878	TQ 16885108	ANTI TANK OBSTACLE	R
16879	TQ 16895114	ANTI TANK OBSTACLE	R
16880	TQ 17705070	PILLBOX	U
16909	TQ 16585084	PILLBOX	R

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Sidlow Bridge

Stop Line Defence

Location Details

2 miles (3km) S of Reigate

County: Surrey

Parishes: Reigate; Salfords and Sidlow

National Grid Reference (Sidlow Bridge): TQ 258470

Landscape

South of the town of Reigate, the River Mole flows in a winding course from the south-east towards the west within a flat river plain of broad, open meadows intersected by various water-channels. The river is some 9m wide with relatively low banks.

At the crossing of the Mole by a bridge on the busy A217 Dovers Green Road, the small settlement of Sidlow has grown up, today consisting largely of some houses, a pub, a farm, a garage (on the site of a former large house), and a 19th-century church which was damaged by bombing during the war. There has been little development in the past 65 years, although to the east, White Owl Farm was constructed in the 1950s.

Defences

GHQ Line 'B', built against an anticipated enemy attack from the south, followed the River Mole through the area, bending to the south-east beyond Sidlow Bridge and carrying the defence line to an eventual junction with the rivers Eden and Medway (see Penshurst defence area). Sidlow Bridge itself, an important crossing point of the line, was a defended locality, with the bridge mined for demolition and a roadblock on its southern side. Some 2 miles (3km) to the north lay the adjacent towns of Reigate and Redhill, both Category 'A' nodal points beneath the ridge of the North Downs, beyond which began the outer suburbs of London. From 1941, Reigate contained the battle headquarters of South East Command, established in purpose-bored tunnels beneath Reigate Hill. Canadian troops from the Mobile Reserve of VII Corps were probably allocated to the defence of this important sector of the GHQ Line in 1940.

Sidlow Bridge was commanded by an anti-tank gun emplacement for a 6pdr Hotchkiss gun, positioned on a low ridge 100m to the north on the east side of the road [2458].

Two infantry Type 24 pillboxes also covered the bridge from the ridge [2475 and 2476], with a further pillbox situated amongst the outbuildings of a house to the west [2604]. The approaches to the river bank to the south-east of the bridge were protected by a double line of anti-tank cubes, all removed in the 1950s [16872].



FIGURE 194 Air photograph taken in 1969 showing pillboxes to the east of Sidlow Bridge. The defences follow the north bank of the River Mole, which becomes the east bank as the river turns towards the south. The pillboxes are all hexagonal Type 24s positioned to fire either directly across the river or at an angle to it. The field boundary that stood in front of pillboxes [2475] and [2476] has recently been moved a few metres north so that it now runs behind the pillboxes. The anti-tank gun emplacement [2458] can only just be made out beneath trees near the bridge. The loop of the river nearest the bridge on its south side was cut off by a line of anti-tank cubes [16872]. (MAL/69085 fr167. ENGLISH HERITAGE. NMR)

FIGURE 195 Portion of a German map dated December 1940 showing the defences at Sidlow Bridge. The course of the River Mole has been emphasised by triple parallel lines indicating its role as an anti-tank obstacle. The German air reconnaissance interpreters had probably spotted evidence of the banks being cut back and revetted to create a more substantial tank barrier.

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From the front-edge anti-tank obstacle of the River Mole, defence positions were prepared in depth to the rear towards Reigate, in particular to the west of the A217 road where the ground was covered by a concentration of Type 24 pillboxes. (These defences fall beyond the boundary of the study area.) To the east of the road, from close to the bridge, one pillbox can be seen to the north situated on a low mound [2481]. Pillboxes followed the river as it bent south, being set back from the bank, positioned in hedgerows and by tributary streams and ditches. At a bend in the river further south, both banks were lined with concrete anti-tank blocks with pyramidal tops, some eighteen blocks standing on each bank [2455]. These appear to be complete and are in good condition. Their purpose

FIGURE 196 Emplacement for the 6pdr Hotchkiss anti-tank gun [2458] firing towards Sidlow Bridge.

(PHOTO: THE AUTHOR, 2 DECEMBER 2003)





FIGURE 197 Type 24 pillbox [2476] with much of its exterior brick shuttering removed. It once stood at a hedgerow (see Fig 194).

(PHOTO: THE AUTHOR, 2 DECEMBER 2003)

was to strengthen the front-edge anti-tank obstacle at a point where the river banks were clearly not considered steep enough or high enough for this purpose. At other points, it is likely that the banks were cut vertically and revetted with wood.

Many of the pillboxes to the east and south of Sidlow Bridge have lost much of their exterior brick shuttering (this appears to have been deliberately removed to reuse the



FIGURE 198 Anti-tank cubes with pyramidal tops [2455] lining both banks of the Mole south of Sidlow Bridge. This was a point where the Royal Engineers considered the river banks were not high or steep enough to make a sufficient anti-tank obstacle, hence the need for reinforcement. The pointed tops to the cubes were to make them more difficult to surmount by the use of ramps.

(PHOTO: THE AUTHOR, 2 DECEMBER 2003)

bricks) and are now in a poor and overgrown condition. The anti-tank gun emplacement, and the two Type 24 pillboxes on the ridge to its east, have been used as both cattle and human shelters. The run of pillboxes built here and further to the south is probably complete.

Significance

Sidlow Bridge was an important defended locality on GHQ Line 'B', with a concentration of hardened weapon emplacements that survive largely complete. The landscape of the defence area is substantially the same as 65 years ago, and many of the defence works along the course of the River Mole to the south still retain their positions by the hedgerows and ditches that determined their tactical siting. One pillbox [2469] was constructed within the tight loop of a tributary of the river, being protected thereby on three sides. The two pillboxes [2475 and 2476] to the immediate north-east of Sidlow Bridge, however, originally stood behind a hedgerow (the former at a corner of the field), firing through it towards the river. This hedgerow has been removed and its position is marked by the edge of the low ridge above the river. A larger field has been created to the north, with a fence now on the other side of the pillboxes. The position of the anti-tank gun emplacement [2458] was also originally in an area of open grassland whereas now it stands close to the field boundary where it can still be seen to command the bridge to the south. The anti-tank cubes lining the river banks at the southern edge of the defence area are an important survival and provide evidence of how natural obstacles were strengthened to form a more secure anti-tank barrier.

The area provides a coherent pattern of stop line defence at an important crossing point that can be viewed from publicly accessible locations to the east and south of Sidlow Bridge. The area to the west of the bridge is of equal importance, but with an additional strategic role of providing a greater defence in depth to protect Reigate. A field survey here, with the permission of landowners, would greatly augment our understanding of this area.

Access

Parking by the A217 road at Sidlow is difficult, but space may be found in a lay-by opposite houses in Irons Bottom Road (running to the west just beyond the garage). A footpath on the north side of the bridge crosses fields to the east, allowing access to all the pillboxes as far as White Owl Farm. To the south, another path runs from the main road towards the Mole, crossing it by a footbridge and enabling the anti-tank cubes on the river bank to be reached. A further pillbox can be approached within a loop of a stream close by.

Published Source

Alexander, C., 1999 *Ironsides' Line*. Storrington: Historic Military Press

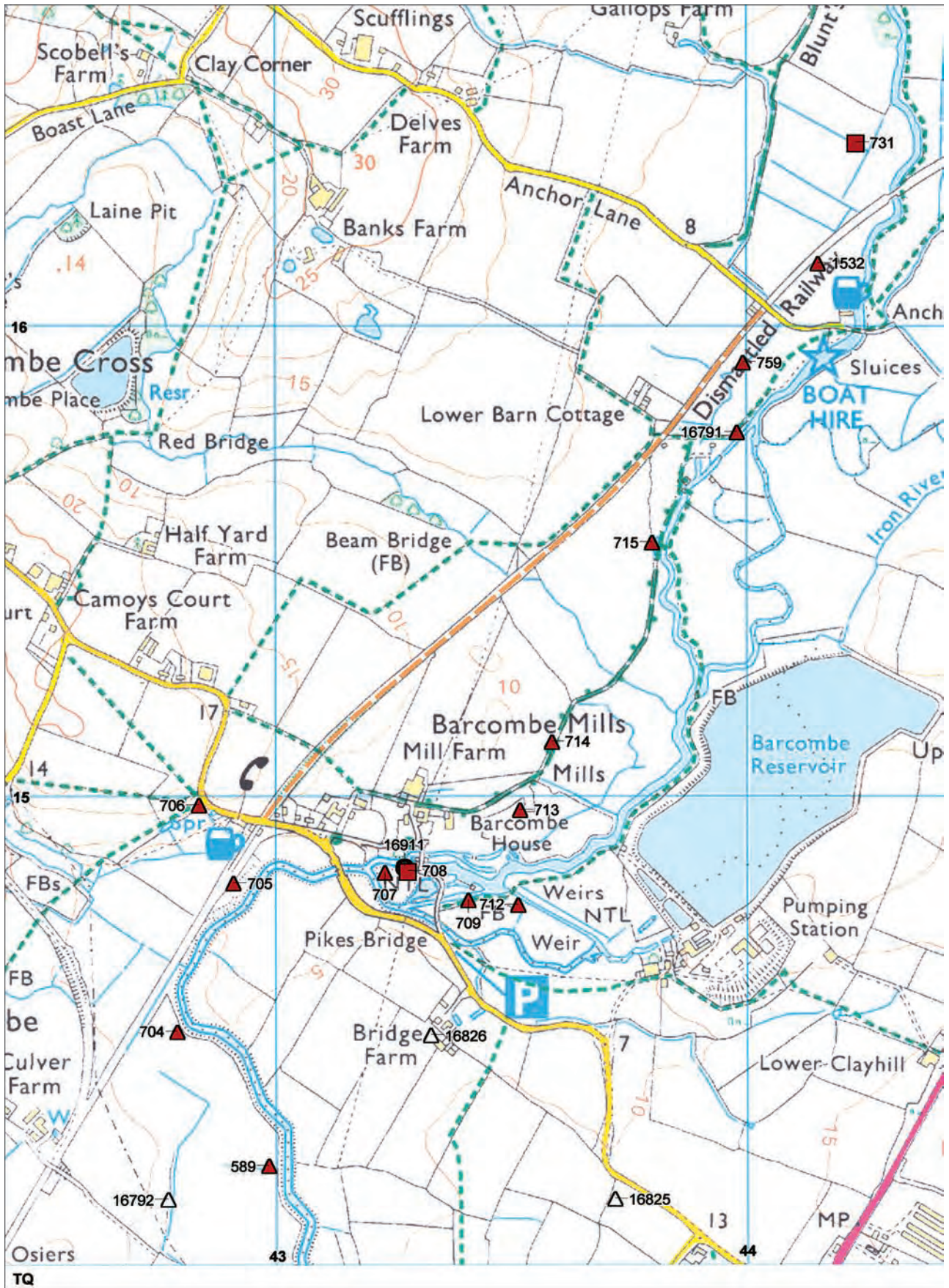
Documentary Sources

Home Counties Area 'G' War Diary, December 1940 – TNA: PRO WO 166/1214
Befestigungskarte Großbritannien: 1:50,000 (Sheet 125), 15.12.1940 – BLML 1305(13)

Sidlow Bridge: Defence components

Database site reference	NGR	Defence work type	Survival status
2455	TQ 2627946444	CUBE	E
2458	TQ 2587947129	ANTI TANK GUN EMPLACEMENT (TYPE 28)	E
2466	TQ 2631846371	PILLBOX (TYPE 24)	E
2467	TQ 26354720	PILLBOX (TYPE 24)	E
2469	TQ 2629946588	PILLBOX (TYPE 24)	E
2475	TQ 2591547125	PILLBOX (TYPE 24)	E
2476	TQ 2601047120	PILLBOX (TYPE 24)	E
2477	TQ 2614847144	PILLBOX (TYPE 24)	E
2478	TQ 2617947089	PILLBOX (TYPE 24)	E
2479	TQ 2631147009	PILLBOX (TYPE 24)	E
2480	TQ 2631546672	PILLBOX (TYPE 24)	E
2481	TQ 25864741	PILLBOX (TYPE 24)	E
2602	TQ 2562047441	PILLBOX (TYPE 24)	E
2603	TQ 2551047480	PILLBOX (TYPE 24)	E
2604	TQ 25774713	PILLBOX	U
12358	TQ 2545046890	PILLBOX (TYPE 24)	E
12359	TQ 2559247150	PILLBOX	E
12360	TQ 2562847051	PILLBOX (TYPE 24)	E
12362	TQ 2628046916	PILLBOX (TYPE 24)	E
16872	TQ 25874703 – TQ 25934704	CUBE	R
16921	TQ 25864700	ROADBLOCK	R

E = Extant; R = Removed; I = Infilled; U = Unknown.



TQ

Barcombe Mills

Stop Line Defence

Location Details

3½ miles (5.5km) NE of Lewes

County: East Sussex

Parish: Barcombe

National Grid Reference (Barcombe Mills): TQ 433148

Landscape

The defence area occupies the broad valley of the River Ouse as it flows south from Isfield through Barcombe Mills to Lewes, and then on to the sea at Newhaven. This is a flat landscape of rich farming land. At several places the river divides into two or more channels, and at Barcombe Mills there is a network of waterways that served the mills that once stood here, the last of which burned down in 1939. The original course of the road crossed the river here by a toll bridge, but it is now bypassed by a road running to the south that was constructed some time before the Second World War. The waterways and surrounding land at Barcombe Mills are managed by the Environment Agency, and visitors are welcome. Today the settlement of Barcombe Mills is made up of Barcombe House, two farms, and a handful of houses. The much larger village of Barcombe Cross lies on higher land to the west, and there is another, older settlement of Barcombe to the south-west.

A dismantled railway line between Lewes and Uckfield runs diagonally across the area; the former station west of Barcombe Mills is now a private house. A public house near by, the Angler's Rest, has only recently closed. To the north is The Anchor Inn where the first bridge after Barcombe Mills is situated.

Beyond the immediate study area to the west, Barcombe Cross has expanded greatly, and a large reservoir has been created on the east side of the River Ouse.

Defences

Barcombe Mills was a defended locality on the Newhaven to Cliffe branch of the GHQ Line. In this sector it ran via Lewes (a Category 'A' nodal point) to Uckfield where it met the west to east Corps Line (XII Corps). A further west to east stop line (the Division Line) ran parallel with the Corps Line to its south and crossed the GHQ Line at Barcombe Mills.

North of Lewes, the GHQ Line followed partly the railway line and partly the River Ouse to Barcombe Mills. Further north, the defences were sited close to the west bank of the river, which formed the principal anti-tank obstacle. Barcombe Mills was the first

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FIGURE 199 The River Ouse north of Barcombe Mills: this was the westerly of two channels of the river at this point. Pillbox [715] is just out of sight to the left. (PHOTO: THE AUTHOR, 9 DECEMBER 2003)

crossing of the river after Lewes, and an anti-tank gun emplacement for a 2pdr or 6pdr gun was positioned here [708], with another close to the next crossing north at The Anchor Inn [731].

At Barcombe Mills, advantage was taken of the complex of waterways to site the defences in what was clearly a very strong position almost entirely surrounded by water. An anti-tank gun emplacement and three pillboxes were placed here, and there were undoubtedly other earthwork defences as well, providing an all-round perimeter to the defended locality. The various farm buildings and Barcombe House itself might also have been fortified. The whole position would probably have been ringed with barbed wire and protected on its flanks by roadblocks.

Troops manning defences in what was termed the Lewes Gap in September 1940 came from the 5th Bn Loyal Regiment, which had its headquarters at Barcombe Cross. In addition, 16 Platoon of the 16th (Lewes) Bn Sussex Home Guard undoubtedly had a role in the Barcombe Mills defences; its headquarters were at the Royal Oak, Barcombe Cross.

The predominant defence work to be seen in the Barcombe Mills defence area is the hexagonal Type 24 infantry pillbox, here shuttered in red brick and with its identification number stencilled on the interior anti-ricochet wall, of which there are twelve examples, all in good condition, within the defined area. A complete sequence of these numbers from A243 to A256 can be followed from north to south showing that no hardened weapon emplacement is missing.

The anti-tank emplacement at Barcombe Mills has its main embrasure and entrance blocked, so it is uncertain whether it contains a holdfast for the 6pdr Hotchkiss gun. Close to it is an approximate square of concrete 9ft (2.5m) by 9ft (2.5m), with detached chunks of concrete and brickwork lying adjacent [16911]: it is possible this is the roof of a buried structure, perhaps a command post.

FIGURE 200 Type 24 pillbox [712] fronted by a watercourse at Barcombe Mills. (PHOTO: THE AUTHOR, 9 DECEMBER 2003)



Significance

The Barcombe Mills defence area provides an excellent example of a complete run of infantry pillboxes and anti-tank gun emplacements within a sector of the GHQ Line, as well as an important illustration of how a defended locality was incorporated in the overall stop line defence.

FIGURE 201 Type 24 pillbox [714] north of Barcombe House at Barcombe Mills. (PHOTO: THE AUTHOR, 9 DECEMBER 2003)





FIGURE 202 Interior of pillbox [709] showing anti-ricochet wall with the stencilled reference of the pillbox.
(PHOTO: THE AUTHOR, 9 DECEMBER 2003)

The defence line in this sector made use of the River Ouse as its principal anti-tank obstacle against an anticipated attack from the east, supplemented in places by a railway embankment running to the rear. The pillboxes were positioned against this embankment, on field boundaries, or alongside waterways connecting with the river; few were placed on the bank of the main channel of the Ouse itself. As the landscape has changed very little in the course of the past 65 years, the pillboxes can still be seen in relation to the features that determined their siting, adding an extra significance to this study area. The pillboxes



FIGURE 203 Type 24 pillbox [705] built against the embankment of the former railway line south-west of Barcombe Mills.
(PHOTO: THE AUTHOR, 9 DECEMBER 2003)

provide good, clean examples of their type, with some internal features present, including firing shelf supports of cast concrete.

The complex of waterways at Barcombe Mills enabled the anti-tank gun emplacement [708], a pillbox [707], and a possible command post [16911] to be sited in a strong defensive position surrounded on three sides by water. To the east, two further pillboxes were positioned with waterways both in front and behind them [709 and 712]. This defended locality commanded a major crossing of the defence line as well as a salient in the line to the south formed by the curving course of the river.

Access

The waterways and adjacent land at Barcombe Mills are managed by the Environment Agency, which provides a car park for visitors. It is possible to walk on the old road across the former toll bridge to gain access to the 'island' where three defence works stand. A footpath also runs close to the west bank of the River Ouse to The Anchor Inn, enabling most of the pillboxes in this section of the GHQ Line to be inspected at close quarters; a return can be made along the route of the former railway.

Published Sources

- Alexander, C, 1999 *Ironside's Line*. Storrington: Historic Military Press
Greeves, I D, 1993 The Construction of the GHQ Stop-Line: Eridge to Newhaven, June–November 1940, *Fortress*, **16**, 52–61

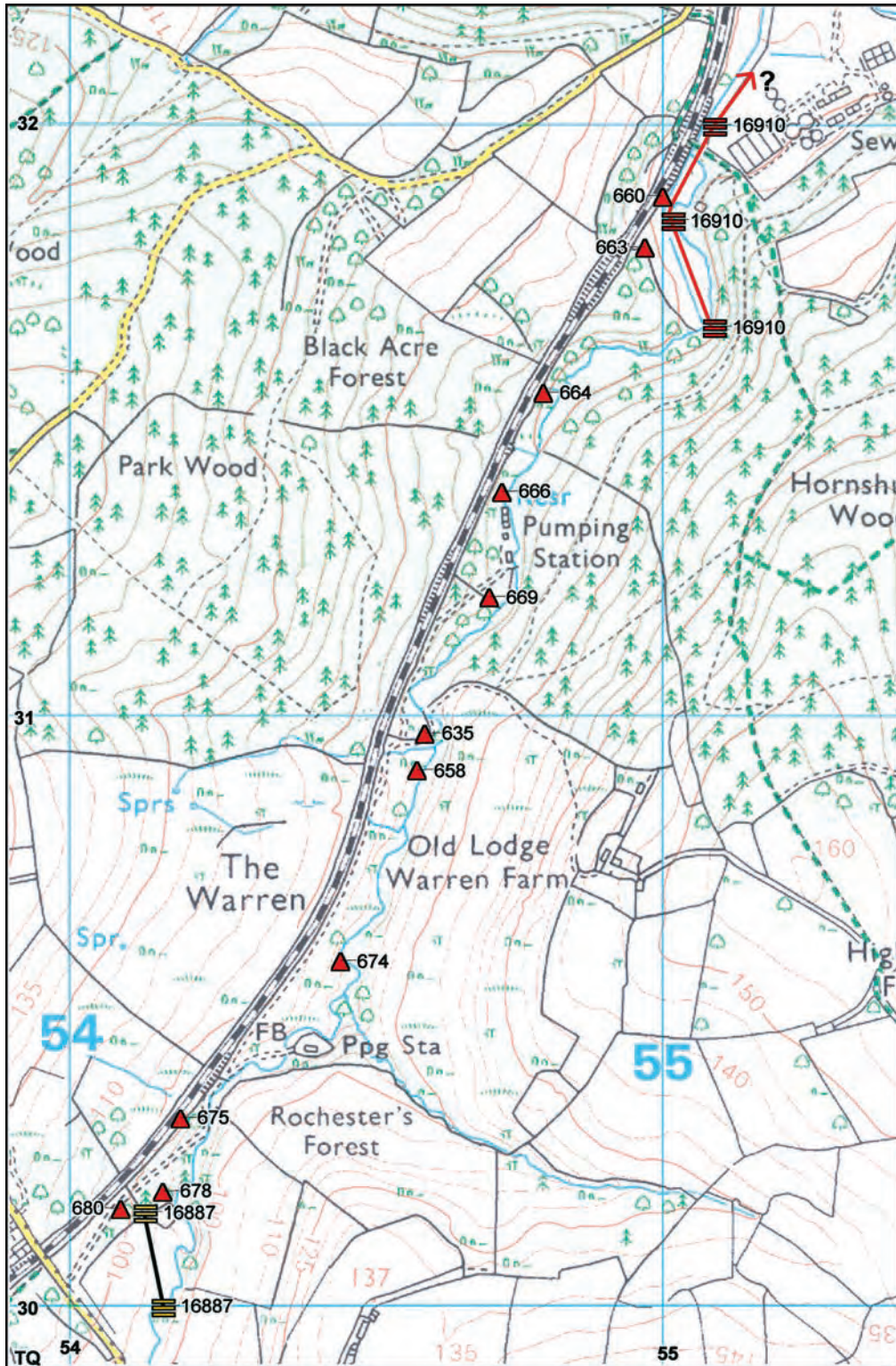
Documentary Sources

- 219th Infantry Brigade War Diary, 1940 – TNA: PRO WO 166/1072
5th Bn Loyal Regiment War Diary – TNA: PRO WO 166/4443
Befestigungskarte Großbritannien: 1:50,000 (Sheet 134), 1.6.1941 – BLML 1305(13)
164th Infantry Brigade War Diary, 1941 – TNA: PRO WO 166/1037
'38 Division Defence Scheme', July 1941 (map) (from 38 Division War Diary) – TNA: PRO WO 166/482

Barcombe Mills: Defence components

Database site reference	NGR	Defence work type	Survival status
589	TQ 4298614211	PILLBOX (TYPE 24)	E
704	TQ 4279214498	PILLBOX (TYPE 24)	E
705	TQ 4291214815	PILLBOX (TYPE 24)	E
706	TQ 4283914981	PILLBOX (TYPE 24)	E
707	TQ 4323314837	PILLBOX (TYPE 24)	E
708	TQ 4328214840	ANTI TANK GUN EMPLACEMENT (TYPE 28)	E
709	TQ 4341014778	PILLBOX (TYPE 24)	E
712	TQ 4351614768	PILLBOX (TYPE 24)	E
713	TQ 4352014970	PILLBOX (TYPE 24)	E
714	TQ 4358815115	PILLBOX (TYPE 24)	E
715	TQ 4380115540	PILLBOX (TYPE 24)	E
725	TQ 442171	PILLBOX (TYPE 24)	E
726	TQ 4422616823	PILLBOX (TYPE 24)	E
731	TQ 4423416392	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
759	TQ 4399415924	PILLBOX (TYPE 24)	E
1532	TQ 4415316135	PILLBOX (TYPE 24)	E
16791	TQ 4398115775	PILLBOX (TYPE 24)	E
16792	TQ 4277214140	PILLBOX (TYPE 24)	U
16825	TQ 43721414	PILLBOX	U
16826	TQ 43331449	PILLBOX	U
16911	TQ 4327614858	DEFENCE WORK	E

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Old Lodge Warren

Stop Line Defence

Location Details

2 miles (3km) E of Crowborough and 6 miles (9.5km) SW of Tunbridge Wells

County: East Sussex

Parish: Rotherfield

National Grid Reference: TQ 547313

Landscape

Old Lodge Warren is a narrow strip of woodland managed by the Woodland Trust running parallel with, and to the east of, the Crowborough to Tunbridge Wells railway line. To the north of the study area, this woodland is extended east by Hornshurst Wood on the other side of a stream running in a gorge, and, to the south by Rochester's Forest. A further railway line, now dismantled, ran at a distance to the east. Air-photographic evidence shows that much of the woodland, particularly to the south of the area, has grown since the Second World War on what was previously open heathland extending over the sandy soils of the Wealden uplands.

The south-western limit of the study area is bounded by Palesgate Road, a narrow lane that crosses the railway line by a bridge, running from close to Jarvis Brook in the south along the edge of Crowborough's eastern suburbs. Immediately to the east of this lane at its southern end is an area of small, enclosed fields. At the north of the area are a sewage works and a lane at Redgate Mill Farm. To the west the area is bounded by the railway line, and to the east by the stream in its steep valley, with thickly forested slopes rising beyond.

Defences

The Old Lodge Warren defence area is crossed by a sector of the Newhaven to Cliffe branch of the GHQ Line, built to protect the southern approaches to London from a German landing on the south-east coast of England. The line followed the course of the River Uck past Uckfield to Jarvis Brook, which was a Category 'B' nodal point. For this last part of the line it was necessary to construct an artificial anti-tank ditch, and this ditch continued as far as the south side of Old Lodge Warren where the main anti-tank obstacle was continued by the stream in its steep-sided gully that is a feature of the defence area. At the north of the defence area, a surviving drain marks a continuation of the anti-tank ditch, this section being shown on a German defences map.

This branch of the GHQ Line was built from June to November 1940 by the civilian construction company, Mowlem, in collaboration with the Royal Engineers, a large number



FIGURE 205 The landscape crossed by the GHQ Line at the northern boundary of the defence area. (PHOTO: THE AUTHOR, 4 DECEMBER 2003)



of local sub-contractors being involved. Six senior civil engineers were placed in charge of different sectors, one of whom was based at Crowborough, with an office as well at Jarvis Brook. Bricks from the Crowborough Brickworks were used for the shuttering of the pillboxes, and heavy earth-moving equipment was brought from London to dig the anti-tank ditches.

The line was defended through Old Lodge Warren against an anticipated attack from the east by Type 24 infantry pillboxes, some of variant form, set at regular intervals either along the embankment of the railway line or on the steep slope above the western bank of the stream. The fields alongside Palesgate Road were crossed by the northernmost section of the anti-tank ditch, and where this met the B2100 road a short distance to the south there was almost certainly a roadblock. A further roadblock would have been set up where the line crossed the lane at the north of the area by Redgate Mill Farm.

The GHQ Line crossing the Weald was part of an extended system of stop lines and grid fences built in 1940 with the aim of keeping invading German forces contained in the South East until mobile reserve forces could arrive to destroy them. Nodal point defence was also part of this system, and, in addition to Jarvis Brook, other adjacent nodal points were established at Uckfield, Crowborough Cross, Eridge Station, and Tunbridge Wells.

FIGURE 204 (opposite) USAAF air photograph taken in January 1944 showing the railway line followed by the GHQ Line crossing the upper half of the view diagonally. Much of the landscape was less wooded than today, and heathland predominated on both sides of the railway line. In the First World War, this area was used for army training: various earthworks that can be seen in the photograph probably date from that period. Towards the bottom left margin of the view, the anti-tank ditch of the GHQ Line can be made out joining with the steep-sided gully that continued it to the north. (US/7PH/GP/LOC165 fr5062. ENGLISH HERITAGE (NMR) USAAF PHOTOGRAPHY)



FIGURE 206 Overgrown Type 24 pillbox [635] at the southern edge of Hornshurst Wood. (PHOTO: THE AUTHOR, 4 DECEMBER 2003)

The run of brick-shuttered Type 24 infantry pillboxes in the Old Lodge Warren sector of the GHQ Line is complete, although one [658] has suffered blast damage at some time and lies in a shattered state. However, many of the pillboxes are so badly overgrown that they are extremely difficult to locate, and access to inspect their interior condition virtually impossible.

Towards the south of the area, a Type 24 pillbox adapted to suit its position [675] was dug into the side of the railway embankment. It is built on a massive concrete base, with an entrance on the north side and a brick and concrete wall at the rear to guard against land slippage. Close to a disused pumping station, in a prominent situation where the footpath crosses the stream, a further Type 24 pillbox stands high up on a bank, with an entrance approached by a flight of steps from the north side [666]. A pillbox in excellent condition, both externally and internally, stands towards the north of the area [663]; the colour of the bricks used in its shuttering is a deeper red than the other adjacent pillboxes. Close to the northern limit of the area is an unusual pillbox of a variant form, set low in the ground [660]. It is so overgrown that its exact form cannot be determined. An open hole in the ground nearby indicates an additional buried structure.

Significance

The landscape of the defence area has seen no development since the Second World War, although its character has changed to some extent during that time, with a far greater woodland cover today than 65 years ago. In the southern part of the area, wartime air photographs show a series of linear earthworks, some sharply angled: these may have a First World War origin when this former heathland was used for army training.

FIGURE 207 Interior of pillbox [663]. The slots in the whitewashed brickwork beneath the embrasures were to take the mountings for Bren light machine guns so that they could be fired on fixed lines. The thickness of the walls (42in/1.1m) can be appreciated from the depth of the splayed embrasures. (PHOTO: THE AUTHOR, 4 DECEMBER 2003)



The principal landscape features that determined the course of the stop line were the railway and the stream flowing in a gorge on its east side. The defence works were all built on this narrow strip of land. Pillbox [675] was built against the embankment of the railway, its Type 24 design being adapted for its position, but the majority of the pillboxes were sited above the steep slope falling away to the stream. The terrain here is very difficult to traverse, resulting in the pillboxes being much overgrown and little visited. One pillbox, however, is prominently sited by a footpath, standing up high on a bank overlooking the stream at a point where it flows close to the railway [666]. The base of this pillbox is being undermined by the stream and is in need of consolidation.

Old Lodge Warren provides a good example of a complete run of infantry pillboxes along the course of a section of stop line. The difficult terrain of this area of Wealden upland can be appreciated, showing how the stop line was carried through it, using the topography of stream and hill, backed by the railway, to form the main anti-tank obstacle. Although some pillboxes are heavily overgrown and are difficult to view, others are more accessible and in good condition, providing good, clean examples of the Type 24 infantry pillbox, with several of a variant form.

Access

A footpath runs parallel with the railway line from Palesgate Road to the disused pumping station at the site of pillbox [666]. Here it turns to cross the stream and enter Hornshurst Wood, but a path continuing alongside the railway towards Redgate Mill Farm can be found by climbing the bank behind this pillbox. Locating many of the pillboxes in this area is difficult, although several alongside the footpath can be viewed relatively easily. The area is best approached from Palesgate Road, where there is a pull-off point just north of the ford.

Published Sources

Alexander, C, 1999 *Ironside's Line*. Storrington: Historic Military Press

Greeves, I D, 1993 The Construction of the GHQ Stop-Line: Eridge to Newhaven, June–November 1940, *Fortress*, **16**, 52–61

Documentary Sources

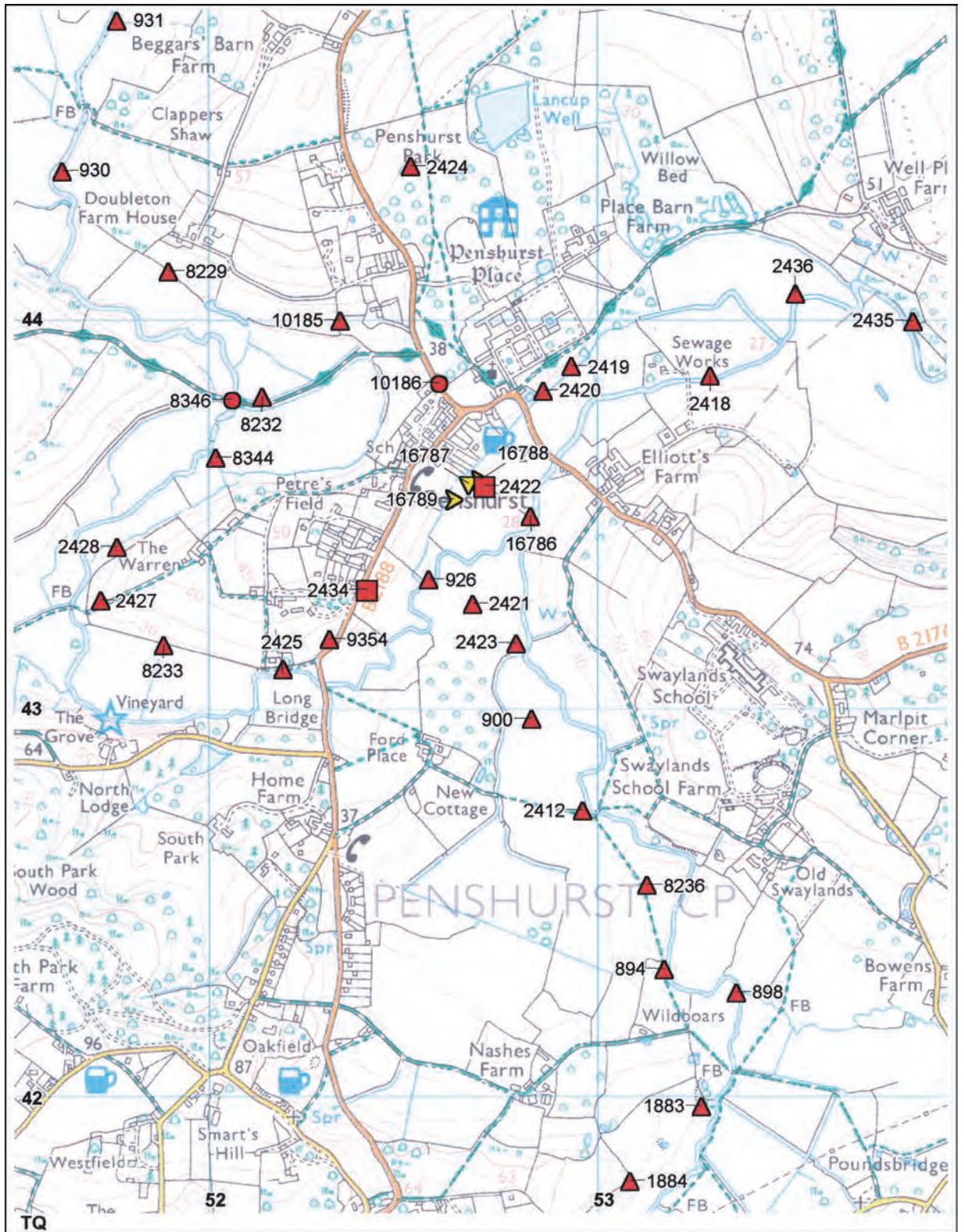
Befestigungskarte Großbritannien: 1:100,000 (Sheet 39), 3.9.1940 – BLML Y.336

'List of Nodal Points in Eastern Command', September 1940 (from General Headquarters Papers, Home Forces) – TNA: PRO WO 199/544

Old Lodge Warren: Defence components

Database site reference	NGR	Defence work type	Survival status
614	TQ 550326	PILLBOX (TYPE 24)	E
635	TQ 5460130971	PILLBOX (TYPE 24)	E
658	TQ 5458830909	PILLBOX (TYPE 24)	E
660	TQ 5500231880	PILLBOX (VARIANT)	E
663	TQ 5497231794	PILLBOX (TYPE 24)	E
664	TQ 5480131548	PILLBOX (TYPE 24)	E
666	TQ 5473131380	PILLBOX (TYPE 24)	E
669	TQ 5471031202	PILLBOX (TYPE 24)	E
674	TQ 5445930586	PILLBOX (TYPE 24)	E
675	TQ 5418930320	PILLBOX (VARIANT)	E
678	TQ 5415930195	PILLBOX (TYPE 24)	E
680	TQ 5408830166	PILLBOX (TYPE 24)	E
16887	TQ 54133016 – TQ 54163000	ANTI TANK DITCH	I
16910	TQ 55093166 – TQ 55023184 – TQ 55093200	ANTI TANK DITCH (NATURAL IMPROVED)	E

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Penshurst

Stop Line Defence

Location Details

5 miles (8km) NW of Tunbridge Wells

County: Kent

Parish: Penshurst

National Grid Reference (Penshurst village): TQ 526437

Landscape

Penshurst lies in the broad valley formed by the rivers Medway and Eden, which join to the south of the village, the Eden flowing from the north-west and the Medway from the south. Wooded heights rise on all sides of the converging river valleys. Penshurst village is small and contained, with an inn and a church, and housing that is mainly situated along the B2188 road to the south-west. This road makes a junction with the B2176 at the centre of the village and crosses two channels of the Medway by stone bridges to the east of the village. To the south, the B2188 crosses the River Eden at Long Bridge. On the north side of the village stands Penshurst Place, ancestral home of the Sidney family, with its park stretching away to the wooded Weald beyond.

Defences

The author and diarist, Katharine Moore, wrote on 1 July 1940, 'Very hot ... drove to Penshurst ... Many troops passing through and the beautiful meadow below Penshurst gardens cut up with dug outs, army lorries, etc' (Moore 1989).

Penshurst lay at the junction of two branches of the GHQ Line: GHQ Line 'B' running from Farnham in Surrey, following the course of the River Eden on its approach to Penshurst, and GHQ (Newhaven to Cliffe) Line, following the Medway in a loop known as the Ashurst Switch which skirted Tunbridge Wells to the west. Another branch of this line ran to the east of Tunbridge Wells, which was a Category 'A' nodal point and contained the headquarters of XII Corps. Tonbridge, close by, was a designated 'fortress' with its medieval castle refortified.

Penshurst village was a Category 'B' nodal point, with a garrison in September 1941 of 57 men from the 21st (Tonbridge) Battalion, Kent Home Guard. To the north at Chiddingstone Causeway was Penshurst Airfield, defended in 1940 by a training company of the 8th Bn Royal West Kents.

The front-edge anti-tank obstacle of the two branches of the GHQ Line was provided by the rivers, which may have been strengthened in places by cutting their banks vertically and revetting them. Infantry pillboxes were built along the river banks, the line to the south



FIGURE 208 The broad valley traversed by the rivers Eden and Medway south of Penshurst, with pillbox [2421], once positioned by a hedgerow, now stranded in the centre of a field. (PHOTO: THE AUTHOR, 2000)

being defended against an anticipated attack from the east, and that to the north, from the west and south. The positions of the pillboxes on the west bank of the Medway within the study area are hard to understand as the loop of the GHQ Line around Tunbridge Wells to the east made an attack from that direction less likely. It would seem to have made more strategic sense to have sited them on the east bank against an attack on Tunbridge Wells from the south-west. Possibly the pillboxes were constructed before the eastern loop was planned as part of the overall strategy of the Newhaven to Cliffe Line to contain German forces landing in the south-east of England and stop them breaking out to the west.

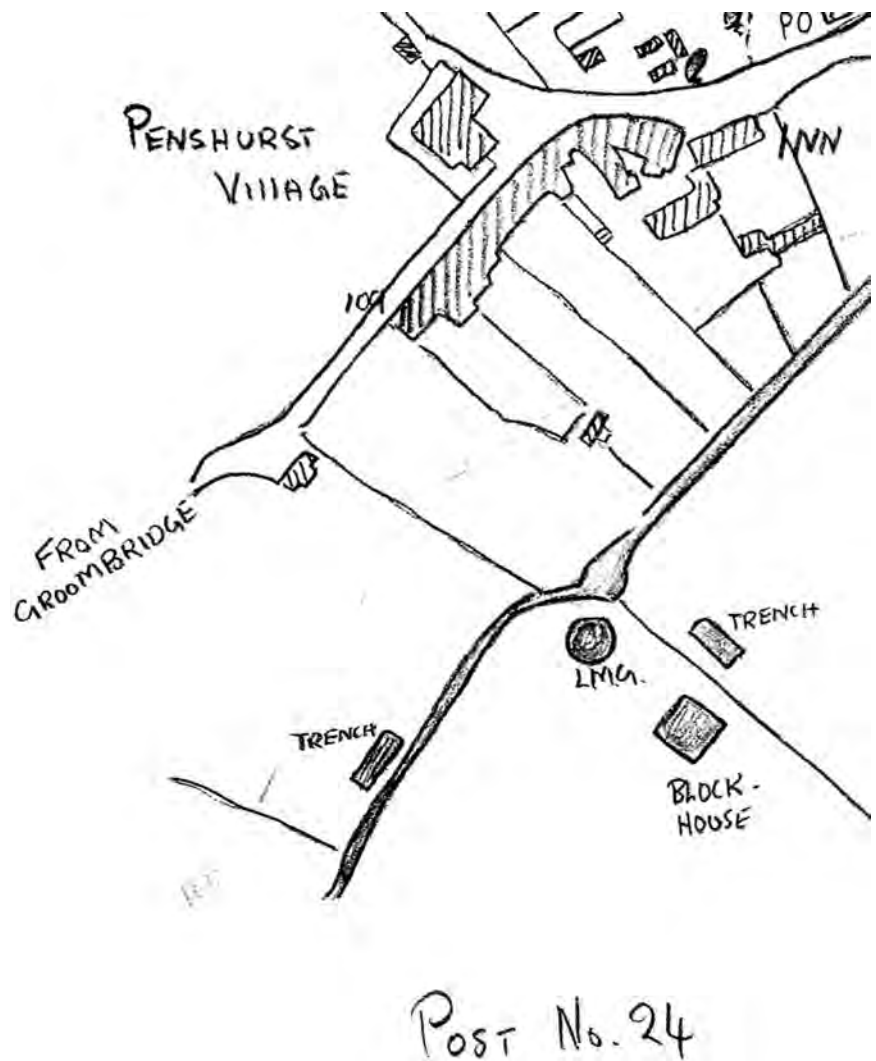
Important crossing points of the defence lines were defended localities in their own right and protected by anti-tank gun emplacements, two falling within the defence area: one on the slope above Long Bridge [2434] and the other firing towards the stone bridges east of the village [2422]. Both were built to hold the Hotchkiss 6pdr anti-tank gun, the latter being termed Post 24 and manned by the 922nd Defence Battery RA.

The defences of the converging anti-tank lines would have merged with the all-round defences of the nodal point, of which pillboxes [10185] at The Moat and [2424] in Penshurst Park are possible survivors. Two pimples (dragon's teeth) close to the centre of the village [10186] are undoubtedly survivors from a roadblock. Further documentary sources providing the layout of Penshurst's defences may yet be discovered.

Significance

There have been few changes to the landscape of the defence area since the Second World War, and it remains much as viewed by Katharine Moore in 1940. Some houses have been built alongside the B2188 road, and fields in the Medway valley to the south have had hedgerows removed to open them up for more intensive arable cultivation.

FIGURE 209 War Diary map showing defence positions (Post 24) of 922nd Defence Battery RA at Penshurst, c July 1940. The 'blockhouse' is 6pdr anti-tank gun emplacement [2422]. (PRO WO 166/2027. REPRODUCED BY COURTESY OF THE NATIONAL ARCHIVES)



The topography of the joining river valleys can be seen clearly to have dictated the courses of the stop lines that meet to the south of Penshurst village, resulting in a profusion of defence works spread across the landscape, almost all of which survive in good, if overgrown, condition. Many of these were sited on the banks of the rivers or beside drainage channels, while others were positioned at the edges of roads or in hedgerows. The anti-tank gun emplacement [2422] and Type 24 pillbox [16786] are good examples of adjacent defence works still to be found alongside the hedgerow that helped camouflage them in 1940. Further south, pillbox [2421], now exposed in the centre of a large, open field, originally stood in a hedgerow, while pillbox [900], similarly isolated today, was camouflaged within a belt of scrubland when built. Most defence works, however, still maintain the landscape context that helped determine their siting.

Penshurst village itself formed a strong defence position, being protected on three sides by waterways: all the bridges on its approach roads would have been blocked and mined for demolition. One of these was at the defended locality of Long Bridge, which is



FIGURE 210 Brick-shuttered Type 24 pillbox [900] on the 'Wealden branch' of the GHQ Line south of Penshurst.
(PHOTO: THE AUTHOR, 2 DECEMBER 2003)

dominated by the anti-tank gun emplacement on the hill to the north [2434]. An infantry pillbox that also commanded the roadblock at the bridge still stands at the edge of the road hidden by vegetation [9354], while a further pillbox, protecting the western perimeter of the locality, is dug into the bank of the River Eden [2425]. The hilltop of The Warren to the south-west of the village commands the GHQ Line to north and west, and an observation post and defence positions here can reasonably be assumed.

The Penshurst area provides an excellent illustration of stop line defence, at a point where two branches of the GHQ Line meet and merge with the defences of a nodal point, a rare combination of defence strategy. The area also has good survival of many of the defence components, in particular of the stop line infantry pillboxes, an unbroken sequence of which can still be seen populating the landscape. Two anti-tank gun emplacements containing holdfasts for 6pdr guns, and some components of roadblocks, also make important survivals. This is a coherent landscape of defence, readily understood, and with good public access.

FIGURE 211 Type 24 pillbox [2427] on a hill slope overlooking the River Eden west of Penshurst. This pillbox formed part of GHQ Line 'B'. (PHOTO: THE AUTHOR, 2000)



FIGURE 212 Type 24 pillbox [1883] on a wooded bluff overlooking the River Medway south of Penshurst. (PHOTO: THE AUTHOR, 2 DECEMBER 2003)





FIGURE 213 Holdfast for the 6pdr Hotchkiss gun in Type 28 emplacement [2434] north of Long Bridge on the River Eden.

(PHOTO: THE AUTHOR,
2 DECEMBER 2003)

Access

The area is crossed by a network of lanes, tracks, and footpaths which allow many of the defence works to be inspected close-up or viewed from a near distance. In particular, the footpath that runs south from Elliott's Farm along the valley of the Medway provides excellent access to many pillboxes, and can be followed beyond the border of the study area to Saint's Hill, and then on to Colliersland and Chafford bridges, where further important concentrations of defence works survive.

Parking in Penshurst is best made at the lay-by just north of the road junction at the centre of the village where there are also public toilets.

Published Sources

- Alexander, C, 1999 *Ironside's Line*. Storrington: Historic Military Press
Moore, K, 1989 *A Family Life 1939–45*. London: Allison & Busby
Saunders, A & Smith, V, 2001 Peshurst Nodal Point, report KD 202 for Kent County Council, *Kent's Defence Heritage, Gazetteer Part One*

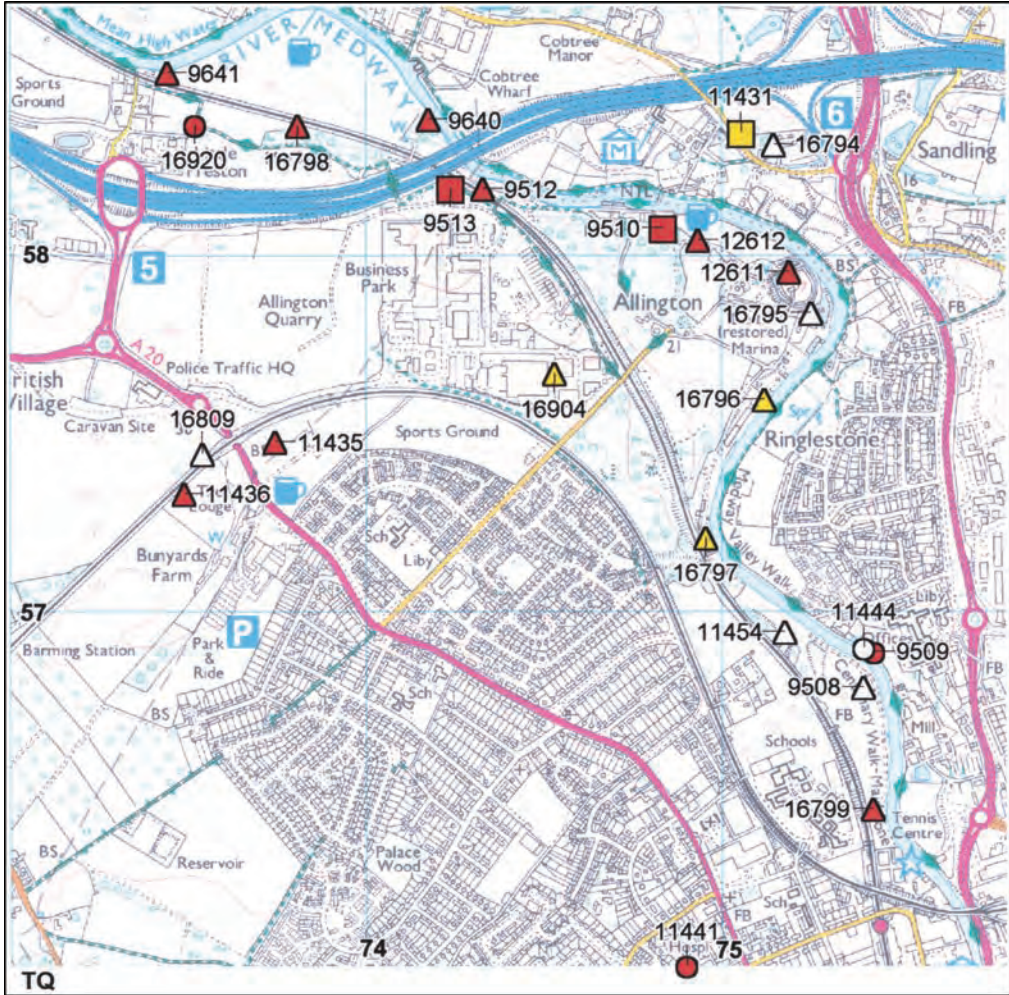
Documentary Sources

- 922nd Defence Battery RA War Diary, 1940 – TNA: PRO WO 166/2027
Home Counties Area 'G' War Diary, December 1940 – TNA: PRO WO 166/1214
Gravesend Sub-Area War Diary, 1941 – TNA: PRO WO 166/1286
Kent Area HQ War Diary, 1941 – TNA: PRO WO 166/1216
'Sub-Area Dispositions to Defeat Invasion', 8.6.1941 (from Maidstone Sub-Area HQ War Diary) –
TNA: PRO WO 166/1304
Maidstone Sub-Area HQ War Diary, 1942 – TNA: PRO WO 166/6760

Penshurst: Defence components

Database site reference	NGR	Defence work type	Survival status
894	TQ 5317142330	PILLBOX (TYPE 24)	E
898	TQ 5335742271	PILLBOX (TYPE 24)	E
900	TQ 5283142975	PILLBOX (TYPE 24)	E
926	TQ 5256743335	PILLBOX (TYPE 24)	E
930	TQ 5162444385	PILLBOX (TYPE 24)	E
931	TQ 5176544774	PILLBOX (TYPE 24)	E
1883	TQ 5326741977	PILLBOX (TYPE 24)	E
1884	TQ 5308241784	PILLBOX (TYPE 24)	E
2412	TQ 5296242739	PILLBOX (TYPE 24)	E
2418	TQ 5329043860	PILLBOX (TYPE 24)	E
2419	TQ 5293143894	PILLBOX (TYPE 24)	E
2420	TQ 5286343818	PILLBOX (TYPE 24)	E
2421	TQ 5268043271	PILLBOX (TYPE 24)	E
2422	TQ 5271043575	ANTI TANK GUN EMPLACEMENT (TYPE 28)	E
2423	TQ 5279143170	PILLBOX (TYPE 24)	E
2424	TQ 5252144398	PILLBOX (TYPE 24)	E
2425	TQ 5219243092	PILLBOX (TYPE 24)	E
2427	TQ 5172343282	PILLBOX (TYPE 24)	E
2428	TQ 5176643419	PILLBOX (TYPE 24)	E
2434	TQ 5240843308	ANTI TANK GUN EMPLACEMENT (TYPE 28)	E
2435	TQ 538440	PILLBOX (TYPE 24)	E
2436	TQ 53514407	PILLBOX (TYPE 24)	E
8229	TQ 5189844128	PILLBOX (TYPE 24)	E
8232	TQ 5214143789	PILLBOX (TYPE 24)	E
8233	TQ 5188543166	PILLBOX (TYPE 24)	E
8236	TQ 5312742547	PILLBOX (TYPE 24)	E
8344	TQ 5201943648	PILLBOX (TYPE 24)	E
8346	TQ 5206343797	ANTI TANK BLOCK	E
9354	TQ 5232943180	PILLBOX (TYPE 24)	E
10185	TQ 52344400	PILLBOX	E
10186	TQ 5259543839	PIMPLE	E
16786	TQ 5282943498	PILLBOX (TYPE 24)	E
16787	TQ 52674358	MACHINE GUN POST	R
16788	TQ 52704359	FIRE TRENCH	I
16789	TQ 52614354	FIRE TRENCH	I

E = Extant; R = Removed; I = Infilled; U = Unknown.



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River Medway: Maidstone

Stop Line Defence

Location Details

1 mile (1.5km) N of Maidstone centre

County: Kent

Parishes: Maidstone; Aylesford

National Grid Reference (Allington Lock): TQ 748581

Landscape

The defence area consists of the margins of the west bank (becoming the south bank at the north of the area) of the River Medway from a point north of Maidstone town centre to Little Preston, half a mile (0.8km) east of Aylesford with its medieval bridge. The area includes Allington Lock at its approximate centre, with the rebuilt Allington Castle, occupied today by an order of Carmelite friars, close by. Allington Lock is located at the point where the river ceases to be tidal, and its sluices are vital for the control of the water flow in the Medway Valley to the north. The lock is managed by the Environment Agency.

From Allington Lock to Teston (to the south-west of Maidstone), the east bank of the Medway forms the Millennium River Park opened in 2001, with a continuous Centenary Walk following the former towpath. North of the town centre, this connects by a newly constructed footbridge with the recently completed Whatman Park.

The main railway line from London passes through the area, roughly following the course of the Medway, and is crossed by the M20 motorway running across the north of the area close to the point where the motorway also bridges the river. On the fringes of road and railway are industrial estates and quarries, giving way to fields and woodland closer to the river margins. At Ringlestone, new housing has spread close to the river.

Defences

The defence area is crossed by the Newhaven to Cliffe branch of the GHQ Line (see Old Lodge Warren defence area). The line followed the course of the Medway from Peshurst, and the river now passed in a loop around Maidstone before entering the Medway Valley to cut through the North Downs on its way to the River Thames. As with other sectors of the GHQ Line, it was defended here by infantry pillboxes interspersed with anti-tank gun emplacements at important crossing points. Bridges were prepared for demolition, and roads and railways set with blocks to be activated in the event of an invasion. The expected direction of enemy attack was from the east.

Maidstone was a Category 'A' nodal point (also termed a 'fortress'), with an officially designated garrison that came principally from the 11th (Maidstone) Bn Kent Home Guard but with some regular troops as well. In June 1941 the garrison consisted of 985 men.



FIGURE 214 Air photograph taken in May 1946. Allington Lock lies at the centre of the view, with Allington Castle to the east within the bend of the River Medway. The railway line to Rochester runs roughly parallel with the river while another line curves towards the west. Suburbs of Maidstone spread at the bottom right. To the west, the areas of orchards and hopfields have all disappeared today under housing and industrial estates.

(RAF/106G/UK/1444 fr3404. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)

FIGURE 215 The River Medway at Allington Lock. Anti-tank gun emplacement [9510] stands in the Environment Agency yard to the right of the house.
(PHOTO: THE AUTHOR, 17 DECEMBER 2003)



Maidstone had all-round defences that included anti-tank ditches dug on its eastern side. Of adjacent areas, Teston and Aylesford were designated ‘defended localities’, and Larkfield and West Malling ‘defended villages’. Allington Lock, which had only been completed in 1939, also received special protection.

Type 24 infantry pillboxes were built at regular intervals on the west bank of the river; one of these pillboxes has been preserved within Whatman Park [16799]. Others to the north are very badly overgrown, although one [16798] discovered during the fieldwork for this survey is in relatively good condition. A number of pillboxes were constructed around Allington Castle, adding to the defences of Allington Lock, which was principally protected by a Type 28A double-chambered anti-tank gun emplacement [9510]. A further emplacement for a 6pdr anti-tank gun stood at a point close to the railway half a mile (0.8km) to the west [9513].



FIGURE 216 Type 28A anti-tank gun emplacement [9510] at Allington Lock, used today as a store by the Environment Agency.

(PHOTO: THE AUTHOR, 17 DECEMBER 2003)

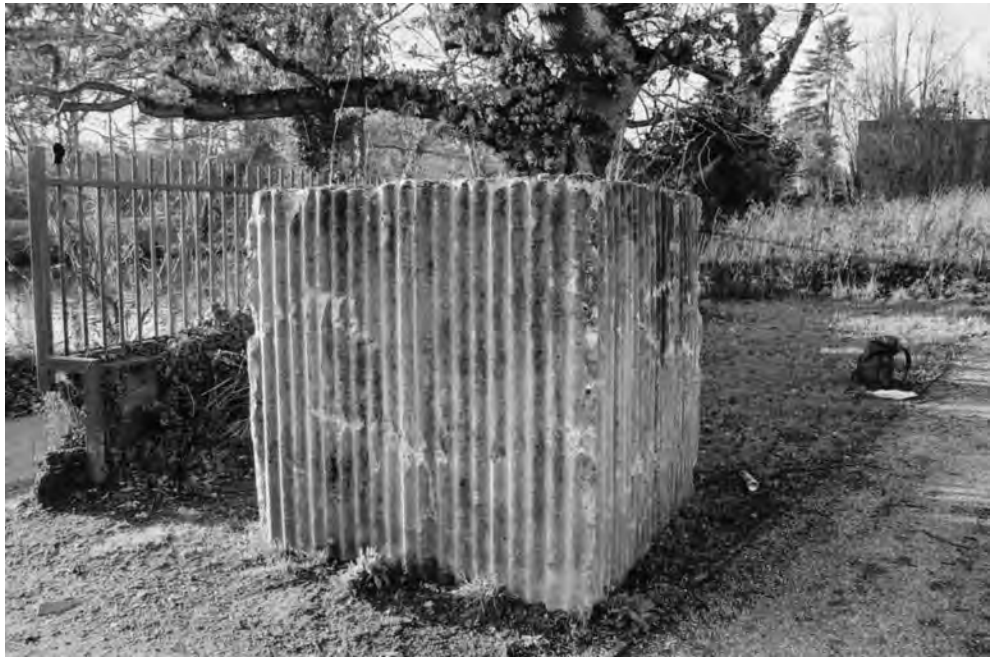
Almost all the defence works considered in the study area formed part of the GHQ Line, lying beyond the perimeter of Maidstone nodal point itself. On the east side of the river, however, the Maidstone defence perimeter stood further north than on the west, and the short lines of large anti-tank blocks that survive by the footbridge to Whatman Park [9509] were probably part of the anti-tank perimeter here.



FIGURE 217 The two lines of anti-tank cubes [9509] crossing the towpath of the River Medway at Ringlestone, with the recently built footbridge to Whatman Park running above them. The cubes were part of the north-eastern perimeter defences of Maidstone fortress.

(PHOTO: THE AUTHOR, 17 DECEMBER 2003)

FIGURE 218
Constructed using
corrugated-iron
shuttering, this
massive cube [part of
9509] has a height of
nearly 6ft (1.8m).
(PHOTO: THE AUTHOR,
17 DECEMBER 2003)



Significance

The defence area provides a good illustration of the defences of the GHQ Line at a point where these connected with the perimeter defences of an important nodal point (or fortress). Maidstone had a major strategic role in the defence of the South East and would have been a clear target for invading German forces under the Operation Sealion plan.

There have been many changes to the landscape of the defence area over the course of the past 65 years. The M20 motorway now cuts across the north of the area, and industrial developments have spread beside it, isolating some defence works in pockets of wasteland. Although Whatman Park has been laid out over former riverside meadows, the pattern of field and wood at the river margins, in particular to the north, has altered little, and the area of Allington Lock and Castle remains largely unchanged.

The linear anti-tank obstacle of the Medway was supplemented by the railway that runs on its west side, and defence works were positioned alongside both of these major landscape features. Two pillboxes survive at the top of steep river cliffs [9640 and 9641], and others close to the railway [9512, 16798, and 16799]. The railway, running at different points in cuttings and on embankments, helped to strengthen the anti-tank obstacle of the defence line, but it also potentially formed a route of advance for the enemy if the river was crossed. Hence, the pillboxes to the north of the area were sited to enfilade the line as well as to fire across it. The anti-tank gun emplacement [9513] unusually did not defend a bridge crossing but was positioned to defend the narrow gap between the railway and the river. At Allington, one anti-tank gun emplacement [9510] was sited in direct defence of the lock while another [11431, now removed] was placed on the attack side of the line to defend the approaches to the lock from the north. An infantry pillbox [12612] also supported the defence of the lock while two further pillboxes were sited amongst the earthworks

surrounding Allington Castle [12611 and 16795]. The northern perimeter of Maidstone nodal point, and its anti-tank capability, is demonstrated by the massive blocks east of the river opposite the north end of Whatman Park [9509].

The area contains good surviving examples of the Type 24 infantry pillbox and of the double-chambered Type 28A anti-tank gun emplacement. The perimeter anti-tank blocks are an outstanding survival and an important legacy of the defence of Maidstone itself.

Several of the defence works survive because they stand now in wasteland surrounded by development. Much could be done to improve their condition by clearing rubbish and overgrowth from them and making them more publicly accessible. Considerable work has been carried out in recent years in the development of the river margins for public enjoyment, and a project to preserve the Second World War heritage of the area and provide public information would be a useful addition.

Access

A car park off Castle Road at Allington provides a convenient point from which to reach the Medway at Allington Lock where the river can be crossed (there is little parking space at the Lock itself). From here the towpath – Centenary Walk – can be followed south to Whatman Park, reached by a footbridge over the river.

A public footpath from Castle Road, running to the west of the railway, also enables the defence works as far as Aylesford to be seen. A return can be made by crossing the river and following the Medway towpath back to Allington Lock.

Published Sources

Alexander, C, 1999 *Ironsides's Line*. Storrington: Historic Military Press

Documentary Sources

'List of Nodal Points in Eastern Command', September 1940 (from General Headquarters Papers, Home Forces) – TNA: PRO WO 199/544

'Sub-Area Dispositions to Defeat Invasion', 8 June 1941 (from Maidstone Sub-Area HQ War Diary) – TNA: PRO WO 166/1304

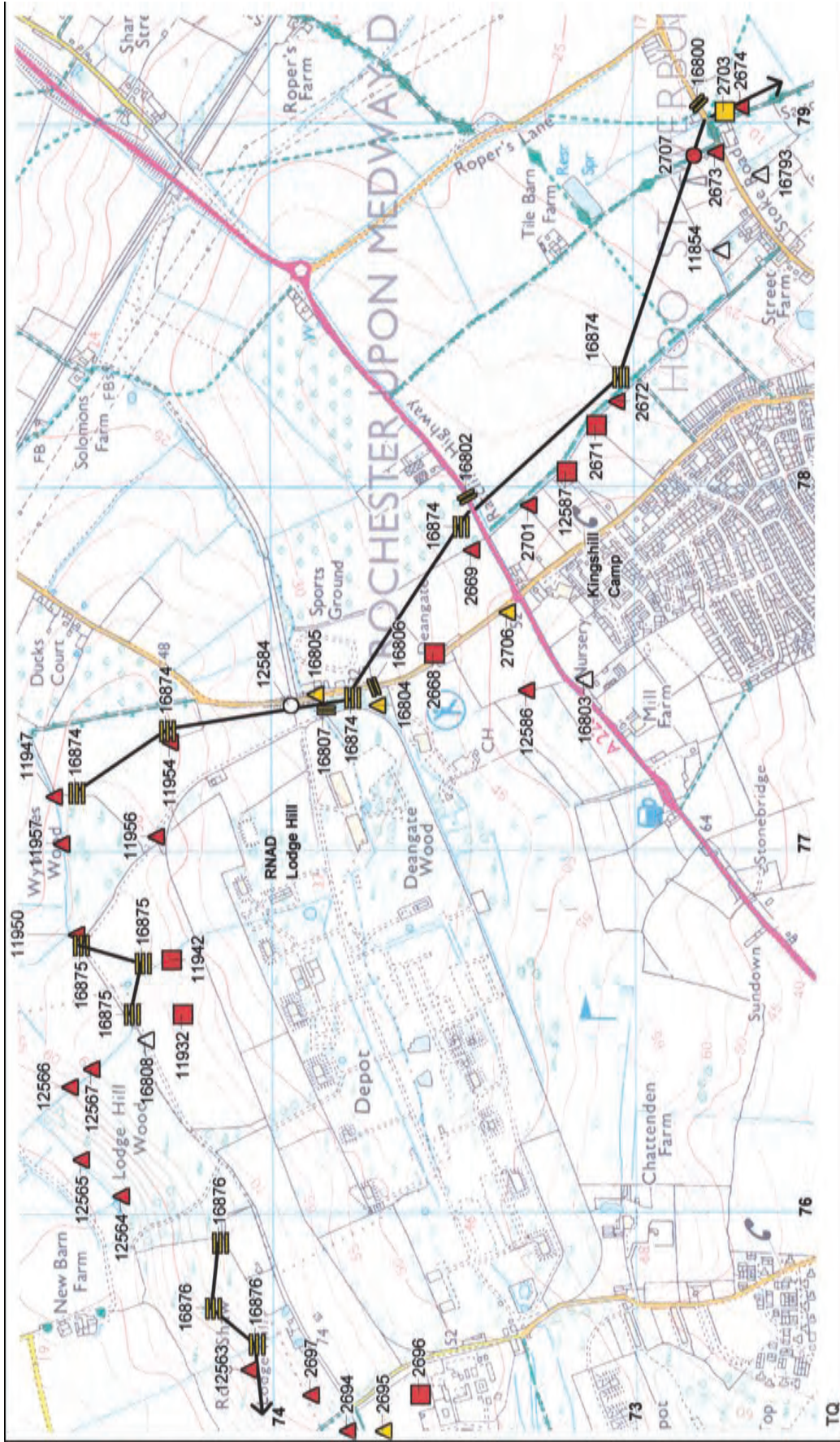
Maidstone Sub-Area HQ War Diary, 1942 – TNA: PRO WO 166/6760

'Maidstone Garrison Defence Plan No 1', August 1942 (from Maidstone Garrison HQ War Diary) – TNA: PRO WO 166/6870

River Medway: Maidstone: Defence components

Database site reference	NGR	Defence work type	Survival status
9508	TQ 7539856790	PILLBOX (TYPE 24)	U
9509	TQ 7542956889	CUBE	E
9510	TQ 7483658082	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
9512	TQ 74335819	PILLBOX (TYPE 24)	E
9513	TQ 7423858192	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
9640	TQ 7417658385	PILLBOX (TYPE 24)	E
9641	TQ 7344258514	PILLBOX (TYPE 24)	E
11431	TQ 7504558339	ANTI TANK GUN EMPLACEMENT (TYPE 28)	R
11435	TQ 7374557476	PILLBOX (TYPE 22)	E
11436	TQ 7348857329	PILLBOX (TYPE 22)	E
11444	TQ 754569	ANTI TANK VERTICAL RAIL	U
11454	TQ 7517856945	PILLBOX (TYPE 22)	U
12611	TQ 75195796	PILLBOX	E
12612	TQ 7493458048	PILLBOX (TYPE 24)	E
16794	TQ 7514858318	PILLBOX	U
16795	TQ 7528457845	PILLBOX (TYPE 24)	U
16796	TQ 7513857598	PILLBOX (TYPE 24)	R
16797	TQ 7495657210	PILLBOX (TYPE 24)	R
16798	TQ 7380858366	PILLBOX (TYPE 24)	E
16799	TQ 7542556445	PILLBOX (TYPE 24)	E
16809	TQ 73555743	PILLBOX	U
16904	TQ 74535767	PILLBOX	R
16920	TQ 7352058367	ANTI TANK BLOCK	E

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Deangate Ridge, Hoo

Stop Line Defence

Location Details

4 miles (6.5km) NE of Rochester

County: Kent

Parishes: Hoo St Werburgh; High Halstow

National Grid Reference (Deangate): TQ 775735

Landscape

The defence area is part of a peninsula on the coast of North Kent, at the confluence of the rivers Medway and Thames, that terminates to the east in the Isle of Grain. It is crossed diagonally by the A228 road (also known as the Ratcliffe Highway) running between Rochester and the Isle of Grain. South-east of the A228 is the small town of Hoo, the northern suburbs of which have spread as far as the main road. The junction where a minor road from Hoo crosses the Ratcliffe Highway and continues as Dux Court Lane to High Halstow is known as the Deangate crossroads. This dangerous intersection has recently been widened and a roundabout built.

The Deangate crossroads lie on the high point of a low ridge which descends to the north and then rises again to the parallel ridge of Lodge Hill. Much of this ridge is occupied today by the Royal School of Military Engineering's Lodge Hill Camp and Chattenden Barracks, the modern successor to various munitions establishments established on the site from before the Second World War. An army camp – Kingshill Camp – also stood to the south of the Deangate crossroads until the 1970s: the site is now occupied by a housing estate.

To the south-east of the Deangate Ridge can be seen the flat marshlands at the edge of the Medway estuary, with the buildings of Kingsnorth Power Station in the distance. To the north of Lodge Hill are the broad waters of the River Thames with the coast of Essex beyond. The countryside is intensively farmed, with large, open fields bearing arable crops, flanked by occasional stands of woodland. To the east of Hoo are apple orchards, remnants of the fruit farms that once predominated in this area.

Defences

The defence area was crossed by the Newhaven to Cliffe branch of the GHQ Line, here close to its northernmost extent on the bank of the River Thames. The line, having followed the River Medway to Rochester, was carried across the Isle of Grain peninsula by an artificial anti-tank ditch dug between the Medway and the Thames. The ditch passed to the east of Hoo village, crossed the Ratcliffe Highway east of the Deangate crossroads, and

then ran east and north of Lodge Hill Camp before turning north to reach the Thames marshes at Cliffe. This sector of the GHQ Line protected Chatham dockyards to the south from possible enemy landings on the Isle of Grain, and was heavily defended on its west side by closely spaced infantry pillboxes and anti-tank gun emplacements, and by blocks where roads and tracks crossed it.

Hoo itself was a ‘defended village’ with a garrison of 63 men from the 14th (Hoo) Bn Kent Home Guard. To its north, Kingshill Camp was a designated ‘defended locality’



FIGURE 219 Portion of a German map dated November 1940. The course of the anti-tank ditch of the GHQ Line across the Hoo peninsula is shown by the triple parallel lines: it runs from the River Medway at Hoo Flats to the River Thames at Cliffe Marshes. Pillboxes, roadblocks, and barbed wire entanglements are indicated in the Deangate area, and both the Lodge Hill munitions site and the camp at Kingshill are correctly identified.

(REPRODUCED BY PERMISSION OF THE BRITISH LIBRARY. BLML: 1305(13))



FIGURE 220 Air photograph taken in January 1947 showing the Royal Navy Ammunition Dump at Lodge Hill (upper left) and the Deangate crossroads (left, lower centre). Kingshill Camp can be seen below the crossroads. The line of the infilled anti-tank ditch can be clearly made out running from top to bottom of the view.

(RAF/CPE UK/1923 fr4079. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)



FIGURE 221 Anti-tank gun emplacement [2671] at the edge of an orchard; used today as a store. (PHOTO: THE AUTHOR, 18 DECEMBER 2003)

manned by 100 troops from the 347th Searchlight Battery RA: its perimeter may have included the Deangate crossroads. Another defended locality to the north was centred on High Halstow, which had a garrison made up of 300 men from the 8th Bn Royal West Kents and from 163rd Battery HAA. A Royal Navy Ammunition Dump (RNAD) at Lodge Hill was also protected by 300 men, with weapons that included eleven medium machine guns, a surprisingly high figure given the shortages of the period. It is clear that this was one of the most intensely defended areas of the South East.

There is a very good survival of hardened field defences within the area. At the centre of this sector of the GHQ Line were two single-chambered anti-tank gun emplacements, positioned close together, firing either the 2pdr or 6pdr gun [12587 and 2671]. They were supported by Type 24 infantry pillboxes in line to north and south, all of the pillboxes having a distinctive appearance with the areas above each embrasure and the doorway free of brick shuttering. The purpose of the recesses thus formed is not known, but it is likely to be simply the result of a particular constructional technique rather than for the addition of armour plating or camouflage, as has been suggested.

A further anti-tank gun emplacement defended the roadblock on Stoke Road east of Hoo, but has been removed in recent years [2703], as has all evidence of the roadblock. However, another roadblock was positioned close by on a track leading north, and the supporting slotted blocks of this are a rare survival [2707].

The Kingshill Camp defended locality is probably represented by a spread of pillboxes to the rear of the line at the Deangate crossroads: one of these [2706] has been destroyed by the recent roadworks. Another pillbox [2669] lies alongside a Cold War-period Royal Observer Corps monitoring post. To the north of the crossroads, an anti-tank gun emplacement of the double-chambered type (Type 28A) has had a garden terrace added to its roof [2668].

FIGURE 222 Type 24 pillbox [2672] showing the recesses in the brick shuttering above the embrasures and doorway that are particular to pillboxes in this part of North Kent.
(PHOTO: THE AUTHOR, 18 DECEMBER 2003)



North of Deangate, the line climbed the Lodge Hill ridge, where an exceptionally tall pillbox, built up on a thick concrete base, protects the southern approaches [11954]. The good survival of hardened defence works continues beyond the north-west boundary of the study area as the line turns to run along the north boundary of the Lodge Hill military base. This area is inaccessible without permission, but it is believed there are seven

FIGURE 223 The slotted concrete supporting blocks of a horizontal rail roadblock [2707].
The anti-tank ditch crossed diagonally from left to right just beyond the blocks.
(PHOTO: THE AUTHOR, 4 MARCH 2003)



Type 24 pillboxes and two anti-tank gun emplacements between Wybornes Wood and Lodge Hill Wood. Further fieldwork is needed here.

Significance

The defence area provides a most interesting and important section of stop line (GHQ Line) linking with documented points of area defence in a highly militarised landscape. Despite the recent loss of one pillbox [2706] as the result of road-widening, the survival within the study area of nine other infantry pillboxes, three anti-tank gun emplacements, and the slotted blocks of a roadblock, with further pillboxes and emplacements continuing beyond the area both to the north-west and the south, make this a well-populated landscape of hardened defence works. The presence also of an underground Royal Observer Corps post adds to the overall military interest of the area, as does the continuing Army presence at Lodge Hill.

The landscape crossed by the GHQ Line retains much of its appearance of the time of the Second World War, although bordering it there have been developments of housing and the expansion of the military training area. A course for the anti-tank ditch was laid out that in places ran parallel with roads, trackways, and the edges of fields: at these points the supporting pillboxes and anti-tank gun emplacements of the line were positioned to the rear in hedgerows that helped to camouflage them. In the southern part of the defence area, for instance, two infantry pillboxes and two anti-tank gun emplacements were sited close together at the edge of fields and orchards some 70m behind the anti-tank obstacle [2672, 2701, 2671, and 12587]. Although the anti-tank ditch was infilled before the end of the war, its course can still be made out as a slight hollow crossing the field. The hedgerows here, still concealing the defence works, remain as they were in 1940, and they should be regarded as an integral part of the defended landscape.

The line was engineered to climb Lodge Hill at its eastern end so that it could then turn sharply to the west to run along the crest of the hill before turning once more to the north. The course of the line also protected the Royal Navy Ammunition Dump at Lodge Hill on two sides. On Lodge Hill, pillboxes were positioned at the edge of woodland in support of the line. One pillbox [11954] on the southern slopes of the hill was built exceptionally tall so as to better command the falling ground.

The area is important not only in terms of the number of defence works of different types it contains but also in the way it still forms a coherent pattern of defence linked to its topography.

Access

Public footpaths enable many of the defence works to be seen at close hand. To the south, a trackway follows the GHQ Line from the banks of the Medway, and a further trackway north of Stoke Road passes the concrete supporting blocks of a roadblock. A little to the west, a footpath runs north besides an orchard with pillboxes and anti-tank gun emplacements at its edge. On the far side of the Ratcliffe Highway, the anti-tank gun emplacement converted to a roof terrace can be inspected from beside Dux Court Road, and, further north, a footpath climbs the eastern end of Lodge Hill where the continuation of the line can be viewed across the fields with the River Thames in the distance.

Published Sources

Alexander, C, 1999 *Ironside's Line*. Storrington: Historic Military Press

Saunders, A & Smith, V, 2001 Hoo St Werburgh to Lodge Hill line of pillboxes, report KD 164 for Kent County Council, *Kent's Defence Heritage*, Gazetteer Part One

Documentary Sources

Befestigungskarte Großbritannien: 1:50,000 (Sheet 116), 20.11.1940 – BLML 1305(13)

Gravesend Sub-Area War Diary, 1941 – TNA: PRO WO 166/1286

'Kent Area Operational Instructions No 3' (from Kent Area HQ War Diary, 1941 – TNA: PRO WO 166/1216

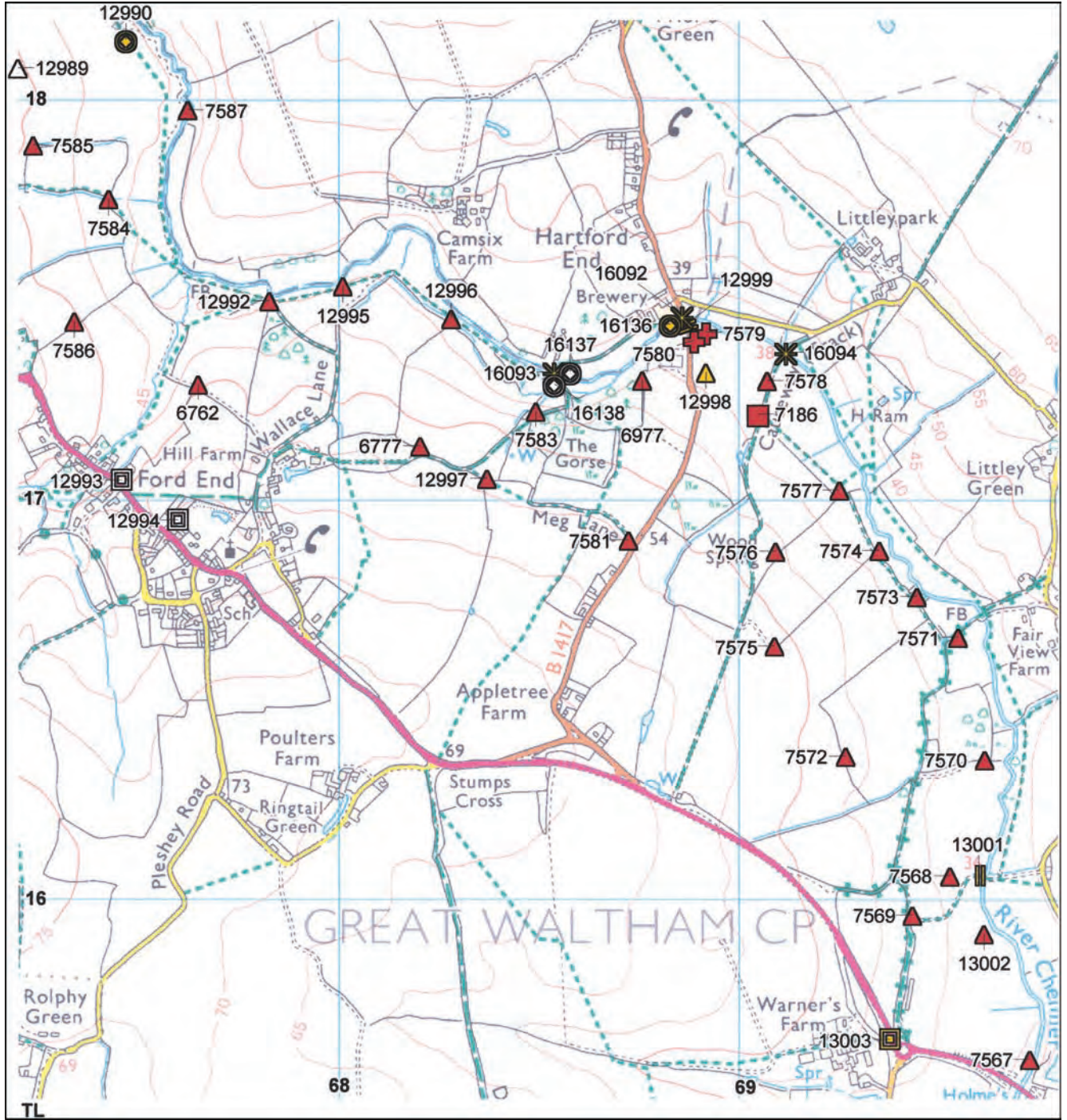
Deangate Ridge, Hoo: Defence components

Database site reference	NGR	Defence work type	Survival status
2668	TQ 7752873558	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
2669	TQ 7782673450	PILLBOX (TYPE 24)	E
2671	TQ 76816973106	ANTI TANK GUN EMPLACEMENT (TYPE 28)	E
2672	TQ 7823473049	PILLBOX (TYPE 24)	E
2673	TQ 7891272797	PILLBOX (TYPE 24)	E
2674	TQ 7904672705	PILLBOX (TYPE 24)	E
2701	TQ 7794973292	PILLBOX (TYPE 24)	E
2703	TQ 79037274	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	R
2706	TQ 7765573352	PILLBOX (TYPE 24)	R
2707	TQ 7891172837	ANTI TANK HORIZONTAL RAIL	E
11854	TQ 78657276	PILLBOX (TYPE 24)	U
11932	TQ 76557425	ANTI TANK GUN EMPLACEMENT (TYPE 28)	E
11942	TQ 76707428	ANTI TANK GUN EMPLACEMENT (TYPE 28)	E
11947	TQ 77157460	PILLBOX (TYPE 24)	E
11950	TQ 76777454	PILLBOX (TYPE 24)	E
11954	TQ 77307428	PILLBOX (TYPE 24)	E
11956	TQ 77047432	PILLBOX (TYPE 24)	E
11957	TQ 77027458	PILLBOX (TYPE 24)	E
12566	TQ 76357456	PILLBOX (TYPE 24)	E
12567	TQ 76407450	PILLBOX (TYPE 24)	E
12584	TQ 77407395	PIMPLE	U
12586	TQ 77447330	PILLBOX (TYPE 24)	E
12587	TQ 7804173188	ANTI TANK GUN EMPLACEMENT (TYPE 28)	E
16793	TQ 7885872652	PILLBOX	U
16800	TQ 79077280	ROADBLOCK	R
16802	TQ 77977347	ROADBLOCK	R
16803	TQ 77477314	PILLBOX	U
16804	TQ 77407371	PILLBOX	R
16805	TQ 77437388	PILLBOX	R
16806	TQ 77457373	ROADBLOCK	R
16807	TQ 77377385	ROADBLOCK	R
16808	TQ 76487435	PILLBOX	U

Deangate Ridge, Hoo: Continued

Database site reference	NGR	Defence work type	Survival status
16874	TQ 79007280 – TQ 78307304 – TQ 77907348 – TQ 77427378 – TQ 77337429 – TQ 77167454	ANTI TANK DITCH	I
16875	TQ 76747453 – TQ 76697436 – TQ 76557439	ANTI TANK DITCH	I

E = Extant; R = Removed; I = Infilled; U = Unknown.



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 Scale 1:15,000

Hartford End

Stop Line and Defended Locality Defence

Location Details

6 miles (9.5km) SE of Great Dunmow and 8 miles (13km) N of Chelmsford

County: Essex

Parish: Great Waltham

National Grid Reference (Hartford End Bridge): TL 688174

Landscape

The defence area lies in the shallow valley of the River Chelmer, approximately mid-way between Great Dunmow and Chelmsford, overlooked by higher land to the west. The river flows through a landscape of broad arable fields interspersed with woodland, in particular on the river margins. East of the village of Ford End is Hartford End, a small settlement at a crossing of the river by the B1417 road, dominated today, as it was in 1940, by the buildings of a brewery. A water mill, now a private home, stands a little to the west. Beyond Hartford End, the Chelmer turns south where it is crossed by the A130 road at a point one and a half miles (*c* 2km) south-east of Ford End. This provides a southern boundary to the area.

The evidence of air photographs shows that although there has been some limited opening up of fields by the removal of hedgerows, nonetheless the basic pattern of field and woodland has changed little in the course of the past 65 years. There has been little other development to the landscape of 1940, although some widening and straightening of the A130 road that runs across the southern base of the area has taken place.

Defences

In the period June to August 1940, a General Headquarters Line (GHQ Line) was constructed as a continuous fortified anti-tank barrier from the North Somerset coast, running south of London to the North Kent coast, where it crossed the Thames to cut through Essex and Cambridgeshire, and then on a course parallel with the east coast as far as Richmond in Yorkshire. The aim was the protection of London and the industrial cities of the Midlands from ground attack had the German army made a lodgement on the south or east coasts.

The GHQ Line was defended by infantry pillboxes and anti-tank gun emplacements, the perimeter defences of which were often wired, and sometimes mined. It linked with a related system of defence in depth that incorporated nodal points and other defended places. A demolition belt also followed the line, with road and rail bridges being blocked and prepared for destruction in the event of an invasion.



FIGURE 224 Recent air photograph looking west showing the River Chelmer at the centre right of the view. Pillbox [12995] can be seen close to the river bank and a further pillbox [12992] is hidden by trees at the right-hand corner of the triangular block of woodland beyond. Other pillboxes are positioned by hedgerows amongst the fields in the mid-distance. The village of Ford End is just off the left edge of the photograph.

(NMR: 23385/19/14. © ENGLISH HERITAGE. NMR)

The study defence area forms one sector of the GHQ Line as it passed through Essex. Hartford End itself was a Category 'C' defended place, with a minimum garrison of two battle platoons provided by the 11th Bn Essex Home Guard. It was set around a bridge over the River Chelmer, the bridge being mined for demolition and a Canadian pipe mine,



FIGURE 225 Recent air photograph looking north-west. The River Chelmer flows across the foreground of the photograph and pillboxes can be seen amongst the fields on its western bank. Towards the upper right of the view is the small settlement of Hartford End, and at the upper left is Ford End.

(NMR: 23492/14. © ENGLISH HERITAGE. NMR)

designed to cause an anti-tank crater when blown, placed alongside. It was also defended by an anti-tank gun emplacement, pillboxes, and two spigot mortar positions.

An important source is an air photograph taken by the Luftwaffe on 31 August 1940. Almost all the defence sites shown on this photograph survive: the sites of several, hidden by dense vegetation, were located during fieldwork.

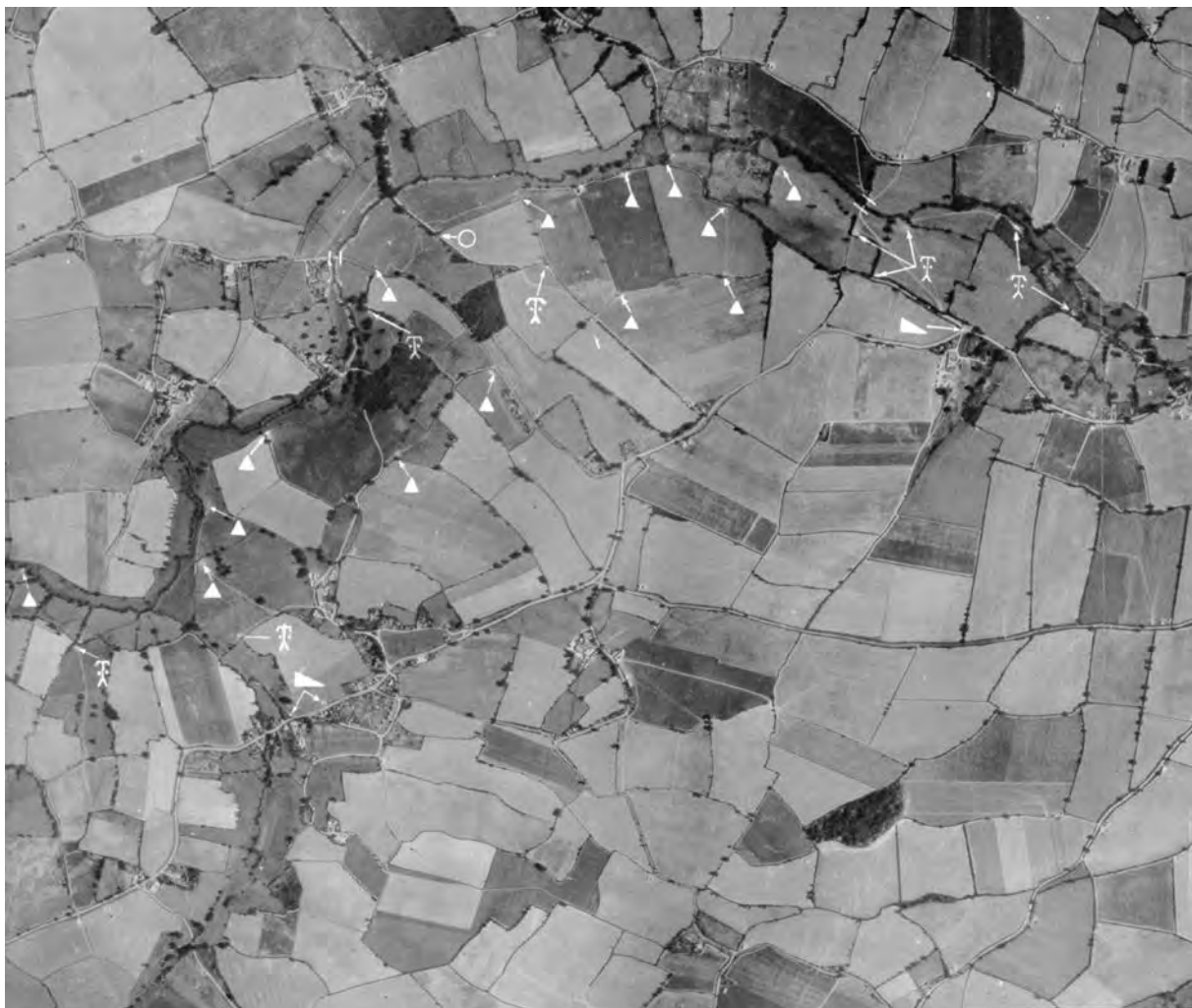


FIGURE 226 German air reconnaissance photograph (looking north-east) taken probably in August 1940, showing pillboxes and other defence works identified by Luftwaffe interpreters along the banks of the Chelmer as well as amongst the hedgerows and tracks south of the river. Ford End is towards the bottom left while Hartford End stands above it at the point where the river bends towards the south-east.

(REPRODUCED BY COURTESY OF THE IMPERIAL WAR MUSEUM, LONDON. DUXFORD: AL 2902)

The area provides excellent examples of the different types of thin-walled and shell-proof hexagonal infantry pillboxes (Types 22 and 24), some with anti-aircraft gun mounts, as well as the variant form of square, shell-proof pillbox with detached blast wall that is particular to Eastern Command. In addition, an anti-tank gun emplacement of the two-chambered Type 28A stands at Hartford End [7186]. All these defence works are concrete faced. They were built using wooden shuttering on the exterior, although for the interior, corrugated-iron shuttering, as well as other forms of metal sheeting, were used, some of which is still *in situ*.

Good examples of the Type 24 pillboxes that can be inspected at close quarters are [7570], [12995], and [13002], of the Type 22 [6777], [7569], and [12997], and of the Eastern

FIGURE 227 Eastern Command-type of heavy infantry pillbox with detached blast wall [7571] in Cut Throat Lane.
(PHOTO: THE AUTHOR, 16 MAY 2002)



FIGURE 228 Corrugated-iron sheeting used as shuttering for the interior of Type 28A anti-tank gun emplacement [7186] at Hartford End.
(PHOTO: THE AUTHOR, 16 MAY 2002)



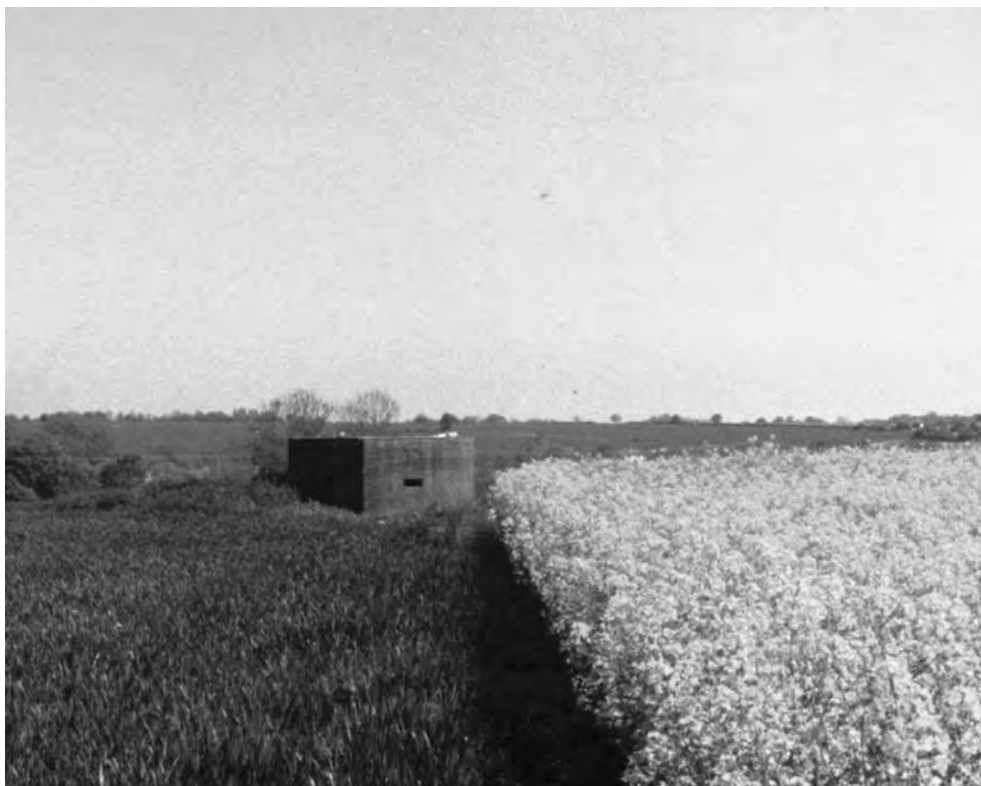


FIGURE 229 Type 22 pillbox [7575] standing amongst fields south of Hartford End. It originally stood at a junction of hedgerows. (PHOTO: THE AUTHOR, 16 MAY 2002)

Command square type [7571], [7573], [7574]. Spigot mortar pedestals can be seen at Hartford End [7579 and 7580].

Significance

The defence area provides an excellent illustration of a sector of the GHQ Line within Eastern Command in Essex. The defensive strategy of the front-edge anti-tank obstacle of the River Chelmer, with shell-proof pillboxes on its west bank and smaller, thin-walled pillboxes on the valley slopes behind, is clear. The heavier Type 24 pillboxes were dug in close to the river, while the lighter Type 22s were positioned alongside hedgerows to the rear, the sloping ground in between being covered by an interlocking pattern of fire. Several of the pillboxes also had mountings for anti-aircraft fire.

Many of the pillboxes can be found today deeply embedded in the hedgerows [for example, 7572, 7585, 7586, and 12992], while others (once camouflaged) stand beside trackways and paths. Where hedgerows have been thinned or removed, some pillboxes stand isolated in the landscape [for example, 7575 and 13002]. The preservation of the remaining field divisions is important for the continuing integrity of the defence area. The majority of the pillboxes are in good condition with interior access possible so that their exact form and method of construction can be closely examined.

At Hartford End, the positions of the defence works clearly relate to the defence of the road crossing of the Chelmer, with a pillbox and an anti-tank gun emplacement commanding the bridge from higher land to the south-east and with spigot mortar

emplacements placed on the river margins closer to the bridge in order to fire along the approach road from the north.

A pillbox south of Hartford End is one of only two hardened weapon emplacements that are known to have been removed since the war. The landscape otherwise is still fully populated with the concrete works that were built in 1940/41; other categories of defence works, such as earthworks, barbed wire entanglements, and fougasses will have long since been removed. The excellent Luftwaffe air photograph provides a vivid representation of the defended landscape, and confirms the numbers of defence works built. In only one instance is a pillbox known that was omitted from this German intelligence [7586]. Beyond the northern boundary of the study area, the survival of the defence works suddenly ceases, and, for reasons unknown, much more attention must have been given here to their post-war removal.

Access

The defence area is crossed by a network of public rights of way that allow most of the defence works to be visited. Footpaths run close to the river bank, both to the west and east of Hartford End, and many pillboxes lie directly on their line. Other pillboxes need to be viewed at a distance as they stand at the margins of cultivated fields. A convenient place for parking is a lay-by on the B1417 road south of Hartford End adjacent to pillbox [7581].

Documentary Sources

'Taktisches Luftbildbuch', 23.10.40 – IWM Duxford: AL 2902

'Operation Instruction No 15', 24.7.1942 (from Essex Sub-Area War Diary) – TNA: PRO WO 166/6738

XI Corps 'G' HQ War Diary, 1940–41 – TNA: PRO WO 166/329

'Essex and Suffolk Area Defence Scheme' (with map), 1942 (from Essex and Suffolk Area War Diary) – TNA: PRO WO 166/6700

'Operation Instruction No 12', 5.4.1944 (from Essex and Suffolk District War Diary) – TNA: PRO WO 166/14392

Hartford End: Defence components

Database site reference	NGR	Defence work type	Survival status
6762	TL 67651729	PILLBOX (TYPE 22)	E
6777	TL 6820517136	PILLBOX (TYPE 22)	E
6977	TL 68761730	PILLBOX (VARIANT)	E
7186	TL 6905017215	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
7567	TL 6973015600	PILLBOX (TYPE 24)	E
7568	TL 69531606	PILLBOX (TYPE 24)	E
7569	TL 6943515950	PILLBOX (TYPE 22)	E
7570	TL 6961716351	PILLBOX (TYPE 24)	E
7571	TL 6953216659	PILLBOX (VARIANT)	E
7572	TL 6926916359	PILLBOX (TYPE 22)	E
7573	TL 6943816758	PILLBOX (VARIANT)	E
7574	TL 6934516875	PILLBOX (VARIANT)	E
7575	TL 6909116635	PILLBOX (TYPE 22)	E
7576	TL 6909416872	PILLBOX (TYPE 22)	E
7577	TL 6925417026	PILLBOX (VARIANT)	E
7578	TL 69091730	PILLBOX (VARIANT)	E
7579	TL 68921742	SPIGOT MORTAR EMPLACEMENT	E
7580	TL 68891740	SPIGOT MORTAR EMPLACEMENT	E
7581	TL 6872616900	PILLBOX (TYPE 22)	E
7583	TL 6849417223	PILLBOX (VARIANT)	E
7584	TL 6742717753	PILLBOX (TYPE 24)	E
7585	TL 6723817887	PILLBOX (TYPE 22)	E
7586	TL 6734117447	PILLBOX (TYPE 22)	E
7587	TL 6762617976	PILLBOX (TYPE 24)	E
12984	TL 67181878	MACHINE GUN POST	R
12989	TL 67201808	PILLBOX	U
12990	TL 67471815	DEFENCE SITE	R
12992	TL 6782817498	PILLBOX (TYPE 24)	E
12993	TL 67461705	ANTI TANK GUN POSITION	U
12994	TL 67601695	ANTI TANK GUN POSITION	U
12995	TL 68011752	PILLBOX (TYPE 24)	E
12996	TL 6828317454	PILLBOX (VARIANT)	E
12997	TL 6836417046	PILLBOX (TYPE 22)	E
12998	TL 68921732	PILLBOX	R
12999	TL 68871745	ROADBLOCK	R
13001	TL 6961216067	ROADBLOCK	R
13002	TL 6961515915	PILLBOX (TYPE 24)	E
13003	TL 69381565	ANTI TANK GUN POSITION	R
16092	TL 68861746	MINED BRIDGE	R
16093	TL 68541732	MINED BRIDGE	R

Hartford End: Continued

Database site reference	NGR	Defence work type	Survival status
16094	TL 69121737	MINED BRIDGE	R
16136	TL 68831744	DEFENCE WORK	R
16137	TL 68581732	DEFENCE WORK	R
16138	TL 68541729	DEFENCE WORK	U

E = Extant; R = Removed; I = Infilled; U = Unknown.

Audley End

Stop Line Defence

Location Details

1 mile (1.5km) W of Saffron Walden and 12 miles (19km) S of Cambridge

County: Essex

Parishes: Saffron Walden; Littlebury

National Grid Reference (Adam Bridge): TL 521380

Landscape

The defence area lies in the valley of the River Cam (also known as the Granta), south of Cambridge. It consists entirely of the estate of Audley End House, a Jacobean-period house built in the early 17th century for the first Earl of Suffolk which is now in the care of English Heritage. The estate surrounding the main house and its ancillary buildings stretches away on either side of the broad-bottomed river valley. Arable land and pasture to the north and west are farmed by the estate, and to the south is an area of woodland through which a miniature railway runs, an additional attraction for visitors to the house. The River Cam flows through the estate, crossed by a minor road from Saffron Walden at Adam Bridge. Other bridges within the formal grounds also cross the river. The main B1383 road, which was the original London to Cambridge road before the building of the M11 motorway, passes to the west of the house.

There was rather more tree cover in the grounds around Audley End House during the war than today. For example, pillbox [381] was positioned at the edge of a small patch of woodland near Adam Bridge that helped camouflage it, while south of Adam Bridge, the northern extent of Gamage's Wood, through which the miniature railway now threads its way, was not planted until after the war. Air photographs show this area to have been previously open grassland. Other changes lie in the nature of the post-war preservation of the house for the nation, and the opening of the house and its grounds to the public. These, however, have had little physical impact, apart from the building of the miniature railway. English Heritage's care of the property will preserve this landscape from any radical alteration in the foreseeable future.

Defences

In North Essex, the GHQ Line (see Hartford End defence area) followed a course from the River Chelmer to the River Cam, then via Debden, Newport, Wendens Ambo, and Littlebury to Great Chesterford. Between Wendens Ambo and Littlebury it passed through

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FIGURE 230 Air photograph showing Audley End House and Estate taken in July 1946. Adam Bridge, with concrete blocks still in position at each end, can be seen at the left centre of the photograph. Pillbox [381] to the north of the bridge is hidden by trees in an area that is now clipped lawn.

(RAF/106G/UK/1635 fr2146. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)

FIGURE 231 Eastern Command-type infantry pillbox [381] with Audley End House in the background c 1996. (NMR; DEFENCE OF BRITAIN ARCHIVE)



the Audley End estate, just west of Saffron Walden. All these places were ‘defended places’, also termed nodal points. On either side of Audley End, Wendens Ambo and Littlebury were Category ‘C’ nodal points. In June 1941 Saffron Walden is recorded as a Category ‘B’ nodal point with particular responsibility for guarding the mined crossings of the River Cam within a defended locality at Audley End. A patrol from the 12th Bn Essex Home Guard was detailed from Saffron Walden for this purpose. From May 1942 to August 1944, Audley End House and grounds formed a secret training station (Station 43) for Polish soldiers serving with Special Operations Executive, although it does not appear additional defences were erected at this time to protect it. A memorial to the Polish troops stands in the Audley End grounds.

The particular feature of the defence works in the Audley End estate is the series of mined bridges on the course of the River Cam, which itself served as the principal anti-tank

FIGURE 232 Stable Bridge in the grounds of Audley End House with concrete blocks on its western approach [16132]. The roadblock here was created by steel cables stretched between the blocks. (PHOTO: THE AUTHOR, 26 JULY 2002)





FIGURE 233 One of several loopholes cut through the northern kitchen garden wall [16130], probably as firing positions for the 12th Bn Essex Home Guard. (PHOTO: THE AUTHOR, 26 JULY 2002)

obstacle for the GHQ Line against an expected enemy attack from the east, being deepened and widened in places. Each of the bridges was prepared for demolition, with the drilling out of detonation chambers that were packed with explosives. The bridges were also protected by roadblocks, with concrete blocks constructed at one, or both, ends. Between these, steel hawsers were stretched to create the block – a relatively rare method of obstruction. The bridges were further defended by pillboxes.

The largest of the bridges, carrying the road from Saffron Walden, was Adam Bridge where roadblocks were positioned at both ends. The detonation chambers survive beneath

FIGURE 234 Shell-proof Type 24 pillbox [391], one of a pair of these pillboxes at a strongpoint by the River Cam north of Audley End. (PHOTO: THE AUTHOR, 7 JUNE 2002)



manhole covers. The most obvious today of the surviving pillboxes within the estate [381] – a square Eastern Command type with detached, loopholed blast wall – guarded this bridge. The concrete blocks at three further bridges to the north are still present [16132, 16164, and 383], as well as a sunken detonation chamber for firing the demolition charges of all three [16947]. Cut into the northern brick wall of the kitchen gardens are several loopholes [16130], probably made by the Home Guard detachment responsible for defending the Audley End grounds.

To the south of Adam Bridge was a further mined bridge, with surviving demolition chambers, which is now crossed by the miniature railway. Blocks and a pillbox are positioned at its southern end [16023 and 16024]. Further south, to the east of the railway line and now hidden amongst trees, is another pillbox of the Eastern Command type [16022]. Two further pillboxes (Type 24s) stand close to the B1383 road in this southern part of the study area [382 and 16135].

To the north, a further group of defence works defended a small bridge over the river. A pair of Type 24 pillboxes [390 and 391] is set at the western end of the bridge, and at its eastern end are two concrete blocks that have fallen from their original positions [392].

The defence works in the Audley End area were constructed by the civilian company, Coulson and Son.

Significance

An important sector of the GHQ Line has been preserved at Audley End in a landscape largely unchanged from that of 65 years ago. Of major interest is the series of mined bridges, with concrete blocks still in place and, in some cases, detonation chambers. The course of the GHQ Line, with its front-edge anti-tank obstacle of the River Cam, bisects

the Audley End estate, with its bridges and roadblocks, protected by pillboxes, linked in a clearly defined pattern of defence. The northern perimeter of the defended locality established by the Home Guard for the better protection of the mined bridges within the Audley End grounds is graphically represented today by the series of loopholes in the north wall of the kitchen gardens.

Almost all the defence works were built on the west side of the river against an anticipated attack from the east. Low hills rise on the west side of the Cam valley, on the slopes of which at least one pillbox [382] was sited. It can be assumed that a secondary line of defence positions was prepared here.

The survival of many of the defence structures is perhaps surprising as it might have been expected that most of them, in particular those near the house, would have been cleared away as eyesores in the immediate post-war period. During the war, and afterwards, Audley End House and grounds were in the care of the Ministry of Works, the government department that had the particular responsibility in the late 1940s for the removal of 'temporary defence works'. The survival of the Second World War defences here is therefore very fortunate.

There are few historic properties with public access that have such a good survival of anti-invasion defence works on their land. Here is a good opportunity for English Heritage to emphasise the Second World War period as part of the historic character of one of its properties.

Access

Many of the defence works can be seen within the formal grounds of Audley End, or from the miniature railway to the south. Others can be viewed from a public footpath that crosses Tea Bridge at Duck Street. There is no access, however, without prior permission, to the group of defence works to the north of Tea Bridge, or to the pillboxes lying within the estate to the south.

Published Sources

Alexander, C, 1999 *Ironside's Line*. Storrington: Historic Military Press

Jeffrey, K (ed), 1997 *Audley End*, guidebook. London: English Heritage

Valentine, I, 2004 *Station 43: Audley End House and SOE's Polish Section*. Stroud: Sutton Publishing

Documentary Sources

'List of Nodal Points in Eastern Command', September 1940 (from General Headquarters Papers, Home Forces) – TNA: PRO WO 199/544

'Hertford Area Defence Scheme', 1941 (from Hertford Area HQ War Diary) – TNA: PRO WO 166/1207

'Operation Instruction No 8', 3.6.1941 (from Essex Sub-Area War Diary) – TNA: PRO WO 166/1281

'Operation Instruction No 41', 6.8.1941 (from II Corps 'G' War Diary) – TNA: PRO WO 166/189

'Operation Instruction No 15', 24.7.1942 (from Essex Sub-Area War Diary) – TNA: PRO WO 166/6738

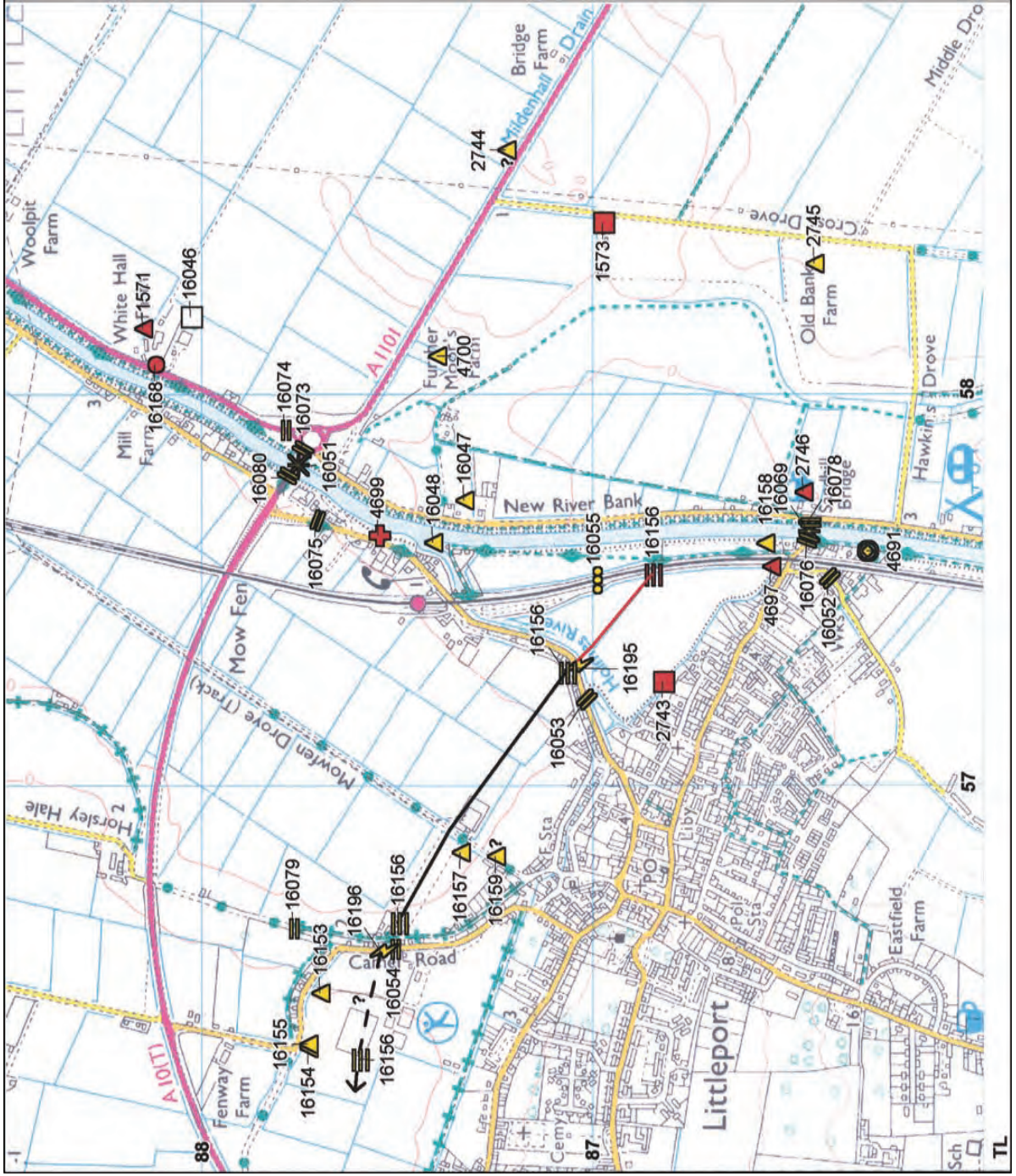
'Essex and Suffolk Area Defence Scheme' (with map), 1942 (from Essex and Suffolk Area War Diary) – TNA: PRO WO 166/6700

'Operation Instruction No 12', 5.4.1944 (from Essex and Suffolk District War Diary) – TNA: PRO WO 166/14392

Audley End: Defence components

Database site reference	NGR	Defence work type	Survival status
367	TL 52113689	PILLBOX (VARIANT)	E
378	TL 515372	PILLBOX (TYPE 22)	E
380	TL 52393770	MINED BRIDGE	E
381	TL 52163807	PILLBOX (VARIANT)	E
382	TL 5197738124	PILLBOX (TYPE 24)	E
383	TL 52243853	ANTI TANK BLOCK	E
390	TL 5212039022	PILLBOX (TYPE 24)	E
391	TL 5211039035	PILLBOX (TYPE 24)	E
392	TL 5212739046	ANTI TANK BLOCK	E
393	TL 517394	PILLBOX (VARIANT)	E
6983	TL 518394	PILLBOX (VARIANT)	E
16022	TL 52333745	PILLBOX (TYPE 24)	E
16023	TL 5239537680	PILLBOX (VARIANT)	E
16024	TL 52383768	ANTI TANK BLOCK	E
16095	TL 52143905	MINED BRIDGE	R
16096	TL 52253853	MINED BRIDGE	R
16097	TL 52273825	MINED BRIDGE	R
16098	TL 52183803	MINED BRIDGE	R
16130	TL 52153851 – TL 52213851	LOOPHOLED WALL	E
16131	TL 52243824	PILLBOX	R
16132	TL 52253825	ANTI TANK BLOCK	E
16133	TL 52163803	ROADBLOCK	R
16134	TL 52213802	ROADBLOCK	R
16135	TL 51993774	PILLBOX (TYPE 24)	E
16164	TL 52253832	ANTI TANK BLOCK	E
16947	TL 52283853	DETONATION CHAMBER	E

E = Extant; R = Removed; I = Infilled; U = Unknown.



Littleport

Stop Line Defence

Location Details

5 miles (8km) NNE of Ely

County: Cambridgeshire

Parish: Littleport

National Grid Reference (Littleport Bridge): TL 577877

Landscape

The defence area lies in the flat Fen country north of Ely. It consists of part of the town of Littleport, as well as the adjacent countryside to the north and east, which is rich farming land intersected by a coaxial pattern of drains. The canalised River Great Ouse flows past Littleport on its east side, and is joined by the River Lark beyond the defence area to the south. The focal points of the area are the two bridges across the Great Ouse: Littleport Bridge to the north and Sandhill Bridge to the south.

There has been some housing development to the immediate west of Sandhill Bridge, as well as at Hereford Farm south of Littleport Bridge, but the principal expansion of Littleport in recent years has taken place to the west of the town beyond the study area. The span of Littleport Bridge was replaced a few years ago, and a new by-pass road now loops from it around the town, taking the place of the old route of the A10 to Ely.

Defences

Littleport was a Priority 2 (Category B) nodal point (also termed a focal point) within the Ely Sub-Area of the military Cambridge Area. It stood just north of the heavily defended junction of the Eastern Command Line (see River Lark: Jude's Ferry Bridge defence area) with the GHQ Line in the Prickwillow/Queen Adelaide area. A short distance north of this junction, the GHQ Line then branched again, following a course around the north of Littleport before heading west, and then north once more (in this section it is known as the Thorney Line). An artificial ditch was dug to form the main anti-tank obstacle in the loop around Littleport, the ditch also forming part of the northern perimeter defence of the nodal point. The Command Line continued north following the Great Ouse to King's Lynn, which was a Priority 1 (Category A) nodal point.

The Littleport nodal point had a garrison in 1941 of 100 men from 2nd Bn Ely Home Guard, with ten spigot mortars, 200 anti-tank grenades, and 200 anti-tank mines. Ely, to the south, was also a Priority 2 nodal point, but had a larger garrison. It served a dual role with Littleport in the strategy of defence at this critical location. This study is only concerned with the nodal point defences of Littleport in their relation to the junction of the two stop lines. No attempt has been made to survey the nodal point as a whole.



FIGURE 235 Recent air photograph looking south along the River Great Ouse with the town of Littleport in the background. Littleport Bridge is in the foreground while Sandhill Bridge can just be made out in the distance. The anti-tank ditch carrying the GHQ Line around the north of the town ran across the view in the mid-distance. The defence works were concentrated along its line and around the two bridges.

(NMR: 23624/06. © ENGLISH HERITAGE. NMR)

Major defended localities at Littleport were the crossings of the Great Ouse at Sandhill Bridge and at Littleport Bridge. These bridges were mined for demolition, and blocks of vertical steel rails constructed. Explosive charges were also set in the road surfaces nearby ready to be blown to create anti-tank craters. Of the concentrations of defence works around the bridges, a few survive. At Sandhill Bridge, a Type 24 pillbox [2746] can be

found behind houses to the east of the bridge. Other pillboxes set in front of the defence line have been removed in recent years. To the west of the bridge, a heavy infantry pillbox of the Eastern Command type [4697] guarded the railway and the road into Littleport, with, further west, an anti-tank gun emplacement commanding the anti-tank ditch [2743]. Both these structures survive. North of Sandhill Bridge, the line of the anti-tank ditch can still be seen as a drain running across fields between the railway and Station Road.

The defences of Littleport Bridge are only represented today by a spigot mortar pedestal [4699] to its south dug into the western river embankment, and by an anti-tank gun emplacement [1573] half a mile (c 1km) to its east. To the north of the bridge, a surviving

FIGURE 236 Field drain on the line of the anti-tank ditch between the railway line and Station Road [16156].
(PHOTO: THE AUTHOR, 28 JULY 2002)





FIGURE 237 Brick-shuttered Eastern Command-type pillbox [4697] behind a house in Victoria Street, Littleport. The bricks facing the blast wall have been removed and may be those piled against it. (PHOTO: THE AUTHOR, 19 JUNE 2002)



FIGURE 238 Type 28A anti-tank gun emplacement [2743] dug into a drainage bank at the north edge of Littleport. The emplacement commanded the anti-tank ditch running in front of it and the roadblock on Station Road. (PHOTO: THE AUTHOR, 19 JUNE 2002)

FIGURE 239 Type 28A anti-tank gun emplacement [1573] in a dilapidated condition in a yard off Cross Drove, east of Littleport. It controlled the north-eastern approaches to the town at the junction of two stop lines.
(PHOTO: THE AUTHOR, 19 JUNE 2002)



pillbox at White Hall Farm [1571] marks the continuation of the Command Line towards King's Lynn. Remnants of anti-tank blocks [16168] on the edge of the road outside the farm may have come from a roadblock here.

Significance

The defence area was of strategic importance at the junction of two major stop lines, at a point where the north-eastern defences of Littleport nodal point commanded the two lines, its own all-round defences forming part of the overall defence scheme. The flat, open nature of the landscape might superficially appear to have favoured the attacker approaching from the east, but its widespread division by banks, dykes, and drains would have greatly assisted the defender. Although there have been several changes in detail to the landscape, essentially the layout of the town in relation to its surrounding countryside has changed little in the last 65 years. Consequently, differing types of defence works survive in a landscape that is part urban and part rural, as it was in 1940.

Good documentary evidence and air photographs have enabled the positions of many pillboxes and roadblocks, as well as the line of the anti-tank ditch, to be plotted. It has, therefore, been possible to make a full interpretation of the defence strategy, which is supported by the evidence of the surviving structures. The positions of these structures are instructive, not only in terms of the landscape features that determined their siting, but also in consideration of the reasons for their survival given the programmes of clearance of defence works after the war.

Anti-tank gun emplacement [2743] was positioned high on the bank of a drain at the edge of fields bisected by the anti-tank ditch that it commanded. This section of anti-tank ditch has been converted into a drainage ditch that still divides the field, and the

emplacement also survives owing to its out of the way position on the boundary between fields and houses. Further to the east, a pillbox can be found in a confined position between field bank, railway embankment, and backs of houses [4697] from where it once overlooked the roadblock at Sandhill Bridge. East of the River Ouse, the land has been opened up recently into larger fields, leading to the loss of at least two pillboxes. One pillbox survives, however, at the boundary of a field and a house garden where it is used as a shed [2746]. An anti-tank gun emplacement [1573] which was sited to fire at Littleport Bridge is still positioned in the farmyard where it was built, although the buildings of the farm itself have been demolished. Other defence works survive amongst the buildings of White Hall Farm to the north. Many of these structures are in a poor and vulnerable condition, and their future preservation as part of the surviving legacy of the Second World War defence of the Cambridgeshire Fenlands is vital.

Access

Many of the surviving defence works can be seen from roads both within and outside the town. The embankment of the Great Ouse can be followed between Sandhill and Littleport Bridges, and there are information boards here on the history of the town and the Fenlands. A footpath runs close to pillbox [2746], and it is possible to walk around a dyke to inspect anti-tank gun emplacement [2743]. Parking is best made within the town.

Published Source

Alexander, C, 1999 *Ironside's Line*. Storrington: Historic Military Press

Documentary Sources

- 'II Corps Defence Scheme', 1940 (from II Corps CRE War Diary) – TNA: PRO WO 166/194
- 'List of Nodal Points in Eastern Command', September 1940 (from General Headquarters Papers, Home Forces) – TNA: PRO WO 199/544
- 'Progress Report Littleport Focal Point', 13.9.1940 (from 240th Army Field Company Royal Engineers War Diary) – TNA: PRO WO 166/3709
- 'Progress Report Command Line', 22.9.1940 (from 240th Army Field Company Royal Engineers War Diary) – TNA: PRO WO 166/3709
- 'Operation Instruction No 41', 6.8.1941 (from II Corps 'G' War Diary) – TNA: PRO WO 166/189
- 'Operation Instruction No 12', 18 December 1941 (from Cambridge Area War Diary) – TNA: PRO WO 166/1193
- 'Cambridge Sub-Area Defence Scheme', 1942 (from Cambridge Sub-Area War Diary) – TNA: PRO WO 166/6728
- 'Operation Instruction No 19', 14.1.1942 (from Cambridge Area War Diary) – TNA: PRO WO 166/6693
- Norfolk and Cambridge District HQ War Diary, 1943 – TNA: PRO WO 166/10881

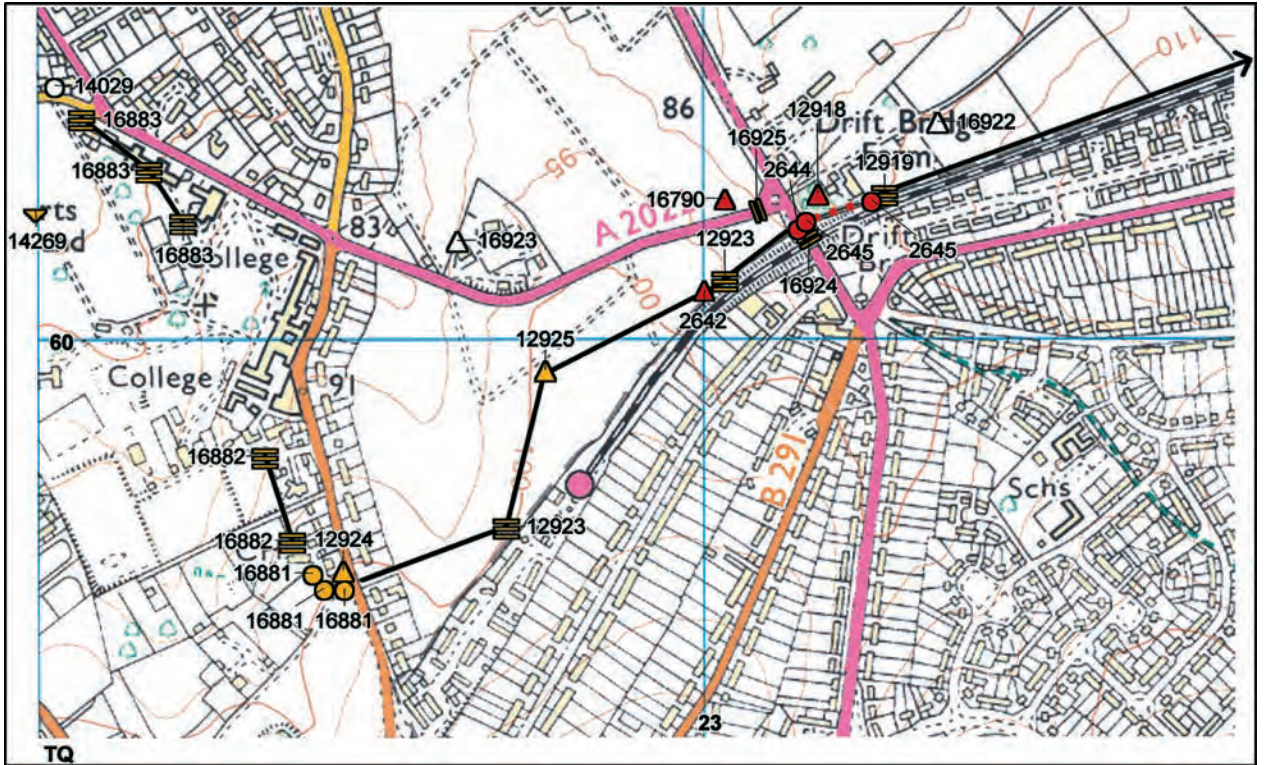
Littleport: Defence components

Database site reference	NGR	Defence work type	Survival status
1571	TL 5817188151	PILLBOX (TYPE 24)	E
1573	TL 5844086975	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
2743	TL 5726586822	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
2744	TL 58628724	PILLBOX (TYPE 24)	R
2745	TL 5833586435	PILLBOX (TYPE 24)	R
2746	TL 5775086463	PILLBOX (TYPE 24)	E
4691	TL 576863	DEFENCE WORK	R
4697	TL 5756086545	PILLBOX (VARIANT)	E
4699	TL 57648755	SPIGOT MORTAR EMPLACEMENT	E
4700	TL 581874	PILLBOX	R
16046	TL 58208803	ANTI TANK GUN EMPLACEMENT (TYPE 28)	U
16047	TL 57738733	PILLBOX	R
16048	TL 57638741	PILLBOX (TYPE 24)	R
16051	TL 57768776	MINED BRIDGE	R
16052	TL 57548640	ROADBLOCK	R
16053	TL 57228702	ROADBLOCK	R
16054	TL 56588751	ROADBLOCK	R
16055	TL 57508700	RAILBLOCK	R
16069	TL 57658645	MINED BRIDGE	R
16073	TL 57858773	ROADBLOCK	R
16074	TL 57908779	ROADBLOCK	R
16075	TL 57688771	ROADBLOCK	R
16076	TL 57608647	ROADBLOCK	R
16078	TL 57658644	ROADBLOCK	R
16079	TL 56658777	ROADBLOCK	R
16080	TL 57798777	ROADBLOCK	R
16153	TL 56478770	PILLBOX	R
16154	TL 56338773	PILLBOX	R
16155	TL 56348773	PILLBOX	R
16156	TL 57548685 – TL 57328704 – TL 57298707 – TL 56658750 – TL 56308760	ANTI TANK DITCH	I

Littleport: Continued

Database site reference	NGR	Defence work type	Survival status
16157	TL 56838734	PILLBOX	R
16158	TL 57628656	PILLBOX	R
16159	TL 56828725	PILLBOX	R
16168	TL 58088812	ANTI TANK BLOCK	E
16195	TL 57308704	DEPTH CHARGE CRATER	R
16196	TL 56578754	DEPTH CHARGE CRATER	R

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Drift Bridge

Stop Line Defence

Location Details

1½ miles (2.5km) E of Epsom

County: Surrey

Parish: Epsom

National Grid Reference (railway bridge): TQ 231601

Landscape

Amongst the outer suburbs of London, to the east of Epsom, a railway line to central London, starting at Epsom Downs station, runs on a high embankment and crosses the A240 road by a bridge known as Drift Bridge, a name which has become attached to the surrounding locality. The area is also an important road junction, with the A2022 from Banstead to Epsom making a staggered crossing of the A240.

The heavily built-up area at Drift Bridge itself gives way to fields and market gardens to the north and west, open spaces that soon end in the suburbs of Epsom and Ewell. Epsom College lies at the western edge of the defence area, and to the south-west are the rising chalklands of Epsom Downs.

Although the area of Drift Bridge has become increasingly absorbed into the outer suburbs of London since the war, the basic pre-war structure of roads and housing has changed little. The farms, nurseries, and market gardens beside the A2022 and A240 roads have survived remarkably into the 21st century.

Defences

Drift Bridge was a defended locality on the Outer London Anti-Tank Line, otherwise known as Line 'A' (see also Cheshunt defence area). This important crossing point of the line by both road and railway was defended by pillboxes, roadblocks, an anti-tank ditch, and lines of anti-tank cubes against an expected attack from the south. It was also proposed to lay minefields north of the railway line, both west and east of Drift Bridge, but no record has been located that confirms the mines were ever put in place.

This sector of the Outer London Anti-Tank Line lay within the South West Sub-Area of London District, and its defences were to be held in the first instance by Home Guard units, which, in the event of an enemy advance, would be relieved by regular troops with anti-tank weapons from the Central London Reserve.

The railway embankment, although high, was not considered by itself a sufficient anti-tank obstacle, and an anti-tank ditch was dug on its north side [12923], which to the west of Drift Bridge followed a zig-zag course with the individual lengths covered by pillboxes. At the western edge of the study area, the anti-tank line bent sharply to the north passing



FIGURE 240 Looking north towards Drift Bridge, the direction of the expected enemy advance against the Outer London Anti-Tank Line. Although the defence line here is followed by a high railway embankment, the position was further strengthened by an anti-tank ditch dug parallel with the embankment on its far side. A roadblock stood close to the bridge.

(PHOTO: THE AUTHOR, 5 DECEMBER 2003)

through the grounds of Epsom College. East of Drift Bridge, the front-edge anti-tank obstacle was a line of anti-tank blocks running for 100m through woodland [2645], with the anti-tank ditch continuing beyond this.

The surviving pillboxes are mainly Type 27s; octagonal in shape and with a central well for anti-aircraft fire, these were built extensively on the Outer London Anti-Tank Line. The two examples in this defence area [2642 and 16790] are overgrown, but otherwise are in good condition. A Type 24 pillbox also survives amongst woodland [12918]. The anti-tank cubes to the east of Drift Bridge [2645], with others to the west of the road [2644], are a rare survival in an urban context.

Significance

The Drift Bridge defence area represents an important section of the Outer London Anti-Tank Line where different components of defence survive in a predominantly urban landscape. Good documentary and air-photographic sources add substantially to the information gained from the surviving field evidence. This is one of the very few urban landscapes of London where anti-invasion defences can still be seen in a coherent and articulated pattern, informing on the defence strategy that determined their siting.

The modern landscape crossed by the anti-tank line – largely unaltered in the past 65 years – has by chance provided a suitable environment for the survival of the defence works. The line of anti-tank blocks [2645], and a pillbox [12918], survive in an area of largely derelict woodland, and a further pillbox [16790] is abandoned in a pasture field where it is entirely covered by vegetation. To the west of Drift Bridge, the anti-tank ditch crossed fields that are still used for grazing. Pillbox [2642] survives surrounded by debris beneath the railway embankment, but pillbox [12925], of a rare variant type, which stood at an angle of the ditch, has regrettably been removed recently.

FIGURE 241 Portion of an air photograph taken in January 1946 shows the line of the infilled anti-tank ditch running to the south-west from Drift Bridge (beyond the right edge of the photograph) to meet Longdown Lane South. The line turned sharply to the north on the west side of the road, the anti-tank obstacle in this section being a field of anti-tank pimples (dragon's teeth), all now removed. The line then passed through the grounds of Epsom College (top left). A pillbox of an unusual lozenge shape with a distinctive entry porch which stands at an angle of the anti-tank ditch has been removed in recent years. (3GTUDUK/12 FR5299. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)



FIGURE 242 A line of cubes [2645] continuing the anti-tank line through woods to the east of the A240 Reigate Road at Drift Bridge. (PHOTO: C URQUHART, c 1998. DEFENCE OF BRITAIN ARCHIVE: NMR)





FIGURE 243 The anti-tank ditch passed between houses as it reached Longdown Lane South, making use of a gap between the properties. There was almost certainly a roadblock here. (PHOTO: THE AUTHOR, 5 DECEMBER 2003)

There are no surviving defence works to the west of the defence area, but the anti-tank line clearly sought the additional protection of the railway embankment for as far as possible, before striking across the field to Longdown Lane South, where it was engineered precisely to pass through a vacant plot in a line of houses bordering the road; this open space survives today. The anti-tank ditch then turned sharply north towards Epsom, creating a considerable salient on rising land towards the direction of enemy advance.

Access

The anti-tank cubes and two overgrown pillboxes can be viewed from beside the road at Drift Bridge, but they stand on private land and there is no public access to them. The hollow of the infilled anti-tank ditch can be seen below the railway embankment in the field to the west of Drift Bridge. Parking is impossible by the main road, so use should be made of side roads or, for customers, the car park of the Drift Bridge Hotel.

Documentary Sources

3rd London Infantry Brigade War Diary, 1940 – TNA: PRO WO 166/897

‘Taktisches Luftbildbuch’, 23.10.40 – IWM Duxford: AL 2902

London District ‘G’ War Diary, 1940–41 – TNA: PRO WO 166/1159

London District Home Defence Scheme, December 1941 – TNA: PRO WO 199/3259

Chief Engineer, London District: Anti-Tank Defences, Map, July 1942 (from file ‘Cinderella’ – Home Forces General Headquarters Papers) – TNA: WO 199/1202

‘Intelligence Folder’, February 1943 (from London District CE War Diary) – TNA: PRO WO 166/6814

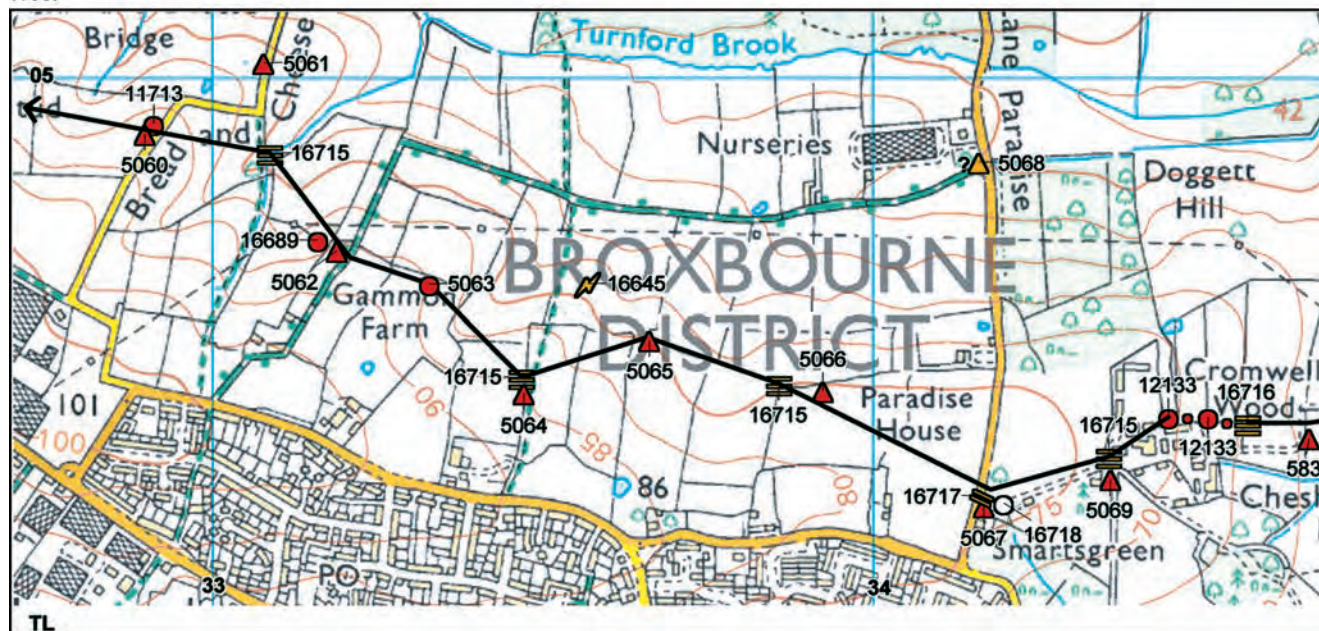
Map of London showing ‘General Line of A/Tk Defences, 1944 – TNA: PRO WO 205/41

Drift Bridge: Defence components

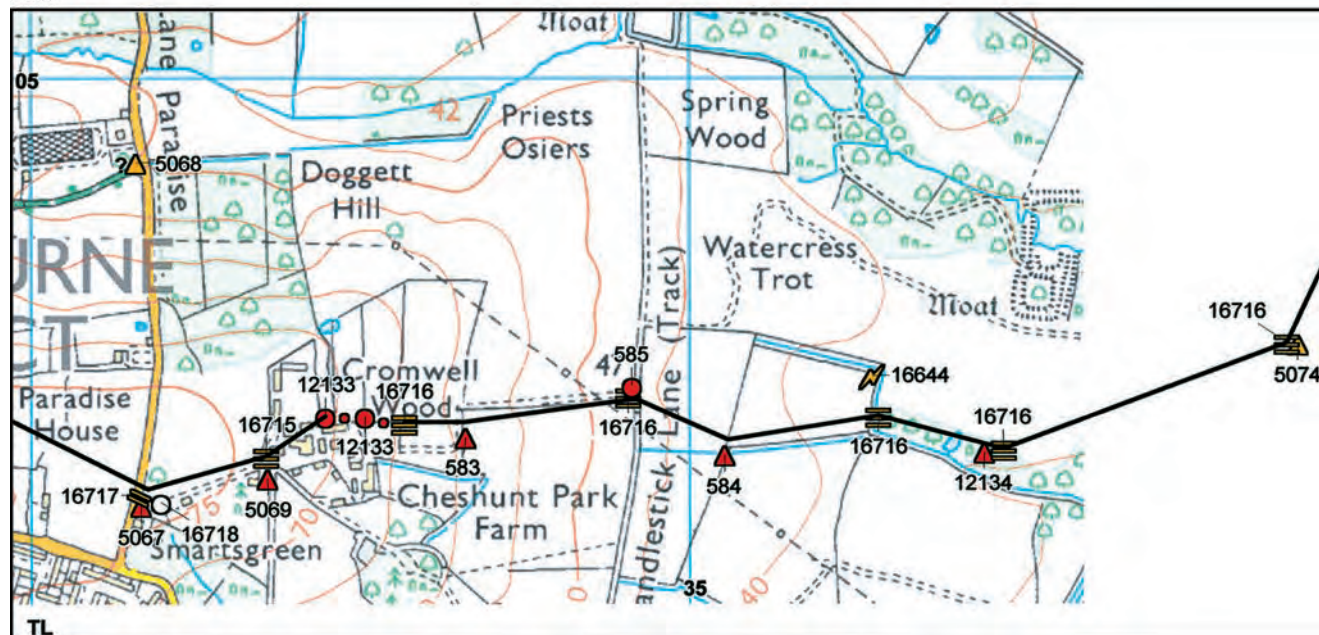
Database site reference	NGR	Defence work type	Survival status
2642	TQ 2301360069	PILLBOX (TYPE 27)	E
2644	TQ 2314060167	CUBE	E
2645	TQ 2315060175 – TQ 23256021	CUBE	E
12918	TQ 23176022	PILLBOX (TYPE 24)	E
12919	TQ 23266022 – TQ 23956047 – TQ 24036051	ANTI TANK DITCH	I
12923	TQ 22485962 – TQ 22705971 – TQ 22755993 – TQ 23026007 – TQ 23146016	ANTI TANK DITCH	I
12924	TQ 22455964	PILLBOX	R
12925	TQ 22765995	PILLBOX (VARIANT)	R
14029	TQ 22036039	ANTI TANK BLOCK	U
14269	TQ 220602	ANTI LANDING OBSTACLE	R
16790	TQ 2303160213	PILLBOX (TYPE 27)	E
16881	TQ 22465962 – TQ 22435962 – TQ 22415964	CUBE	R
16882	TQ 22385969 – TQ 22365974 – TQ 22355983	ANTI TANK DITCH	I
16883	TQ 22226018 – TQ 22176026 – TQ 22076034	ANTI TANK DITCH	I
16922	TQ 23356033	PILLBOX	U
16924	TQ 23166016	ROADBLOCK	R
16925	TQ 23086019	ROADBLOCK	R

E = Extant; R = Removed; I = Infilled; U = Unknown.

West



East



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Cheshunt

Stop Line Defence

Location Details

2 miles (3km) NW of Cheshunt and 17 miles (28km) N of the centre of London

County: Hertfordshire

Parish: Cheshunt

National Grid Reference (Cheshunt Park Farm): TL 344044

Landscape

The defence area lies to the west of the valley of the River Lea at a point just north of suburbs that are virtually continuous from here to the centre of London. It is characterised by a ridge running west to east that is fronted to the north by the Turnford Brook flowing towards the Lea valley.

Much of the area is farmland, mainly arable and grass fields, with woodland to the north and the suburbs of Hammond Street to the south. The area is bisected by the minor but busy road, Park Lane Paradise, and is also traversed by the narrow, sharp-cornered Bread and Cheese Lane, and by various footpaths and tracks. Several farms lie within the area, including the large Cheshunt Park Farm which itself borders Cheshunt Park.

The most significant change in the landscape of the defence area since the Second World War has been the housing development that has taken place at its southern edge. This, however, does not impinge upon the area crossed by the defence line where the pattern of field, wood, and farm, intersected by roads and footpaths, is little altered. Cheshunt Park has been developed in recent years as a golf course and public recreation area.

Defences

The defence area formed a section of the Outer London Anti-Tank Line that ran for some 121 miles (195km) around London, generally coinciding with the boundary of the London Area – an independent military area falling directly under GHQ Home Forces. The Outer London Line was also known as Line ‘A’, and by 1941 it had been developed as a continuous anti-tank obstacle, using rivers, canals, and machine-dug anti-tank ditches, with a series of roadblocks covered by pillboxes and fortified houses that themselves were surrounded by slit trenches and protected with perimeter wire. Section posts were also established along the line, which was defended in depth, with the principal anti-tank obstacle forming the forward edge of the main position, and minefields at points in front. Forward Defended Localities were set up at strategic locations on the line, and there were other defended localities at the principal roadblocks.

Some 4–5 miles (6.5–8km) closer to the centre of London was the Centre Line (Line ‘B’), also encircling the capital but formed principally by blocking main roads and all gaps for half a mile (c. 0.8km) either side, making a chain of defended localities covered by pillboxes and defended buildings. Finally, there was the Inner Line (Line ‘C’), running to the north of the Thames only and defended in much the same way as Line ‘B’, which protected the heart of the City and Whitehall, which were themselves defended as a last-stand keep.

The Home Guard, which in 1941 was organised into twenty zones within London, had the task of defending the three anti-tank lines and manning the roadblocks. As they had no anti-tank weapons in the critical invasion danger period of July–September 1940, regular units with anti-tank rifles were interspersed amongst them. In the Cheshunt area (part of North East London Sub-Area), these troops were from the 2nd Bn (KRRC) The Rangers. On their left, east of the River Lea, were the 2/8th Middlesex Regiment. These two regiments also manned a switch line along the River Lea. Many of the regular units available made up a London District Field Force whose task was to advance to defend any threatened point. Other regular units were formed into other mobile columns. In 1941, the 6th Det (Holding) Bn Scots Guards was allocated as a mobile column to the defence of the Cheshunt area.

The principal defence work within the study area is the octagonal Type 27 pillbox with its central well to mount an anti-aircraft machine gun. Seven examples survive in the area, which, although often badly overgrown, preserve the iron rungs and steel access doors to the central well, usually in good condition, and the detached, loopholed blast walls. This was the main type of pillbox built in this sector of the Outer London Line: a particularly good example is [5065].

Interspersed amongst the Type 27 pillboxes are also examples of the Type 22, including one unusual variant form on Bread and Cheese Lane where the pillbox is heightened to fire over the banks of the lane and the crest of the hill to the rear [5061]. Anti-tank cubes from



FIGURE 244 Type 22 pillbox [584] in Cheshunt Park with stepped embrasures and a low entry porch. It has been damaged recently by a fire lit against it, and the interior is full of rubbish. (PHOTO: THE AUTHOR, 22 AUGUST 2003)

FIGURE 245 Three anti-tank blocks [16689] supporting the defence line north of Gammon Farm. They are overlooked by a Type 22 pillbox [5062]. (PHOTO: THE AUTHOR, 15 JULY 2003)



roadblocks survive on Bread and Cheese Lane [11713] and at Candlestick Lane in Cheshunt Park [585], and an impressive line of cubes supplementing the machine-dug anti-tank ditch (filled in at the end of the war) can be seen north-west of Appleby Street Farm [5063], as well as a shorter line near Gammon Farm [16689].

The line ran through Cheshunt Park Farm, which appears to have been developed as a defended locality with several pillboxes and a further line of anti-tank cubes [12133] where there was a gap in the anti-tank ditch.¹

Significance

The defence area provides an excellent example of a section of the Outer London Anti-Tank Line where differing components of the defence survive well in a landscape largely unaltered from that of 1940. The run of pillboxes from west to east across the area appears complete, being a mixture of the Type 27 and the Type 22. The Type 27 examples, particularly if cleared of vegetation, are some of the best preserved in the country of this relatively rare pillbox, with its additional anti-aircraft role (see also Sudbury defence area). The Type 22 [5061] is an unusual example of a pillbox that has been heightened to provide a better field of fire. Excellent examples of anti-tank cubes used to supplement roadblocks and strengthen the anti-tank line itself also survive in the area.

Air photographs enable the line of the anti-tank ditch to be traced exactly, although there is now no trace on the ground. It was dug in a series of angled lengths across the pattern of small, enclosed fields, at points running parallel with hedgerows, but at others cutting diagonally across one or more fields. Changes of direction of the ditch were invariably made at hedgerows, where pillboxes were placed so that fire could enfilade the ditch in both directions. All pillboxes were positioned on the south side of the ditch against



FIGURE 2.46 Portion of an air photograph taken in March 1963 showing the defended locality at Cheshunt Park Farm. The farm buildings appear to have been incorporated into the front-edge defences and were linked by anti-tank cubes. To the west (left), the infilled line of the anti-tank ditch can be made out as a cropmark, passing Type 27 pillbox [5066]. The ditch's junction with Park Lane Paradise was protected by a further pillbox and anti-tank cubes.

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an expected attack from the north, except pillbox [5066], which was positioned just forward of it to take advantage of camouflage provided by a hedgerow, and the tall pillbox [5061], which was set on the forward slope of the hill to fire along Bread and Cheese Lane.

At points the anti-tank obstacle of the ditch was supplemented by concrete blocks. These were placed usually alongside road crossings of the ditch, or where the buildings of farms were incorporated in the defences, but also in general support of the ditch where it was considered an extra strength to the obstacle was required. Such a position is [5063], where a line of some fifteen blocks was positioned, although the particular weakness of this point is not clear from a study of the ground. The line ran in front of Cheshunt Park Farm, the buildings of which were incorporated in the defences, with lines of blocks filling gaps between buildings and the anti-tank ditch.

As important as the continuing survival of the concrete defence works is the future preservation of this enclosed landscape of field and wood. The fact that the defence works survive so well in relation to the landscape features that dictated their siting make the area of particular importance. Indeed, there is something particularly atmospheric about the

FIGURE 2.47 An exceptionally tall Type 22 pillbox [5061] was built by the side of Bread and Cheese Lane on the crest of a ridge in front of the Anti-Tank Line. Its height meant that fire could have been laid down in both directions along the lane. (PHOTO: THE AUTHOR, 22 AUGUST 2003)



landscape here, knowing that it was once divided by a deep ditch, was precisely measured and plotted, with ranges and arcs of fire set out, had section posts and slit trenches dug and surrounded by barbed wire, and shuttering set up and concrete poured, all for the ultimate purpose of the defence of the capital lying 15 miles (25km) to the rear. Only the bare bones of the pillboxes and the anti-tank cubes survive today, but these are enough to indicate the concentration of defence that was prepared here.

Access

The area is crossed by a number of footpaths and lanes providing public access to most of the defence works. Cheshunt Park has been developed as a golf course and public recreation area, and a walk can be made there to find the anti-tank line along its northern edge. The visitor is advised to use the car park at Cheshunt Park as parking at the roadside is very difficult. Bread and Cheese Lane should only be approached on foot as it is very narrow and used by farm traffic.

Notes

¹ Regrettably, permission to inspect the surviving structures on Cheshunt Park Farm was not obtained.

Published Sources

Anon, nd *Invasion Defences 1940* [parish of Cheshunt]. Copy in Wills Collection, NMR
Apps, J, *Fortress Hertfordshire*. Available: <http://www.brookmans.co/history/features/defences/index.shtml>

Documentary Sources

3rd London Infantry Brigade War Diary, 1940 – TNA: PRO WO 166/897
2nd Bn (KRRC) The Rangers War Diary, 1940 – TNA: PRO WO 166/4382
London District ‘G’ War Diary, 1940–41 – TNA: PRO WO 166/1159
2/8th Bn Middlesex Regiment War Diary, 1940–41 – TNA: PRO WO 166/4466
London District Home Defence Scheme, December 1941 – TNA: PRO WO 199/3259
North East London Sub-Area War Diary, 1942 – TNA: PRO WO 166/6755
Chief Engineer, London District: Anti-Tank Defences, Map, July 1942 – TNA: PRO WO 199/1202
‘Intelligence Folder’, February 1943 (from London District CE War Diary) – TNA: PRO WO 166/6814
London District ‘G’ War Diary, 1943 – TNA: PRO WO 166/10862
‘Restoration of defence works’, 1943–44 – TNA: PRO HLG 7/973
Map of London showing ‘General Line of A/Tk Defences, 1944 – TNA: PRO WO 205/41

Cheshunt: Defence components

Database site reference	NGR	Defence work type	Survival status
583	TL 3466304458	PILLBOX (TYPE 27)	E
584	TL 3505504447	PILLBOX (TYPE 22)	E
585	TL 3492604504	CUBE	E
5057	TL 32400500	MACHINE GUN EMPLACEMENT	E
5058	TL 3251504993	PILLBOX (TYPE 27)	R
5059	TL 3257904865	PILLBOX (TYPE 27)	E
5060	TL 3291404918	PILLBOX (TYPE 27)	E
5061	TL 3307905023	PILLBOX (VARIANT)	E
5062	TL 33190474	PILLBOX (TYPE 22)	E
5063	TL 33330469	ANTI TANK BLOCK	E
5064	TL 3347304526	PILLBOX (TYPE 27)	E
5065	TL 3366304606	PILLBOX (TYPE 27)	E
5066	TL 3392604529	PILLBOX (TYPE 27)	E
5067	TL 3417004355	PILLBOX (TYPE 27)	E
5068	TL 34170487	PILLBOX	R
5069	TL 3436204396	PILLBOX (TYPE 22)	E
5074	TL 3592704598	PILLBOX	R
11713	TL 3292204926	CUBE	E
12133	TL 34450449 – TL 34510449	CUBE	E
12134	TL 3544304452	PILLBOX	U
12135	TL 36060490	PILLBOX	R
16644	TL 32580455	MINEFIELD	R
16645	TL 33570469	MINEFIELD	R
16689	TL 3319104763	ANTI TANK BLOCK	E
16715	TL 32570496 – TL 32580491 – TL 33100486 – TL 33210473 – TL 33330469 – TL 33470455 – TL 33660461 – TL 33860454 – TL 34180438 – TL 34360443	ANTI TANK DITCH	I
16716	TL 34570448 – TL 34660448 – TL 34910452 – TL 35060445 – TL 35290449 – TL 35480444 – TL 35910460 – TL 36060492 – TL 36270511	ANTI TANK DITCH	I
16717	TL 34170437	ROADBLOCK	R
16718	TL 34200436	CUBE	U

E = Extant R = Removed I = Infilled U = Unknown.



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Wakes Colne Viaduct

Stop Line Defence

Location Details

7 miles (11km) W of Colchester

County: Essex

Parish: Wakes Colne

National Grid Reference: TL 896284

Landscape

The defence area lies in the valley of the River Colne, both north and south of the busy A1124 road. The focus of the area is the brick railway viaduct of 30 arches opened in 1847, which crosses both the river and the road, carrying the line from Marks Tey to Sudbury high above the shallow valley. The railway continues to the north on an embankment, passing through the station of 'Chappel and Wakes Colne'. The village of Chappel lies to the south of the area, where a side road crosses the River Colne at Chappel Bridge. South-east of the viaduct, a public park – Chappel Millennium Green – was created in 2000.

Defences

From July 1940, a Corps Line (XI Corps) was constructed from Colchester to Mildenhall in Suffolk. The route of this anti-tank line, accompanied by a demolition belt, ran along the River Colne as far as the Wakes Colne railway viaduct, where it turned north, following the then LNER railway line to Bures, at which point it joined the River Stour. As with other such stop lines, it was defended with hardened weapon emplacements (pillboxes for light and medium machine guns and anti-tank gun emplacements). At points where the line was crossed by roads or other communication routes, blocks were set up and bridges mined in readiness for demolition. The main anti-tank obstacles were the rivers, the banks of which were steepened and revetted as necessary. Where there was no natural waterway, the anti-tank barrier was continued by lines of concrete blocks or by a machine-dug ditch.

In order that the stop line might also have strength in depth, various towns, villages, and other communication points along its route were designated nodal points or defended places, and prepared for all-round defence. Much of this defence was entrusted to the Home Guard. Wakes Colne itself (probably the area of the viaduct and the village of Chappel), was a Category 'C' nodal point defended by the 8th Bn Essex Home Guard. It stood at a vital point where the stop line turned from running west along the River Colne to head north towards the River Stour. At the point of the turn, the anti-tank obstacle provided by the river had to be supplemented by lines of anti-tank blocks to protect the

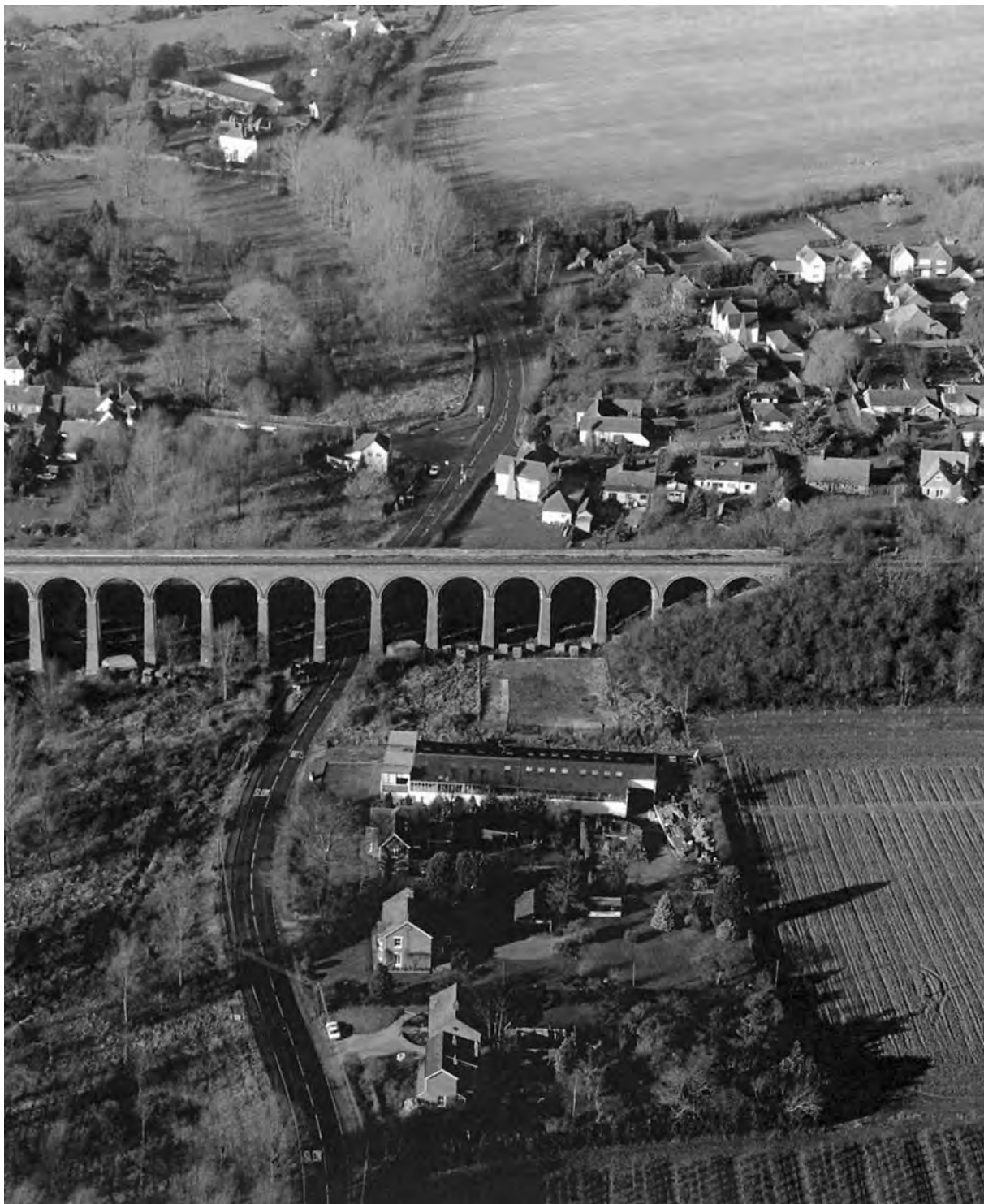


FIGURE 248 Oblique aerial view of the Wakes Colne viaduct taken in 1999, showing the defence structures beneath the arches. Many of the anti-tank blocks to the north (right) of the road have since been removed during housing development. The anti-tank ditch ran beneath the wooded railway embankment. On the far side of the viaduct to the left of the road is the village of Chappel. (NMR: EXC 19573/09 © ESSEX COUNTY COUNCIL)

crossing of road and railway. The linear anti-tank obstacle was then continued to the north by a purpose-dug ditch running parallel with the railway on its east side, reinforced by the embankment behind. Although no confirming documentary evidence has been located, there was undoubtedly a roadblock at the viaduct crossing of the A1124 Colchester Road. It is possible as well that the arches of the viaduct were prepared for demolition.

Air photographs show the anti-tank ditch running north on the east side of Chappel and Wakes Colne station, defended at frequent intervals by hexagonal pillboxes. All these pillboxes, except [16088] which has a central well for anti-aircraft fire, had been removed by 1949, and the ditch itself infilled. A line of anti-tank cubes ran from the road at the base of the railway embankment to join with the end of the anti-tank ditch.

At the viaduct itself, a substantial group of defence works survives. On the north side of the road, built half under the arches and half projecting on their eastern side, is an infantry pillbox of a variant form, with a covered entry porch and small embrasures [15697]. South of the road are two lines of massive concrete cubes and cylinders [16085 and 16086]. The reason for these two lines, with the easternmost set at an angle to the north-east, is not clear. The latter may have been intended as the original line of the principal anti-tank barrier to join with the anti-tank ditch to the north running at the foot of the embankment, but was later altered to follow a course next to the viaduct arches on an alignment with the probable site of the roadblock.

The two lines of anti-tank blocks run from a 6pdr anti-tank gun emplacement [15696], sited to fire north-east. Close to this emplacement, on the western side of the arches, is a spigot mortar pedestal [15691], with another standing a little to the south on the eastern side [15692]; this anti-tank weapon would have been positioned here in the latter half of

FIGURE 249 Pillbox [15697] built against the piers of the viaduct on the north side of the A1124 Colchester Road. (PHOTO: THE AUTHOR, 14 JUNE 2002)





FIGURE 250 Spigot mortar pedestal [15691], one of two spigot mortar firing positions by the viaduct close to the south bank of the River Colne. (PHOTO: THE AUTHOR, 14 JUNE 2002)

1941, operating in defence of the nodal point and also in direct support of the stop line. A further hexagonal pillbox, badly overgrown, stands to the south of the river, at a corner of what is now the Chappel Millennium Green. A pillbox to the west, on the south-west side of Chappel Bridge, must relate to the defence of the nodal point [16087].

Significance

There have been only a few changes in this landscape over the past 65 years, and the hardened field defences at the Wakes Colne Viaduct survive substantially complete. Their grey concrete, seen beneath the red-brick arches, provide a powerful statement of the 1940 invasion danger. On the north side of the main road, however, new houses have been built recently on a site formerly occupied by Viaduct Cottages, resulting in the loss of some of the anti-tank blocks here.

This is an important area, not only in terms of its defence structures but also in its position at a vital point on a major stop line where road and rail routes met. The line made a right angle here, leaving the anti-tank protection of the River Colne and, despite the presence of the railway embankment, requiring a further artificially constructed anti-tank obstacle on its course to the north. Some excellent examples of the differing components of stop line defence can be viewed, from the anti-tank gun emplacement and the infantry pillboxes to the massive concrete anti-tank obstacles and the spigot mortar pedestals. It is rare to find evidence of the spigot mortars being used in support of a stop line. These different components of defence are particularly instructive as their inter-relationship can be seen to form a coherent scheme of defence that can be understood by visitors. Many of the defence works in the area are protected as scheduled ancient monuments.

Access

The main group of defence works can be reached by a footpath running parallel with the railway viaduct from a recreation area off The Street in Chappel, where parking is also possible. Chappel Millennium Green can also be reached from here, allowing for good views of the viaduct and the inspection of pillbox [15690]. Pillbox [16087] can be seen from the road at Chappel Bridge. Pillbox [16088] is on private land and hidden by bushes, so cannot be viewed without permission.

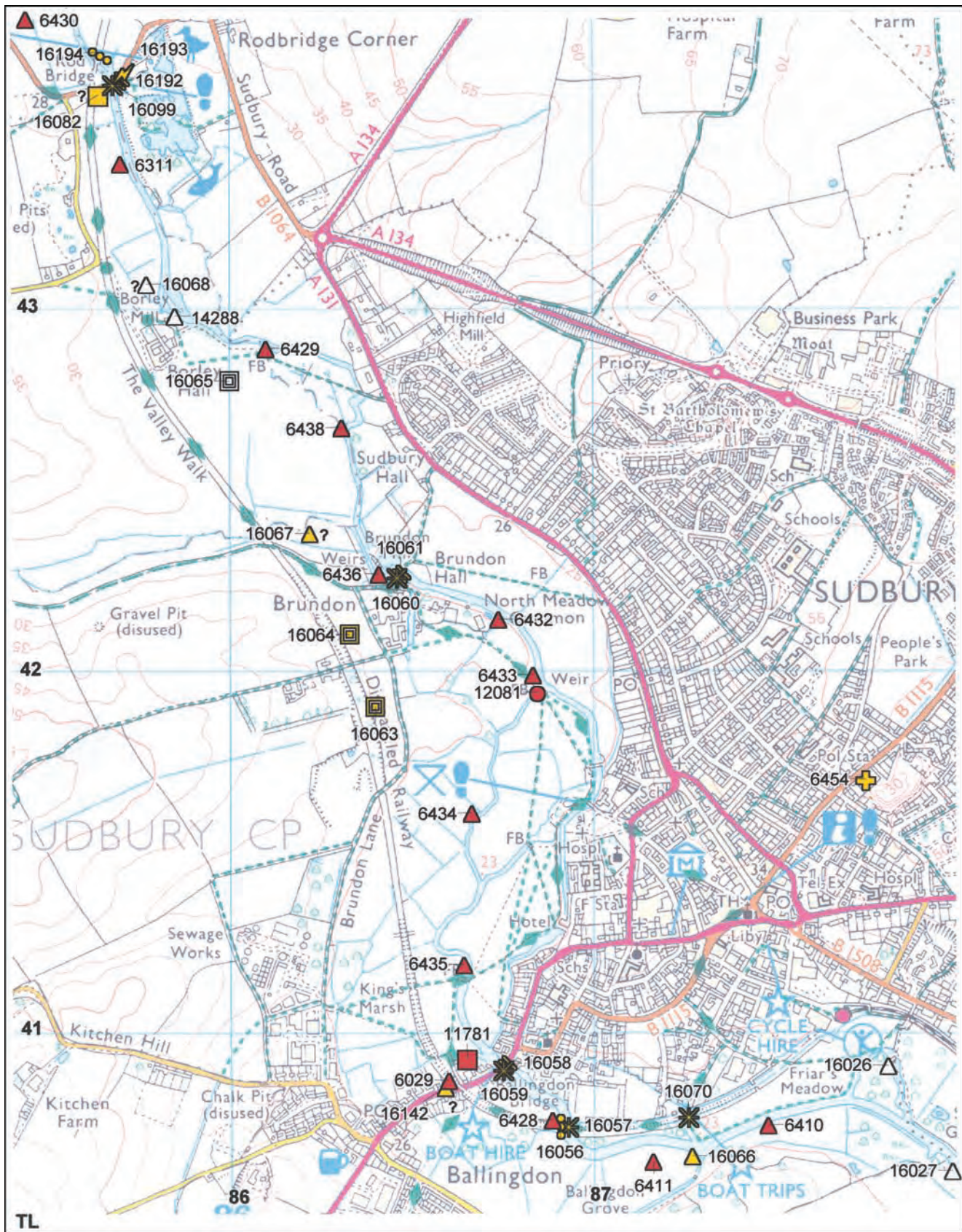
Documentary Sources

- 'List of Nodal Points in Eastern Command', September 1940 (from General Headquarters Papers, Home Forces) – TNA: PRO WO 199/544
- 135th Mechanical Equipment Company Royal Engineers War Diary, July 1940 – TNA: PRO WO 166/3631
- XI Corps 'G' HQ War Diary, 1940–1941 – TNA: PRO WO 166/329
- 'Hertford Area Defence Scheme', 1941 (from Hertford Area HQ War Diary) – TNA: PRO WO 166/1207
- 'Operation Instruction No 15', 24.7.1942 (from Essex Sub-Area War Diary) – TNA: PRO WO 166/6738
- 'Essex and Suffolk Area Defence Scheme' (with map), 1942 (from Essex and Suffolk Area War Diary) – TNA: PRO WO 166/6700
- 'Operation Instruction No 12', 5.4.1944 (from Essex and Suffolk District War Diary) – TNA: PRO WO 166/14392

Wakes Colne Viaduct: Defence components

Database site reference	NGR	Defence work type	Survival status
14287	TL 8967328465 – TL 8968428503	CUBE	E
15690	TL 8977128320	PILLBOX	E
15691	TL 8964528395	SPIGOT MORTAR EMPLACEMENT	E
15692	TL 8964728375	SPIGOT MORTAR EMPLACEMENT	E
15696	TL 8965928410	ANTI TANK GUN EMPLACEMENT (TYPE 28)	E
15697	TL 8967228462	PILLBOX (VARIANT)	E
16085	TL 8963928405 – TL 8966928448	CUBE	E
16086	TL 8964028403 – TL 8968128432	CYLINDER	E
16087	TL 8952228469	PILLBOX	E
16088	TL 8971028511	PILLBOX (VARIANT)	E
16089	TL 8979928799	PILLBOX	R
16090	TL 89872900	PILLBOX	R
16091	TL 8968828488 – TL 8971528505 – TL 89862900	ANTI TANK DITCH	I
16166	TL 8983128884	PILLBOX	R
16167	TL 89842892	PILLBOX	R

E = Extant; R = Removed; I = Infilled; U = Unknown.



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 Scale 1:15,000

Sudbury

Stop Line Defence

Location Details

13 miles (21km) NW of Colchester and 15 miles (24km) S of Bury St Edmunds

County: Suffolk

Parishes: Sudbury; Borley; Foxearth

National Grid Reference (Brundon Mill): TL 864422

Landscape

The defence area lies in the valley of the River Stour, on the west side of the town of Sudbury. Here, the river bends around the higher land occupied by the town in a broad valley with water meadows intersected by numerous water-channels. Much of this land is Sudbury Common Lands, now a local nature reserve.

To the north-west of Sudbury the valley narrows, and there are two large houses and estates (once water mills) by the river: Brundon Hall and Borley Hall. The northern boundary of the defence area is at Rod Bridge, south of Long Melford, a major road crossing of the river and a now-disused railway line. The route of this railway, which follows a course west of the river, partly in cuttings and at one point south of Sudbury on an embankment, is now a designated path known as The Valley Walk. At the south of the defence area, the river bends to the east passing through the suburb of Ballingdon. Further to the east, on the town-side bank, is a public recreation area at Friar's Meadow.

Defences

From July 1940, a Corps Line (XI Corps) was constructed from Colchester to Mildenhall in Suffolk, where it entered the area of II Corps (see Wakes Colne Viaduct defence area). The course of this anti-tank line joined the River Stour at Bures, and continued via Sudbury to Long Melford, where it then left the river to follow the route of the railway to Bury St Edmunds. As with other such stop lines, it was defended with hardened weapon emplacements (pillboxes for light and medium machine guns and anti-tank gun emplacements). A second line of anti-tank gun positions was prepared a short distance to the rear against an anticipated enemy attack from the east. Where the Corps Line was crossed by roads or other communication routes, roadblocks were set up and bridges mined for demolition. The main front-edge anti-tank obstacle was the waterway, the banks of which were steepened and revetted in places.

In order that the stop line might also have strength in depth, various towns, villages, and other communication points along its route were designated nodal points and prepared for all-round defence. Much of this defence was entrusted to the Home Guard. In September



FIGURE 251 Recent air photograph looking north-east over the valley of the Stour on the west side of Sudbury. Much of this area is the nature reserve of Sudbury Common Lands. Amongst the various channels of the Stour and the drains that connect with them, several pillboxes survive. The tree-lined strip running along the valley is the course of the former railway, now a designated path – the Valley Walk. In the foreground it crosses Ballingdon Street close to Ballingdon road bridge over the Stour, which was defended by an anti-tank gun emplacement [11781] that survives in a back garden between the railway and the river (see Fig 1). In the background of the view is Long Melford.
(NMR: 23405/27.
© ENGLISH HERITAGE. NMR)



FIGURE 252 Air photograph taken in April 1952 showing the series of former river loops to the south of Sudbury where the channel is now much straightened. Various pillboxes can be seen in the photograph, including one that used to lie within the most easterly of the loops and has now been destroyed [16066].
(RAF/540/706 fr4098. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)

1940, Sudbury was a Category 'A' nodal point and Long Melford a Category 'C', the defence of both places being the responsibility of the 10th Bn Suffolk Home Guard. The defence works of the Sudbury nodal point are only included in this study area where they also form part of the defence of the stop line.

A feature of the defence works running on the west side of the river (or, where it turns to the east, its south side) is that all are octagonal Type 27 pillboxes, with a covered entry porch and a central open well with a mount for an anti-aircraft gun; twelve survive within the defence area. Their positions, with their original reference numbers, are known from a



FIGURE 253 Type 27 pillbox [6438] showing the central anti-aircraft gun mounting. (PHOTO: THE AUTHOR, 12 JUNE 2002)

documentary source, and very few have been lost. Examples surviving in good condition that can be examined closely are [6429], [6433], and [6438].

North-west of the Ballingdon road bridge, which it was positioned to defend, is a 6pdr anti-tank gun emplacement that stands in the back garden of a house [11781] (see Fig. 1). This is a rare survival, these emplacements being placed sparsely along this sector of the stop line. The next one to the north at Rod Bridge has not survived, and its exact position is not known. Also near Ballingdon Bridge, on the west side of the railway embankment, a very rare Tett Turret, complete with its concrete cupola, survived until recently [6029]. The cupola appears now to have been removed, although it is possible that the cylindrical chamber of the structure still survives dug into the embankment.

Close to pillbox [6433], a number of concrete anti-tank cylinders lie in the bed of a stream [12081]. It is not clear whether these originally blocked a pathway over a footbridge at this point or have been brought from a roadblock site in Sudbury to strengthen the stream banks.

Significance

The Sudbury defence area has received few changes over the last 65 years, most of the expansion of Sudbury town having been to the north and the east. It provides an excellent example of a sector of a stop line where the hardened weapon emplacements survive largely complete, enabling their positioning within the landscape to be understood. The defence works continue beyond the boundaries of the defence area, both to the north and south.

The many watercourses of the Stour were utilised to construct pillboxes at points where they were usually bordered on more than one side by water. This served the purpose of

FIGURE 254 Concrete cylinders [12081] lying in a channel of the Stour at Little Fullingpit Meadow, possibly brought here from a roadblock site in Sudbury in order to strengthen the banks of the stream. (PHOTO: THE AUTHOR, 12 JUNE 2002)



siting the pillboxes in strong positions while bringing them close to the main front-edge anti-tank obstacle of the Stour itself. Pillbox [6434], for instance, stands at the junction of a channel of the Stour with a field drain; pillbox [6438] is in a comparable location; and pillboxes [14288] and [16026] are on islands in the river. At one point to the south of Sudbury, the river channel, which used to flow in a series of tight loops, now follows a much straighter course, which has led to the loss of one pillbox [16066].

Despite the railway's dismantlement, its surviving embankments and cuttings, now utilised as a public right of way, show clearly the second line of prepared defence positions,



FIGURE 255 Type 27 pillbox [6411], with brick shuttering removed, on the far bank of the Stour south of Sudbury. Steel plates are in place at the embrasures.

(PHOTO: THE AUTHOR, 12 JUNE 2002)

which incorporated the earthworks of the railway as well as an additional linear anti-tank obstacle. The Stour valley is also overlooked by higher land to the west where field artillery could have been positioned.

Excellent examples of the Type 27 pillbox can be inspected, internally as well as externally – this pillbox type is relatively rare elsewhere in the country (see also Cheshunt defence area). An anti-tank gun emplacement can also be viewed at a distance. Most of these defence works can be related to crossing points of the stop line that needed particular defence, these points surviving in largely unchanged landscape settings today at Rod Bridge, Borley Hall, Brundon Hall, and Ballingdon Bridge.

Robert Arbib was a soldier serving with the American Army in Suffolk. He saw the Sudbury pillboxes in 1942, and wrote of them later in a book of his impressions of wartime England: ‘Perhaps they will be left there to gather moss and then grass and then to be split up by the roots of trees, as relics of an age, a strange, incongruous footnote to Suffolk history’ (Arbib 1946, 94). By good fortune the Sudbury pillboxes *have* survived, and they do, as Arbib anticipated, provide an important reminder of the desperate days of 1940.

Access

Almost all the pillboxes can be visited by following ‘The Valley Walk’, and by taking footpaths leading from it that cross the Sudbury Common Lands. Where public access to some sites is not possible, the structures can usually be viewed from no great distance, as for example the anti-tank gun emplacement [11781] in the back garden of a house, or the pillboxes on the opposite bank of the Stour from Friar’s Meadow. There are car parks at Rod Bridge and in Sudbury town centre.

Published Sources

Arbib, R S, 1946 *Here We Are Together: The Notebook of an American Soldier in Britain*. London: Longmans

Wills, H, 1985 *Pillboxes: A Study of UK Defences 1940*. Leo Cooper

Documentary Sources

‘List of Nodal Points in Eastern Command’, September 1940 (from General Headquarters Papers, Home Forces) – TNA: PRO WO 199/544

XI Corps HQ ‘G’ War Diary, 1940–41 – TNA: PRO WO 166/329

‘Suffolk Sub-Area Defence Scheme’, revised 14.11.1941 (from Suffolk Sub-Area War Diary) – TNA: PRO WO 166/1320

‘Hertford Area Defence Scheme’, 1941 (from Hertford Area HQ War Diary) – TNA: PRO WO 166/1207

‘Suffolk Sub-Area Defence Scheme’, 1942 (from Suffolk Sub-Area War Diary) – TNA: PRO WO 166/6779

‘Operation Instruction No 15’, 24.7.1942 (from Essex Sub-Area War Diary) – TNA: PRO WO 166/6738

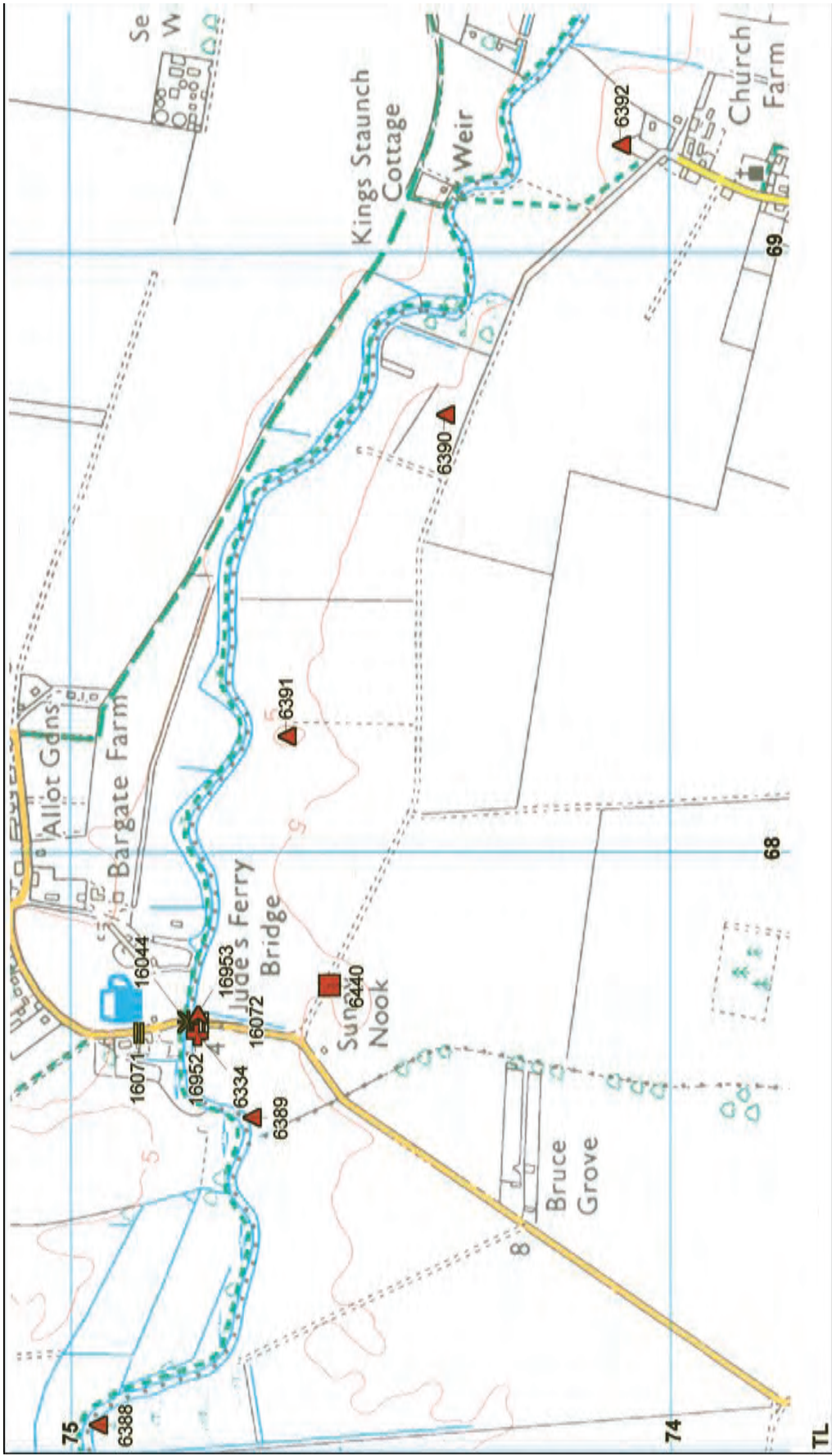
‘Essex and Suffolk Area Defence Scheme’ (with map), 1942 (from Essex and Suffolk Area War Diary) – TNA: PRO WO 166/6700

‘Operation Instruction No 12’, 5.4.1944 (from Essex and Suffolk District War Diary) – TNA: PRO WO 166/14392

Sudbury: Defence components

Database site reference	NGR	Defence work type	Survival status
6029	TL 86604087	TETT TURRET	E
6311	TL 85704340	PILLBOX (TYPE 27)	E
6410	TL 8748040745	PILLBOX (TYPE 27)	E
6411	TL 8716240645	PILLBOX (TYPE 27)	E
6428	TL 8688540760	PILLBOX (TYPE 27)	E
6429	TL 8610042890	PILLBOX (TYPE 27)	E
6430	TL 85444380	PILLBOX (TYPE 27)	E
6432	TL 8673942143	PILLBOX (TYPE 27)	E
6433	TL 8683441989	PILLBOX (TYPE 27)	E
6434	TL 8667941604	PILLBOX (TYPE 27)	E
6435	TL 8664241190	PILLBOX (TYPE 27)	E
6436	TL 8641042268	PILLBOX (TYPE 27)	E
6438	TL 8630842672	PILLBOX (TYPE 27)	E
6454	TL 87754170	SPIGOT MORTAR EMPLACEMENT	R
11781	TL 86654093	ANTI TANK GUN EMPLACEMENT (TYPE 28)	E
12081	TL 86854193	CYLINDER	E
14288	TL 85854298	PILLBOX	U
16026	TL 8781140910	PILLBOX	U
16027	TL 8798840618	PILLBOX	U
16056	TL 86904074	RAILBLOCK	R
16057	TL 86914074	MINED BRIDGE	R
16058	TL 86764091	ROADBLOCK	R
16059	TL 86754090	MINED BRIDGE	R
16060	TL 86464226	MINED BRIDGE	R
16061	TL 86474227	MINED BRIDGE	R
16063	TL 864419	ANTI TANK GUN POSITION	R
16064	TL 86334210	ANTI TANK GUN POSITION	R
16065	TL 860428	ANTI TANK GUN POSITION	R
16066	TL 87274066	PILLBOX	R
16067	TL 86224238	PILLBOX	R
16068	TL 85754305	PILLBOX	U
16070	TL 87264077	MINED BRIDGE	R
16082	TL 85644359	ANTI TANK GUN EMPLACEMENT (TYPE 28)	R
16099	TL 85684362	MINED BRIDGE	R
16142	TL 86594085	PILLBOX	R
16192	TL 85704363	ROADBLOCK	R
16193	TL 85714365	DEPTH CHARGE CRATER	R
16194	TL 85654369	RAILBLOCK	R

E = Extant; R = Removed; I = Infilled; U = Unknown.



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River Lark: Jude's Ferry Bridge

Stop Line Defence

Location Details

½ mile (1km) S of West Row village and 2½ miles (4km) W of Mildenhall

County: Suffolk

Parishes: Worlington; Freckenham

National Grid Reference: TL 677748

Landscape

The defence area lies in the floodplain of the River Lark as it flows west from Mildenhall and then curves north to join eventually with the River Ouse south of Littleport. South of the village of West Row, the river is crossed by a minor road at Jude's Ferry Bridge. A flat farmed landscape of large open fields bordered by drains stretches away from both banks of the river, with the buildings of West Row to the north and those of Worlington to the east.

The Jude's Ferry public house is situated on the north bank of the river as it was in 1940, when it was termed a 'hotel'. The bridge, however, has been demolished and replaced by a new bridge a few yards to the east of the original; this opened in January 1999.

Defences

In the period June to September 1940, a Corps Line between II Corps and XI Corps was constructed from the River Colne (south of Bures in Essex) to Barton Mills (south of Mildenhall), following principally the courses of the Rivers Stour and Lark. It then continued as the Eastern Command Line, still following the River Lark, via Jude's Ferry Bridge to join the River Great Stour south of Littleport, and thence to King's Lynn (see also Littleport defence area).

The stop line following the River Lark through the study defence area was fortified with infantry pillboxes and anti-tank gun emplacements against an expected direction of enemy attack from the north. The defence positions would have had wired, and, in some cases, mined, perimeter defences. Crossing points of the line were protected by roadblocks, which were part of a defended locality or 'checkpoint'. A related system of nodal points and other defended areas extended the depth of defence. Demolition belts, categorised as of first and second priority, also followed the course of the stop line. Road and rail bridges were prepared for destruction with chambers to hold explosives being drilled within their structures. Jude's Ferry Bridge was mined in this way, and the defended area around the bridge was a designated checkpoint. Barton Mills, some 2 miles (3km) to the east, formed a nodal point. In September 1940, responsibility for the defence of the stop line lay with 52nd Division of II Corps, although it is unlikely that Field Army troops ever took up position on the line. As with other prepared stop lines, the defence works were largely handed to



FIGURE 256 JUDE'S FERRY Bridge over the River Lark. In the mid-distance by the bush is 6pdr anti-tank gun emplacement [6440]. The weapon pits [16953] are by the trees on the right. (PHOTO: THE AUTHOR, 18 JUNE 2002)

the Home Guard to man and maintain. Certainly in 1942, troops from the 2nd Bn Cambridgeshire Home Guard were guarding Jude's Ferry Bridge.

Some 44 pillboxes were constructed in the Suffolk section of the stop line, a very high percentage of which survive today. All of the seven pillboxes built in this study area have survived. To the south-east of Jude's Ferry Bridge, and commanding it, is a 6pdr anti-tank gun emplacement [6440], while on the river bank to the south-west there is a Type 24 infantry pillbox [6389]. Both these structures are in good condition and are highly visible in the landscape.

However, a Type 22 pillbox [6334] that stood near to the original bridge is so overgrown that it can only be made out from close-up. On its western side is the firing pedestal of a spigot mortar emplacement with the name 'Sgt. Rolfe' impressed in its top [16952].

An unusual pillbox is the Type 24 variant [6388] standing on the south bank of the river to the west of the bridge; this has a concrete roof with a thin overhang at the hexagonal corners, forming a square shape when seen from above, possibly part of its original camouflage scheme. The other four pillboxes in the area are Type 24s, one of which [6392], situated close to the village of Worlington, was camouflaged as a cottage (see Fig. 10).

Jude's Ferry Bridge was defended by two roadblocks, one opposite the Judes Ferry public house and the other probably on the south side of the bridge. No evidence of these roadblocks, which were of a two-way horizontal steel rail type, with the rails slotted into concrete plinths, survives, but two sandbagged weapon pits [16953] originally on the east side of the bridge approach probably mark the southern roadblock position. The roadblocks must have been cleared away very soon after the war, for an RAF air photograph taken in June 1946 shows no sign of them.

FIGURE 257 Type 28
6pdr anti-tank gun
emplacement [6440].

It was positioned
to fire at Jude's
Ferry Bridge.

(PHOTO:
R J C THOMAS,
OCTOBER 2004)



Significance

This defence area provides a good illustration of a section of stop line where the hardened weapon emplacements survive in their entirety. Differing types of structures and construction methods can be seen, from an anti-tank gun emplacement (brick-shuttered) to



FIGURE 258 Spigot mortar pedestal [16952] on the south bank of the River Lark at Jude's Ferry Bridge. The name 'Sgt Rolfe' has been inscribed in the wet concrete.

(PHOTO: THE AUTHOR, DECEMBER 2004)

Type 22 and Type 24 pillboxes (wood-shuttered), and an interesting variant pillbox with evidence of original camouflage. A spigot mortar pedestal and two weapon pits are additional outstanding survivals. The relation of these defence works to the anti-tank obstacle provided by the River Lark can be understood, as can the checkpoint at Jude's Ferry with its defence works grouped to command the bridge.



FIGURE 259 One of two weapon pits formed of concreted sandbags [16953] on the south side of Jude's Ferry Bridge. They have survived because trees were planted within them.

(PHOTO: THE AUTHOR, DECEMBER 2004)

The modern landscape differs little from that of 65 years ago. Some fields, both north and south of the river, have been opened up and the field divisions removed, but there has been no other development, and the pattern of fields, interspersed with small clumps of bushes, is substantially the same as during the war. The fact that several pillboxes appear to stand high, with their concrete bases exposed, shows the effect of the steady shrinkage of the underlying peat.

To the west of Jude's Ferry Bridge, the pillboxes were positioned on the south bank of the river enfiling the line of the anti-tank obstacle itself, whereas to the east they were set further back so as to cover the ground between the bends in the river. Pillbox [6391], now in the centre of a large field, was originally sited close to a hedgerow running to the river bank. Pillbox [6392], once camouflaged as a cottage, is still set at the edge of the small triangular enclosure that in 1940 represented its garden. The anti-tank gun emplacement [6440] is now partly overgrown by bushes, but originally stood clear of vegetation at the edge of a track and probably had a comparable camouflage scheme to [6392]. It can be seen clearly today from Jude's Ferry Bridge some 273 yards (250m) distant, dominating the landscape to the north.

Pillbox [6334], close to the bridge itself, surprisingly does not face the road to command the roadblock here, but faces away from the bridge, providing a defence to the west and south. By mid-1941, its place in the defence scheme must have been taken by the spigot mortar emplacement built in front of its west face as fire through the embrasure here would have been impossible while the spigot mortar was being manned. The remarkable rare survival of sandbagged weapon pits indicates the defence posts at the roadblock itself. Comparable defence positions alongside the northern roadblock are likely to have been sited at the Jude's Ferry public house, although there is now no evidence for this. Overall, the surviving defence works still form a coherent defended landscape of fields and river margins, with the focus of the defences at Jude's Ferry Bridge itself.

Access

Footpaths follow the north bank of the river both west and east of Jude's Ferry Bridge, allowing the majority of the defence structures to be viewed at a distance. To the east of the area, at King's Staunch Cottage, the river can be crossed by a footbridge, and a track, running parallel with the south bank of the river, followed back to Jude's Ferry Bridge. Two pillboxes and the anti-tank gun emplacement stand close to this track, which is not, however, a public footpath. There is a place to leave a car where the track reaches the road, while alternatively customers might use the car park of the Jude's Ferry public house.

Documentary Sources

'II Corps Defence Scheme', 1940 (from II Corps CRE War Diary) – TNA: PRO WO 166/194

'Demolitions Progress Report', 10 August 1940 (from 240th Army Field Company Royal Engineers War Diary) – TNA: PRO WO 166/3709

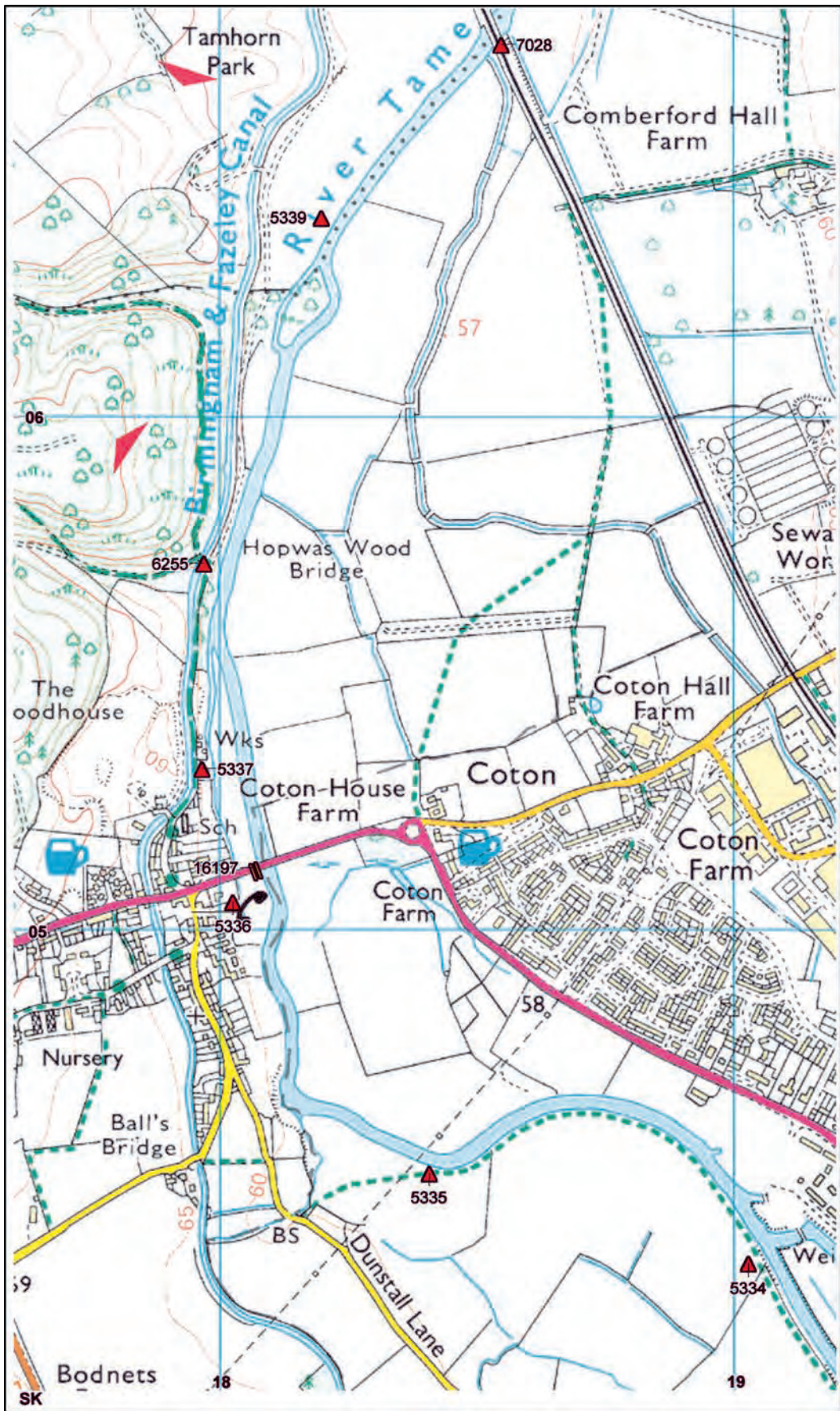
'Defence Works Progress Report', 11 August 1940 (from 240th Army Field Company Royal Engineers War Diary) – TNA: PRO WO 166/3709

'List of Nodal Points in Eastern Command', September 1940 (from General Headquarters Papers, Home Forces) – TNA: PRO WO 199/544
'Operation Instruction No 41', 6.8.1941 (from II Corps 'G' War Diary) – TNA: PRO WO 166/189
'Operation Instruction No 12', 18 December 1941 (from Cambridge Area War Diary) – TNA: PRO WO 166/1193
'Cambridge Sub-Area Defence Scheme', 1942 (from Cambridge Sub-Area War Diary) – TNA: PRO WO 166/6728

River Lark: Jude's Ferry Bridge: Defence components

Database site reference	NGR	Defence work type	Survival status
6334	TL 6770374792	PILLBOX (TYPE 22)	E
6388	TL 6704574958	PILLBOX (TYPE 24)	E
6389	TL 6755974700	PILLBOX (TYPE 24)	E
6390	TL 6872574370	PILLBOX (TYPE 24)	E
6391	TL 6819574641	PILLBOX (TYPE 24)	E
6392	TL 6918074082	PILLBOX (TYPE 24)	E
6440	TL 6777974572	ANTI TANK GUN EMPLACEMENT (TYPE 28)	E
16044	TL 67727480	MINED BRIDGE	R
16071	TL 67707489	ROADBLOCK	R
16072	TL 67727479	ROADBLOCK	R
16952	TL 6769874792	SPIGOT MORTAR EMPLACEMENT	E
16953	TL 6772474788	WEAPON PIT	E

E = Extant; R = Removed; I = Infilled; U = Unknown.



Hopwas Bridge

Stop Line Defence

Location Details

2 miles (3km) WNW of Tamworth and 5 miles (8km) SE of Lichfield

County: Staffordshire

Parishes: Wigginton and Hopwas; Tamworth; Fisherwick

National Grid Reference: SK 181051

Landscape

Hopwas Bridge carries the A51 Lichfield Road over the River Tame on the eastern side of the small settlement of Hopwas. The Tame flows from south to north in a broad valley stretching away to the east; to the west of the river, however, the land rises steeply. Cut into the slope of this higher land is the Birmingham and Fazeley Canal, running parallel at this point with the Tame. The canal passes through the centre of Hopwas, where it is crossed by a further road bridge to the west of Hopwas Bridge.

Hopwas village is a Conservation Area, and apart from some small post-war housing developments, it remains much the same as during the Second World War. To the east of Hopwas Bridge, however, housing development since the 1970s has now absorbed the village of Coton within the north-west suburbs of Tamworth.

Defences

Hopwas Bridge fell within Lichfield Sub-Area, part of Western Command and the defence responsibility of 113 Infantry Brigade, one of whose battalions was the 2nd Bn Queen's Westminster Regiment. From July 1940, various Command stop lines were constructed crossing the Lichfield Sub-Area. Principal amongst these, passing through Hopwas Bridge, was Western Command Defensive Line No 5 from Fazeley via Tamworth and Uttoxeter, following the courses of the rivers Tame, Trent, and Dove, eventually running to Ashbourne in Derbyshire. A further stop line was Western Command Defensive Line No 6, which branched from No 5 to run along the line of the River Trent west towards Stafford. Tamworth was also the finishing point for Western Command Defensive Lines Nos 3 and 4, both approaching the town from the south, from Coventry and Stratford-on-Avon respectively. Tamworth thus formed a very important point in the defence scheme of 1940/41. It was designated an anti-tank island with all-round defences capable of resisting attack by enemy armoured fighting vehicles. Lichfield, seven miles (*c* 11km) to the north-west, was also an anti-tank island.

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FIGURE 260 In this 1948 air photograph Hopwas Bridge, crossing the River Tame, is right of centre, and pillbox [5336] can be seen in a field to its south-west, an area now developed as housing (see Figs 261 and 262). Towards the bottom right, pillbox [5335] can be seen on the south bank of the river, as can pillbox [6255] by a bridge over the Birmingham and Fazeley Canal to the north. At the far right of the photograph, the fields are now covered by suburbs of Tamworth. (RAF/CPE/UK/2555 fr.4303. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)

Western Command Defensive Line No 5 was fortified with pillboxes, section posts, and roadblocks against an expected attack from the east. The roadblocks were formed of concrete anti-tank cylinders and steel rails, and were protected by slit trenches and barbed wire, each being part of a designated defended locality requiring all-round defence. Some roadblocks at important bridges were also sown with anti-tank mines. The bridges themselves were undoubtedly prepared with detonation chambers for demolition, although the documentary evidence for this has not been located. The pillboxes were predominantly hexagonal infantry Type 24s, built with wooden shuttering, with embrasures in each forward face and an entrance, with rifle ports on either side, in the rear face. The pillboxes were camouflaged, and a surviving list gives the camouflage scheme used for each: within the study area, these were variously an ash heap, a woodman's cottage, a cowshed, and haystacks.

FIGURE 261 Hopwas
Bridge seen from
pillbox [5336].
(PHOTO: THE AUTHOR,
28 OCTOBER 2002)



The line of pillboxes from south to north on the west side of the River Tame is complete within the defence area. What have vanished are the pillboxes' accompanying earthwork and sandbagged trenches and barbed wire perimeters. Also removed at the end of the war is all evidence for the Hopwas Bridge roadblock, so it is not certain on which side of the bridge it was positioned: possibly there was a block at both ends.

FIGURE 262 Type 24
pillbox [5336]
conserved within a
new housing
development in
Hopwas.
(PHOTO: THE AUTHOR,
28 OCTOBER 2002)





FIGURE 263 Type 24 pillbox [5337] by a sewage works next to the Birmingham and Fazeley Canal. The River Tame is in the distance. (PHOTO: THE AUTHOR, 28 OCTOBER 2002)

Sited to protect this bridge and roadblock was pillbox [5336], which to the credit of Lichfield District Council has recently been preserved when it was threatened by development.

North of Hopwas Bridge, accessible from the towpath of the canal, are two further Type 24 pillboxes [5337 and 6255]. The latter has an exceptionally tall front face as it is set on the slope of a bank. Its embrasures are square and splayed.



FIGURE 264 Type 24 pillbox [5335] on the south bank of the Tame south-east of Hopwas. (PHOTO: THE AUTHOR, 28 OCTOBER 2002)

At the north edge of the study area, a further Type 24 pillbox [5339] can be seen close to the river, but there is no public access to this land (Tamhorn Park) without permission. To the south of the area, a small Type 24 pillbox on the river bank [5335] can be inspected internally and externally.

Significance

This defence area provides a good illustration of the defences of a stop line, with the focus on a defended bridge crossing. A documentary source indicates that the run of pillboxes has survived complete, and they continue beyond the northern and south-eastern boundaries of the study area. Most of the pillboxes, which are excellent examples of infantry Type 24s, have good public access.

The immediate environs of the stop line in this area remain substantially unaltered, although there have been substantial changes to the landscape further to the east. Pillbox [5336] was built on a grassy slope overlooking Hopwas Bridge to the north-east, and the structure has been carefully preserved within a housing estate that has recently been built here. This ensures that physical evidence of the 1940 defence of the bridge survives, and highlights the interest of the local community in its Second World War heritage.

Two of the pillboxes [5337 and 6255] were built in a very strong defensive position on the rising land between the river and the canal. Pillbox [6255] also defended a bridge over the canal. Where the river diverges from the canal, to both the north and south of the area, the pillboxes are positioned close to its bank.

Access

The pillboxes [apart from 5339] can be inspected from either the canal towpath or a footpath off Dunstall Lane. The pillbox within the new housing estate [5336] is approached from Hints Road. Parking at Hopwas is possible in the car park of the Tame Otter public house (formerly the Chequers).

Documentary Sources

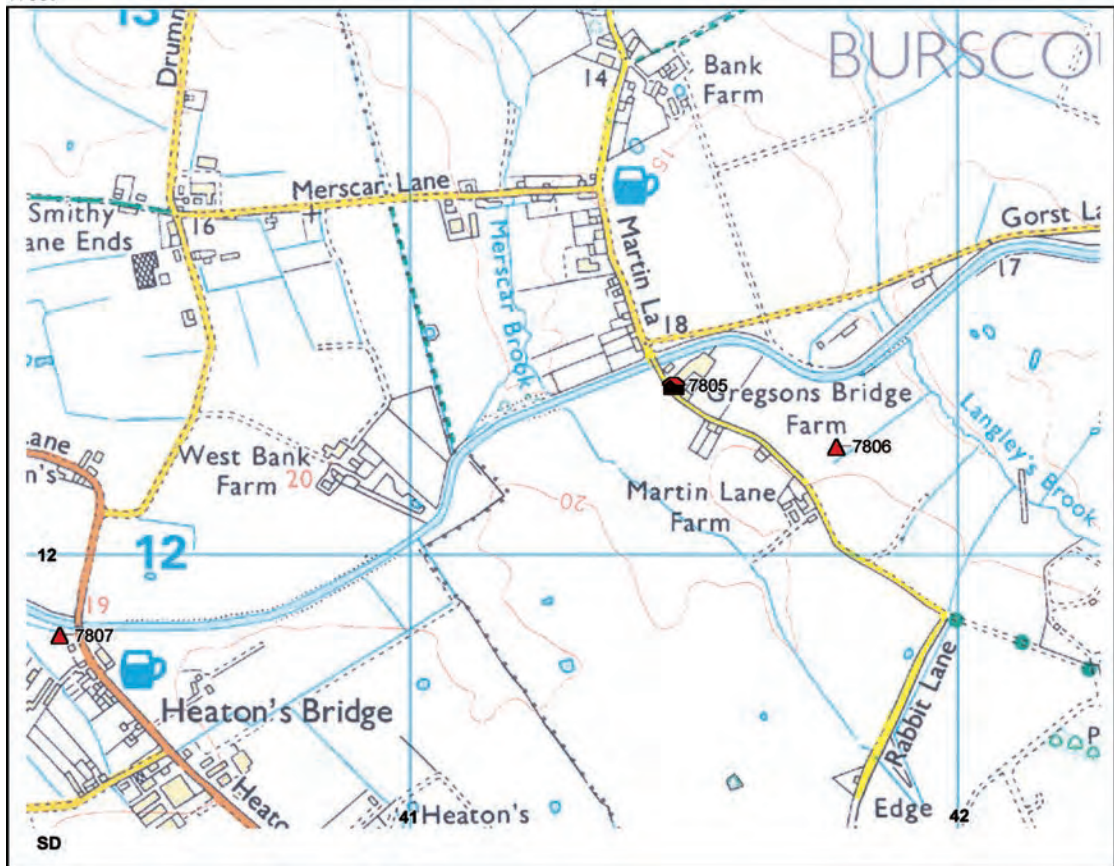
- 'Operation Instruction No 7', 5.7.1940 (from Western Command 'G' War Diary) – TNA: PRO WO 166/94
- 'Home Security Scheme No 2', 7.8.1940 (from 113th Infantry Brigade War Diary) – TNA: PRO WO 166/972
- 'Defence Scheme – Staffordshire 2', 27.12.1940 (from 2nd Bn Queen's Westminster Regiment War Diary) – TNA: PRO WO 166/4381
- 'Lichfield Sub-Area Defence Scheme', 1941 (from Lichfield Sub-Area War Diary) – TNA: PRO WO 166/1301
- 'Lichfield Sub-District Defence Scheme', 16.5.1943 (from Lichfield Sub-District War Diary) – TNA: PRO WO 166/10975

Hopwas Bridge: Defence components

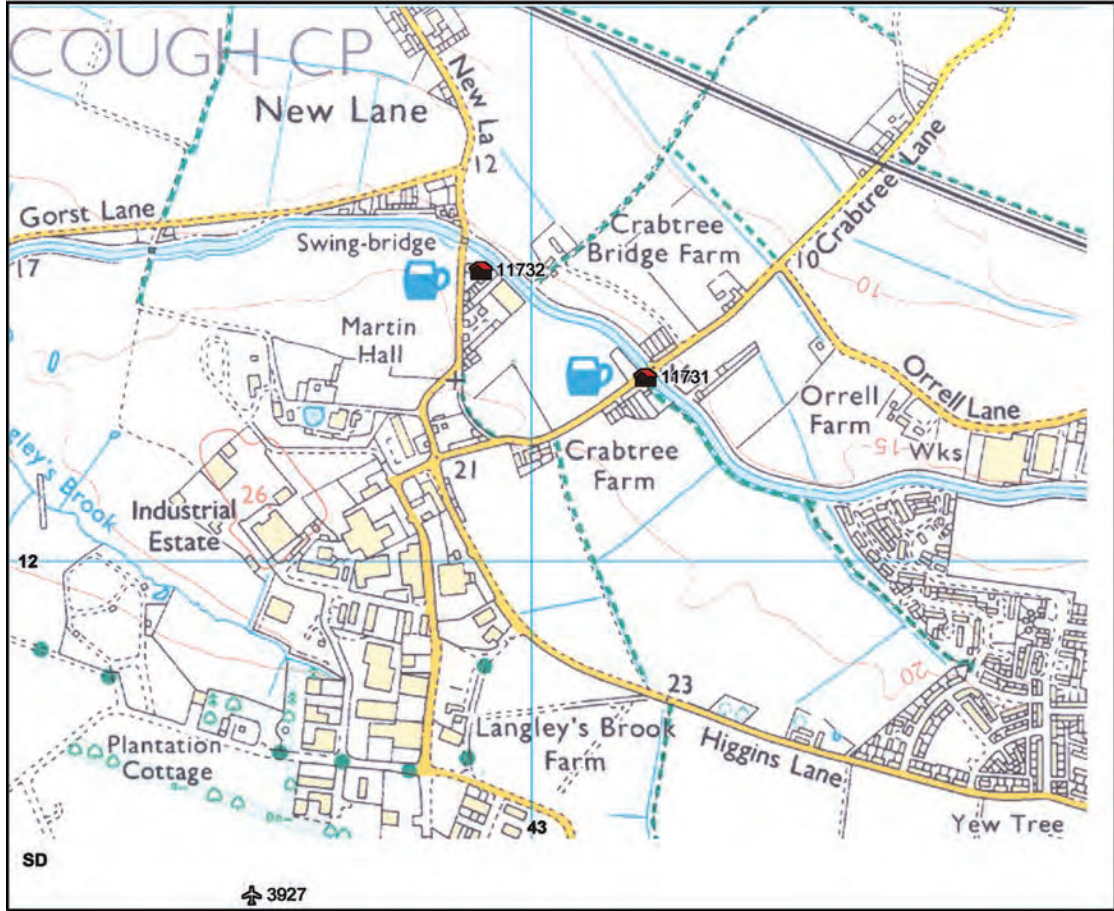
Database site reference	NGR	Defence work type	Survival status
5334	SK 19030435	PILLBOX (TYPE 24)	E
5335	SK 1840904526	PILLBOX (TYPE 24)	E
5336	SK 1802705055	PILLBOX (TYPE 24)	E
5337	SK 1796705315	PILLBOX (TYPE 24)	E
5339	SK 18200639	PILLBOX (TYPE 24)	E
6255	SK 1797105715	PILLBOX (TYPE 24)	E
7028	SK 18550673	PILLBOX (VARIANT)	E
16197	SK 18070512	ROADBLOCK	R

E = Extant; R = Removed; I = Infilled; U = Unknown.

West



East



Leeds & Liverpool Canal: Burscough

Stop Line Defence

Location Details

1 mile (1.5km) W of Burscough Bridge and 3 miles (5km) N of Ormskirk
County: Lancashire
Parish: Burscough
National Grid Reference (New Lane Bridge): SD 428125

Landscape

The defence area follows the course of the Leeds & Liverpool Canal between Heaton's Bridge and Crabtree Bridge, passing through a flat landscape of drained former marshland with a rich, dark soil. The canal is crossed by five bridges within the study area: from the west, Heaton's Bridge (which has given its name to an adjacent settlement), Martin Lane Bridge, Great Score Bridge (now removed), New Lane Bridge, and Crabtree Bridge. At all these bridges, except Great Score Bridge, buildings stand close to the canal on its south bank: at Heaton's Bridge this is the Heaton's Bridge Inn; at Martin Lane Bridge, Gregson's Bridge Farm; at New Lane Bridge, the Farmers Arms public house; and at Crabtree Bridge, The Slipway public house. South-west of New Lane Bridge, an industrial estate has been developed on part of the site of a Second World War airfield – the Royal Naval Air Station, 'HMS Ringtail', which was closed in 1957. Work is currently being undertaken on a further extension of the industrial estate. The railway line running between Southport and Wigan passes north of New Lane Bridge, where there is a station with an estate of new housing to its south.

Defences

Burscough fell within Sub-Sector 1a of the Liverpool Sector of Mersey Garrison. The Sub-Sector was crossed by the Leeds & Liverpool Canal, which was defended as an outer defence line of the Mersey Garrison and also as Western Command Stop Line No 14. This latter line ran to Wigan, leaving the Liverpool Sector at Burscough.

The stop line was in essence a continuous anti-tank obstacle provided by the canal. It was defended in the Burscough area against anticipated enemy attacks from the west and the north, the defence works being prepared on the south bank with the canal in front. At all

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FIGURE 265 1945 air photograph showing the course of the Leeds & Liverpool Canal through the defence area. The impact on the landscape of the Second World War airfield can be clearly seen. Heaton's Bridge lies beyond the west edge (left) of the photograph. (RAF/106GUK/263 fr3200. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)

crossings of the canal, bridges were prepared for demolition and roadblocks set up. Some anti-tank minefields were also laid. Each bridge, in fact, was a defended locality, with machine gun posts, spigot mortars, and flame fougasses, the whole position being surrounded by barbed wire entanglements. The machine gun posts, or pillboxes, were constructed either within existing buildings or as disguised additions to them. Such a policy of fortifying buildings rather than constructing standard pillboxes is unique to this stretch of stop line. The machine gun positions are unusual as well in being set at double-storey height above the canal.

At Crabtree Bridge, former stables attached to the public house were pierced with eight loopholes at two levels [11731], while at New Lane Bridge a short distance to the west, a purpose-built brick-faced tower was added to the Farmers Arms public house, again with loopholes at two levels [11732].

FIGURE 266 Former stables of The Slipway public house at Crabtree Bridge loopholed for defence [11731]. The lower loopholes are now blocked, but the upper ones have been glazed.
 (PHOTO: THE AUTHOR, 20 MAY 2003)



At Martin Lane bridge, an outbuilding of the adjacent farm was defended [7805]: three loopholes were cut at an upper level, and possibly others faced west and/or east. At the Heaton's Bridge Inn is the most remarkable of this series of defence works. Here a free-standing two-storey pillbox tower, with embrasures in each face, was built a short distance from the canal bank [7807].

Villages and towns on the course of the stop line were also prepared for all-round defence: Ormskirk lying to the south was a designated anti-tank island. The troops to man

FIGURE 267 The Farmers Arms at New Lane Bridge with its defended tower on the far side of the terrace [11732]. The tower would appear to have been a purpose-built addition by the Army that was disguised amongst the other buildings of the inn.
 (PHOTO: THE AUTHOR, 20 MAY 2003)





FIGURE 268. An outbuilding of Gregson's Bridge Farm by Martin Lane Bridge with loopholes now bricked up [7805]. Other loopholes may be hidden by the ivy. (PHOTO: THE AUTHOR, 20 MAY 2003)

the various defended localities in the event of an enemy assault would have come from the Mersey Garrison, supplemented by units from the 71st Bn Lancashire Home Guard based at Ormskirk.

When the Burscough airfield was built as a Royal Naval Air Station in 1942, its northern perimeter defences came close to the Leeds & Liverpool Canal, and, although documentary evidence is lacking, it is probable that the existing stop line defences were incorporated into the overall defence planning for the airfield. One defence post of the airfield survives, consisting of a square structure with a slab roof raised on four corner pillars allowing all-round visibility [7806].



FIGURE 269. The free-standing pillbox tower at Heaton's Bridge Inn [7807]. It has doorways and embrasures on two levels. It is now close to a children's play area and is fitted with spotlights. (PHOTO: THE AUTHOR, 20 MAY 2003)

Significance

Apart from the development of the airfield site, the broad pattern of the farmed landscape cut by the Leeds & Liverpool Canal, which is still used by narrow-boat traffic, is much as it was 65 years ago. The huddles of buildings at the canal crossings have been little expanded, although the roads are busy and the three canal-side pubs have a thriving trade.

The series of defended buildings along the course of the Leeds & Liverpool Canal allows a rare appreciation of this method of defence. Most buildings that were converted to defence during the Second World War have long since been restored to their original appearance, although the occasional blocked loophole indicates their wartime purpose. On the south bank of the Leeds & Liverpool Canal, however, buildings at all the bridge crossing points still show substantial evidence of their adaptation for defence. The external evidence of the defences erected within these buildings might be supplemented in the future by interior surveys that would establish if the buildings were strengthened internally.

This landscape, with its bridge crossings still providing such vivid evidence of their 1940 defence, is important in showing how the line was defended by fortified buildings against attack from the north. The relationship between the stop line defence and that of the later airfield is also of interest, and it is instructive to see such a junction of two types of defended landscape from different periods of the war.

Access

The defence works can be seen at the various bridge crossings, and the towpath running on the north bank of the canal enables each location to be visited in turn. The airfield defence post lies on private land and permission would need to be obtained to visit it. A car park is available for visitors to the canal opposite The Slipway public house at Crabtree Bridge.

Documentary Sources

'Operation Instruction No 7', 5.7.1940 (from Western Command 'G' War Diary) – TNA: PRO WO 166/94

'Mersey Garrison Operation Instruction No 1', 27.9.1940 and 'Operation Order No 1', 4.12.1940 (from Mersey Garrison HQ War Diary) – TNA: PRO WO 166/1351

West Lancashire District War Diary, 1942 – TNA: PRO WO 166/6810

'Mersey Garrison Home Security Scheme', March 1942 (from Mersey Garrison HQ War Diary) – TNA: PRO WO 166/6872

'Standing Operation Instruction', 1943 (from West Lancashire District HQ War Diary) – TNA: PRO WO 166/10858

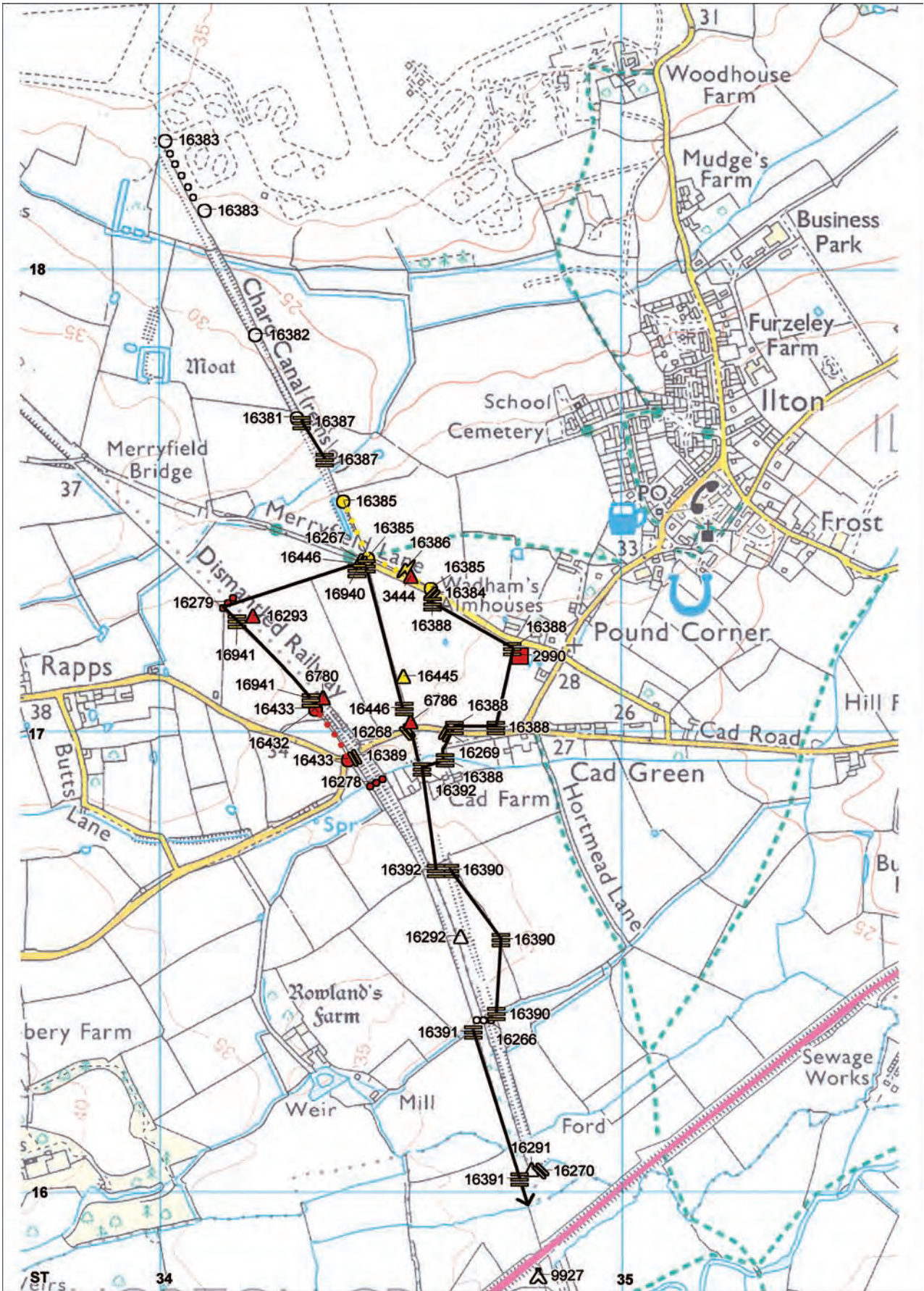
Burscough Royal Naval Air Station: acquisition of freehold, 1942–64 – TNA: PRO DEFE 51/59

Leeds & Liverpool Canal: Burscough: Defence components

Database site reference	NGR	Defence work type	Survival status
7805	SD 4148212312	DEFENDED BUILDING	E
7806	SD 41781220	PILLBOX (VARIANT)	E
7807	SD 4036211855	DEFENDED BUILDING	E
11731	SD 4320612331	DEFENDED BUILDING	E
11732	SD 4291012524	DEFENDED BUILDING	E

E = Extant; R = Removed; I = Infilled; U = Unknown.

The Defence Areas: Area Defence



Ilton

Anti-Tank Island Defence

Location Details

2½ miles (4km) N of Ilminster and 10 miles (16km) SE of Taunton

County: Somerset

Parishes: Ilton; Ashill

National Grid Reference (Cad Road): ST 345170

Landscape

The defence area lies to the south-west of the village of Ilton, and is bisected by the former Chard Canal (by the time of the Second World War, long out of use and infilled, and today just a field division) and by the Chard to Taunton railway line, now dismantled, which come together at the south of the area and run side by side. To the north is Merryfield Airfield (now 'HMS Heron', but during the war used by the United States Army Air Force). To the east are the buildings of Ilton and the small settlement of Cad Green, joined by Church Road. Flat fields lie between two further roads crossing the area, Cad Road and Merryfield Lane, the latter originally continuing further west but now cut short at Merryfield Cottage.

Suburbs of Ilton have developed at Pound Corner and Cad Green since the war. Cad Road is now busy carrying traffic to the A358 and A303 roads that border Ilton to the south and west. This is still essentially a farming landscape, however, and the principal part of the defence area is little affected by development, although some hedgerows have been removed to create larger fields.

Defences

Following the completion of the Taunton Stop Line by approximately October 1940 (see Weycroft defence area), twelve anti-tank islands were constructed at regular intervals along its length, being built throughout the severe winter of 1940/41. The reason for this additional fortification of the line was the greater emphasis placed on all-round area defence in preference to linear defence in directives issued by Headquarters Southern Command under the new policy of General Brooke, C-in-C Home Forces. Four anti-tank islands adjacent to the Taunton Stop Line, both in front of it and to the rear, in fact already existed, having been established at the same time as the initial building of the line. These were at Honiton, Crewkerne, Taunton, and Westonzoyland.

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FIGURE 270 Air photograph taken in 1944 showing the area of the Ilton anti-tank island. The curving line of the railway (the western defence perimeter) is to the left, with the re-excavated canal crossing the centre of the defended enclosure to its right. The anti-tank ditches forming the eastern and north-western perimeter defences are clearly visible, together with lines of anti-tank cubes, railblocks, pillboxes, and the anti-tank gun emplacement [2990]. The latter has a pitched roof as camouflage.
(US/7GP/LOC390 fr3034. ENGLISH HERITAGE (NMR) USAAF PHOTOGRAPHY)

The revised strategy demanded the establishment of defended localities at important communication points on the line itself, each to be given an all-round perimeter capable of resisting attack by armoured fighting vehicles. Wherever possible the locations of these

new anti-tank islands were to be at towns and villages where buildings assisted the defence and where garrisons from local Home Guard units were available.

An exceptional location chosen was at Ilton, where the aim was not to defend the village itself but an open area to its south-west around a junction of communication routes. Here, the diverging lines of a railway and a derelict canal provided earthworks that could be incorporated into the defences at the point where they met the principal road (at that time) from Taunton towards the east. To the north, the stop line followed the course of the canal, and, to the south, that of the railway and canal, here running side by side.

The complete defence perimeter of the anti-tank island had been completed by March 1941, although documentary evidence shows that three planned pillboxes had not yet been constructed at that date. The garrison was to be provided by the Field Army, with Home Guard support. In 1940, the sector in which Ilton lay was the responsibility of 144 Infantry Brigade, and the 8th Bn Somerset Light Infantry had the particular task of reinforcing the Ilton garrison. The Home Guard unit at Ilton was the Ilminster Company of the 2nd Somerset (Taunton) Battalion. By early 1942, Ilton's anti-tank island status had been downgraded to that of a Category 'C' nodal point (also termed 'centre of resistance').

There is good documentary evidence for the defences of the anti-tank island, which incorporated and adapted earlier defences of the stop line. The perimeter defences were made up of a combination of anti-tank ditches, concrete cube obstacles, concrete posts, barbed wire entanglements, and land mines. Strengthening these defences were pillboxes, roadblocks, and railblocks, mainly set on the perimeter itself, but with one pillbox at least built inside the defended area. On the east flank, a 2pdr Type 28A anti-tank gun emplacement which, before the construction of the anti-tank island, had had a fire task behind the stop line south-west towards the roadblocks on Cad Road, now stood on the attack side of the defended perimeter. The disused canal, which at Ilton forms the central line of the stop line itself, was re-excavated as an anti-tank ditch, using labour provided by the Auxiliary Military Pioneer Service, a unit which included many intellectual refugees from Europe.

Important surviving structures from the 1940 Ilton defences are the pillbox at Cad Green [6786] and that on the railway embankment to its west [6780]. The former is of a large irregular shape, shuttered with corrugated iron, with a porch added later to protect the entrance from attack from the east after the laying out of the anti-tank island. The latter is an imposing two-storey structure based on the ground plan of a Type 24 pillbox. The emplacement for the 2pdr anti-tank gun [2990] also survives in good condition although there is no public access to it.

Another surviving pillbox is situated in Merryfield Lane [3444], although it is so overgrown it can scarcely be made out. It originally occupied an important position in the anti-tank island defences, at the junction of the northern perimeter with the continuing course of the Taunton Stop Line itself, and was passed on its north side by a line of anti-tank cubes and surrounded by barbed wire and land mines. A Type 24 pillbox close to the former railway line at the north-west corner of the defences [16293] also survives in good condition.

Other defence works still present, although heavily overgrown, are concrete blocks from the railblocks on the north and south perimeters [16278 and 16279].

FIGURE 272 A rare two-storey pillbox [6780] constructed on the basic ground plan of a Type 24. It was built with an upper level of embrasures so that fire was possible across the railway embankment to the west as well as to the north and south. (PHOTO: R J C THOMAS, DECEMBER 2004)



surviving documentary evidence is invaluable. The relatively small extent of the defence perimeter means it can easily be walked and the locations of the various defence works, now removed, established.

The railway embankment is on the western defence perimeter, and, crossing the fields from Cad Road to Merryfield Lane, a hedgerow now runs on the line of the infilled canal. To the east, a hedgerow close to the anti-tank gun emplacement [2990] indicates the



FIGURE 273 Variant form of a hexagonal Type 24 pillbox [6786] built with corrugated-iron shuttering beside Cad Road. It fired north along the line of the former Chard Canal, re-excavated as a defensive earthwork in 1940. The pillbox received an elaborate camouflage scheme as a bus-stop shelter, complete with timetables affixed to the roadside wall. (PHOTO: R J C THOMAS, DECEMBER 2004)



FIGURE 274 Type 24 pillbox [16293] close to the north-west corner of the defences. (PHOTO: R J C THOMAS, DECEMBER 2004)

FIGURE 275 Concrete posts [16433] erected on the west side of the railway embankment as part of the south-western perimeter defences. (PHOTO: R J C THOMAS, DECEMBER 2004)



perimeter line here. The two roads broadly define the southern and northern boundaries. There are few signs of the perimeter defences themselves: the machine-dug ditches forming the principal anti-tank defence have been infilled, and the rows of cubes removed. However, on the west side of the former railway embankment, close to pillbox [6780], one surviving cube stands at a point where a line of concrete posts begins that formed part of the south-western defences of the anti-tank island. Construction work for Merryfield Airfield, which was built after the 1940/41 invasion danger period, obliterated the defence works of the stop line to the north. Accommodation sites for the airfield were also built on the edge of Ilton close to the anti-tank island.

Surviving structures occupy positions on each defensive face, and two of these [6780 and 6786] are outstanding examples of variant types. The double-storey pillbox [6780] was built high so as to be able to fire west over the railway embankment; it stood close to the station halt and was camouflaged as a water tank. Both pillboxes [3444] and [6786] commanded roadblocks, the latter at the edge of Cad Road being disguised as a bus shelter. The precise camouflage scheme of the anti-tank gun emplacement [2990] is not known, but air photographs show it was given an artificial pitched roof. The concrete blocks from the two railblocks [16278 and 16279] are also rare survivals.

The area provides a good example of the defences of an anti-tank island and, because at Ilton those defences have always been within a rural landscape, the survival of individual structures is proportionately higher than is generally found in the urban context where most anti-tank islands were sited. The coherence of the defence can thus still be seen on the ground within the landscape setting that determined its position.

Access

The defence works can be seen from the roads and lanes west of Cad Green. The embankment of the former railway line can also be walked north of Cad Road, where parking is possible. There is no public access along the railway to the south, where other defence works may survive.

Published Sources

- Osborne, M, 2004 *Defending Britain: Twentieth-Century Military Structures in the Landscape*. Stroud: Tempus Publishing
- Warren, D, 2000 *Now You See It – Then You Didn't: The Inter-Channel Stop Line of 1940*. Taunton: Somerset Industrial Archaeological Society

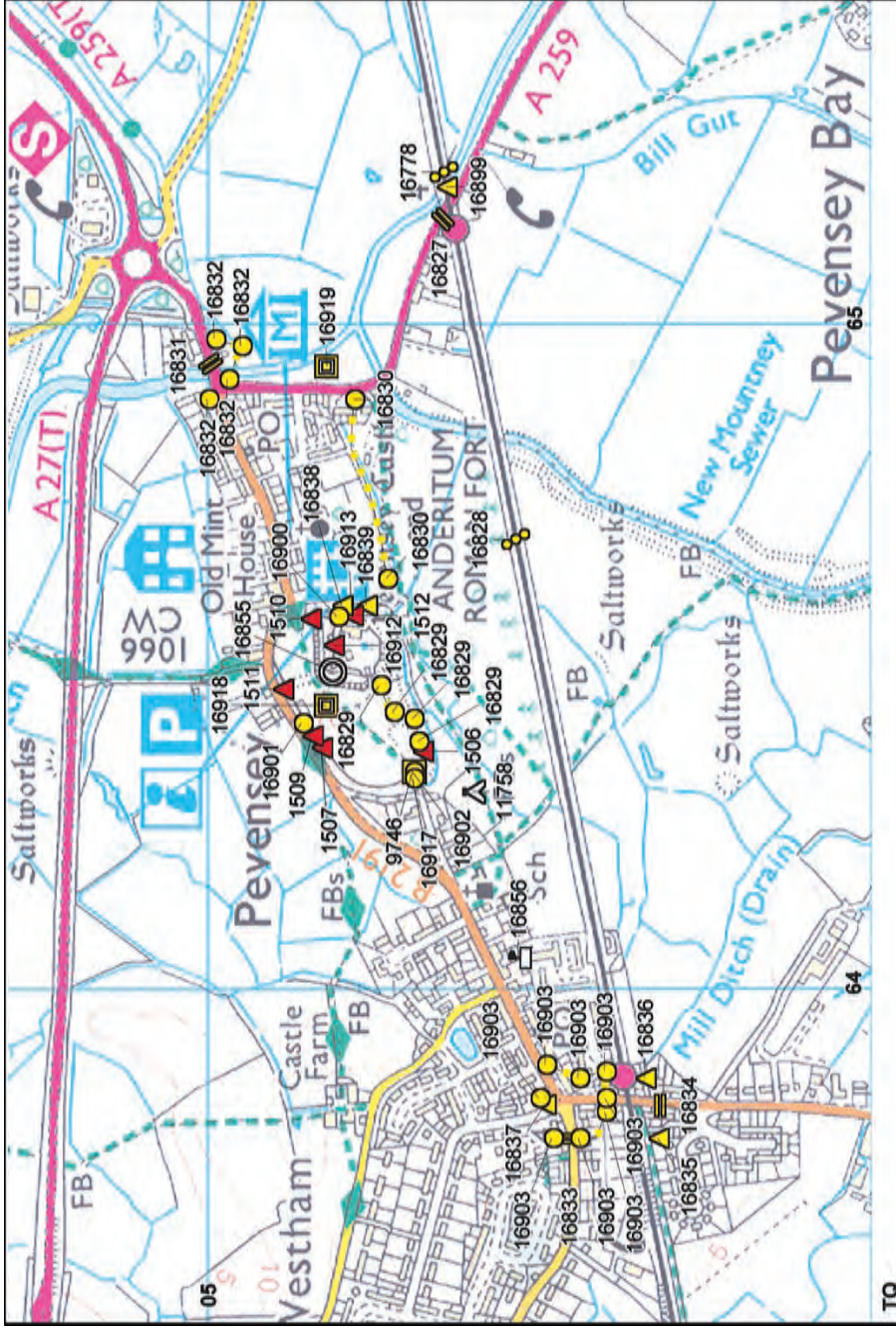
Documentary Sources

- 'Taunton Stop Line' (record map folios of Major F B Goodman RE, DCRE Taunton), 1940 – Wills Collection, NMR
- 144th Infantry Brigade War Diary, 1940 – TNA: PRO WO 166/1007
- 'Southern Command Home Defence programme, 1940' (map from General Headquarters Papers, Defence Works) – TNA: PRO WO 199/48
- 'Home Defence Progress Report: Taunton Line', 30.10.1940 (from General Headquarters Papers, Home Forces) – TNA: PRO WO 199/1803
- 'Report on Taunton Stop Line', December 1940 (from General Headquarters Papers, Home Defence – Stop Lines) – TNA: PRO WO 199/1810
- 'Plans of Anti-Tank Islands on the Taunton Stop Line' – 'Ilton A/T Island', 30.1.1941 – Wills Collection, NMR
- 'Western Area Defence Scheme', 23.6.1941 (from Western Area HQ War Diary) – TNA: PRO WO 166/1251
- 'Somerset and Bristol Area Defence Scheme', 1942 (from Somerset and Bristol Area War Diary) – TNA: PRO WO 166/6713
- 'Operation Instruction No 4', 7.3.1942 (from South Somerset Sub-Area War Diary) – TNA: PRO WO 166/6775
- 'Somerset and Bristol Area Defence Scheme', 1943 (from Somerset and Bristol Area War Diary) – TNA: PRO WO 166/10824
- Letter to Defence of Britain Project from Mr P Davies – late 552 Army Troops Coy RE – re the construction of the Taunton Stop Line, 26.10.1997 – Defence of Britain Project Archive, NMR

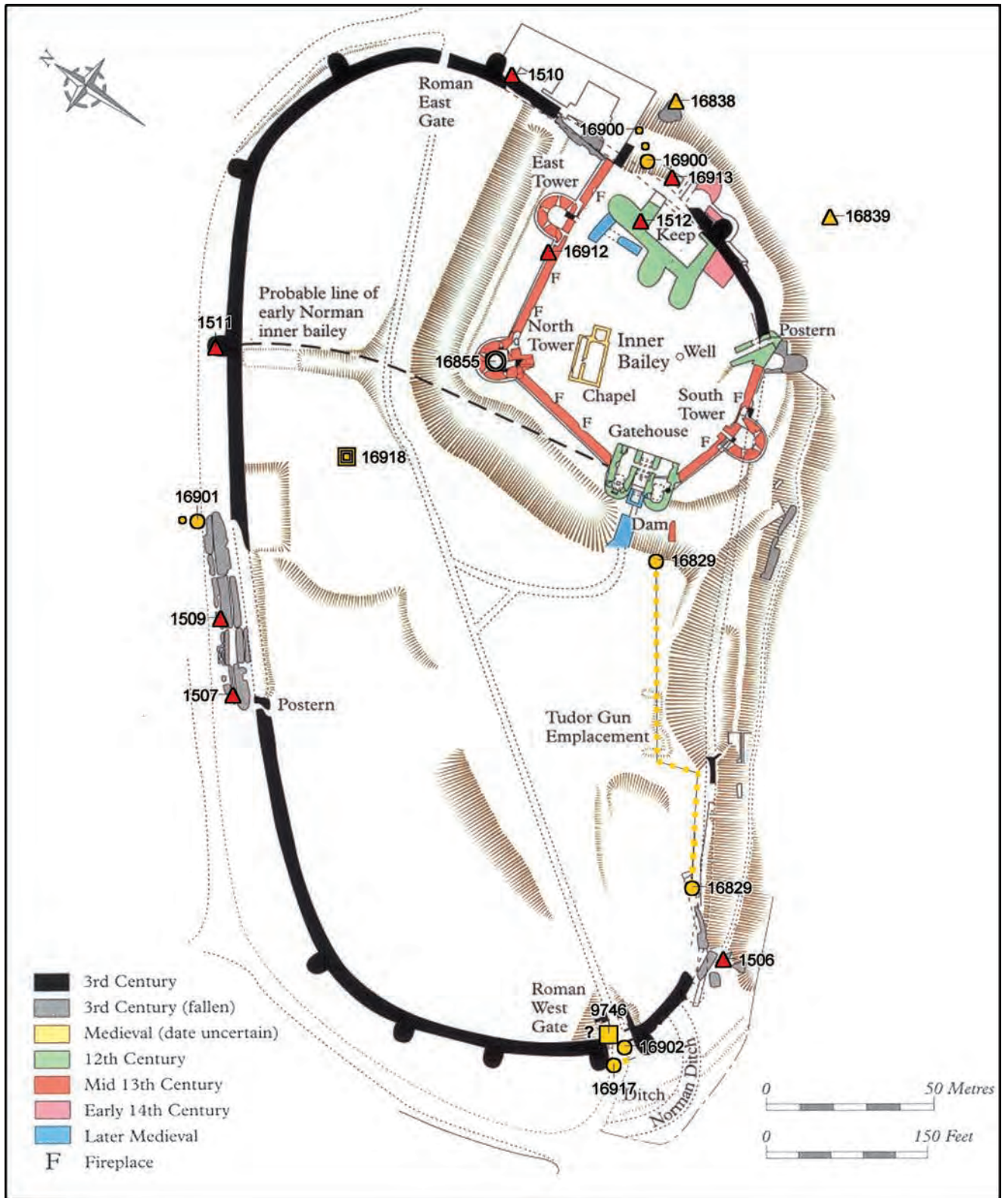
Ilton: Defence components

Database site reference	NGR	Defence work type	Survival status
2990	ST 3477817155	ANTI TANK GUN EMPLACEMENT (TYPE 28A)	E
3444	ST 3454017339	PILLBOX	E
6780	ST 3436017065	PILLBOX (VARIANT)	E
6786	ST 3454917010	PILLBOX (VARIANT)	E
9927	ST 34821582	AUXILIARY UNIT OPERATIONAL BASE	U
16266	ST 34701638	RAILBLOCK	U
16267	ST 34451736	ROADBLOCK	R
16268	ST 34551701	ROADBLOCK	R
16269	ST 34621700	ROADBLOCK	R
16270	ST 34801605	ROADBLOCK	U
16278	ST 34471689	RAILBLOCK	E
16279	ST 34151728	RAILBLOCK	E
16291	ST 3480616050	PILLBOX	U
16292	ST 3464116556	PILLBOX	U
16293	ST 3419517236	PILLBOX (TYPE 24)	E
16381	ST 34301768	ANTI TANK BLOCK	U
16382	ST 34211786	ANTI TANK BLOCK	U
16383	ST 34081813 – ST 34001828	ANTI TANK BLOCK	U
16384	ST 34591730	ROADBLOCK	R
16385	ST 34401750 – ST 34451737 – ST 34591731	ANTI TANK BLOCK	R
16386	ST 34531736	MINEFIELD	R
16387	ST 34311767 – ST 34361759	ANTI TANK DITCH	I
16388	ST 34581727 – ST 34761717 – ST 34731701 – ST 34641701 – 7ST 34621694	ANTI TANK DITCH	I
16389	ST 34431695	ROADBLOCK	R
16390	ST 34731639 – ST 34741655 – ST 34631670	ANTI TANK DITCH	I
16391	ST 34681635 – ST 34781603	ANTI TANK DITCH	I
16392	ST 34571692 – ST 34601670	ANTI TANK DITCH	I
16432	ST 3437517052	CUBE	E
16433	ST 3437517051 – ST 34411696	POST	E
16445	ST 34531712	PILLBOX	R
16446	ST 34451736 – ST 34551703	ANTI TANK DITCH	I
16940	ST 34431735 – ST 34181726	ANTI TANK DITCH	I
16941	ST 34171724 – ST 34331707	ANTI TANK DITCH	I

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Pevensey Castle

Nodal Point Defence

Location Details

4 miles (6.5km) NE of Eastbourne and 6 miles (9.5km) W of Bexhill

County: East Sussex

Parishes: Pevensey; Westham

National Grid Reference (Pevensey Castle): TQ 645048

Landscape

The Roman Saxon Shore Fort, which later became medieval Pevensey Castle, is situated within the village of Pevensey which is now connected to the larger settlement of Westham to the west. The castle is a scheduled ancient monument in the care of English Heritage. The southern wall of the Roman fort was once washed by the open sea, but the coast of Pevensey Bay has now retreated a mile or so (c 1.5km) and the intervening landscape is flat, drained marshland intersected by ditches and sewers (field drains). A broad expanse of wetlands, the Pevensey Levels, now a National Nature Reserve, stretches away to the north and east. Pevensey itself occupies what was once a peninsula connected to the higher land to the west.

A canalised river, Salt Haven, flows on the east side of Pevensey, and is crossed by the A259 road that turns to follow it towards the settlement of Pevensey Bay on the coast. This road crosses the Eastbourne to Hastings railway line at Pevensey Halt. Within Pevensey village the buildings are grouped mainly to the east of the castle, and Castle Road (B2191) follows a curving route around the north wall of the Roman fort. A public footpath runs across the interior of the Roman fort (the medieval outer bailey) between the west and east gates.

Defences

The last successful invasion of England was in 1066, with landings on a then open coastline beneath the walls of Pevensey Roman fort. Nine hundred years later, under the Operation Sealion plan, a spearhead of the German 9th Army was poised to repeat history at the same location. Beach reconnaissances by the British military identified Pevensey Bay as being exceptionally vulnerable to attack, and a complex system of defence was swiftly organised there following the fall of France in June 1940.

By July 1940, Pevensey Castle was being put into a defensible state, the principal concern being to prevent its capture by armoured fighting vehicles that might use its interior as a strongpoint. The Roman east gate was closed entirely by three concrete walls, and the west gate by two baffle walls. In addition, the main and postern gates of the medieval inner bailey were blocked with walls of concrete and brick.

FIGURE 276 Pevensey Castle, with the west curtain wall and north tower of the medieval castle to the right and the north wall of the Roman fort in the distance. (PHOTO: THE AUTHOR, 10 DECEMBER 2003)



Pevensey, including Westham, was now designated as a ‘fortress’, which required a central keep surrounded by a continuous anti-tank obstacle. The castle served as that keep, the ruined gaps in its walls being plugged with lines of anti-tank cubes. Forty-eight cubes were positioned along the fallen south wall of the Roman enclosure, and other cubes blocked gaps in the north wall and by the east gate. Pevensey village, and the coastline to its south, fell within Pevensey Sub-Sector, one of four sub-sectors forming ‘C’ Sub-Area, defended by 219 Infantry Brigade. The Sub-Sector battle headquarters were set up within the north tower of the medieval castle.

Pevensey fortress (later termed a nodal point) was defended by the headquarters company of an infantry battalion of the Field Army – in July 1940 the 4th Bn Duke of Cornwall’s Light Infantry – and by 65 men of the 21st (Eastbourne) Bn Sussex Home Guard. The commanding officer of the regular battalion, Lt Col Harrowing, began the work of fortifying Pevensey Castle by placing machine gun emplacements within its walls, and by strengthening various of the dungeons and towers of the medieval structure to serve as headquarters. This work was carried out by 562nd Field Company Royal Engineers. In October 1940, the 4th Bn Duke of

FIGURE 277 Portion of a German map on an Ordnance Survey base overprinted with symbols indicating the defences of Pevensey Bay in November 1940. The oval-shaped enclosure of Pevensey Castle is shown (‘Altes Fort’ – ancient fort) with the anti-tank blocks on its southern side, as well as defended localities, ringed with anti-tank blocks, at Westham and on the east side of Pevensey. Pillboxes and anti-tank blocks on the coastline are also shown. (COURTESY OF THE RAF MUSEUM, HENDON)





FIGURE 278 RAF air photograph of Pevensey Castle taken on 21 August 1940 showing the fallen south wall of the Roman fort protected by a line of anti-tank blocks. Other blocks are positioned on the east side of the medieval keep. At this date, the machine gun emplacements around the walls of the Castle would have been under construction, or just completed, although there is no direct evidence in the photograph for them.

(RAF/26C/UK1443 fr1585. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)

Cornwall's Light Infantry was replaced by the 11th Bn East Surrey Regiment, which also had three companies forward defending the beaches of Pevensey Bay.

In addition to the machine gun emplacements on the castle walls, an anti-tank emplacement was constructed at the Roman west gate and a further 2pdr anti-tank gun position prepared

within the outer bailey. Other pillboxes were built in the area beyond the eastern walls of the castle and the cattle market (now the site of the car park). The fortress of Pevensey was further protected by defended localities, with roadblocks, anti-tank cubes, and pillboxes at Westham and at the Salt Haven crossing to the east. The railway at Pevensey Halt was defended by both a railblock and a roadblock, and probably by a pillbox.

The surviving defence works at Pevensey are all built within the structure of the castle; nothing survives of the other defences of the nodal point. Viewing the castle from the car park on its eastern side, a machine gun emplacement [1512] built at the top of the ruins of the medieval keep, and firing west and east through distinctive horizontal embrasures (a feature of the castle defences), can be seen. Below it, built to merge with tumbled ruins of the keep, is a rectangular emplacement with four embrasures set low to the ground [16913].

FIGURE 279 Machine gun emplacement [1512] constructed to resemble the medieval masonry of the keep and firing through two horizontal embrasures to east and west. The wide horizontal embrasures are a feature of the defences at Pevensey Castle and can be found elsewhere in East Sussex, for example at Rye. (PHOTO: THE AUTHOR, 10 DECEMBER 2003)





FIGURE 280 The machine gun emplacement [1512] inserted in the medieval keep seen from the inner bailey. (PHOTO: THE AUTHOR, 10 DECEMBER 2003)

A further machine gun emplacement was positioned at the top of the wall south of the Roman east gate [1510].

Within the medieval inner bailey the concrete reinforcement of both the east and north towers can be seen, and in the exterior face of the north wall, close to the east tower, a Second World War loophole can be made out [16912]. Close to the Roman west gate, a machine gun emplacement with embrasures firing two ways was constructed amongst tumbled masonry [1506]. There are two further machine gun emplacements to be found within the fallen section of the Roman north wall [1507 and 1509], of which the latter is a purpose-built concrete and brick pillbox disguised with flint facing to look like the castle ruins. A further machine gun emplacement was built high in the medieval tower constructed on top of a Roman bastion [1511]. While the exterior of these structures can be made out clearly, there is no entry to the interior of any of them for health and safety reasons.

Significance

In the context of its Second World War defences, Pevensey Castle provides an excellent example of a historic fortification adapted for defence in the Second World War. Comparisons can be made, for example, with Mont Orgueil Castle or Elizabeth Castle in Jersey which were refortified by the Germans. An imaginative decision made by English Heritage's predecessor, the Ministry of Works, after the war resulted in many of the Second World War defences being retained within the castle structure, although the anti-tank gun emplacement at the west gate was demolished as it was said to obscure the Roman foundations (Osborne 2004, 219). Visitors are thus able to see the 1940 defences as part of the long history of fortification at the castle.

The Second World War fortification of Pevensey Castle must be viewed in relation to its adjacent landscape, for the defence of which it served as a central keep. It is set at the

FIGURE 281 Machine
gun emplacement
[1506] built amongst
fallen masonry
south of the Roman
west gate.
(PHOTO: THE AUTHOR,
10 DECEMBER 2003)



end of a finger of higher land surrounded on all sides but the west by a flat landscape of drained marshland intersected by waterways. This is a landscape that would have favoured the defender and obstructed the movement of enemy armoured fighting vehicles. The defences of Westham were designed to prevent the higher land to the west being reached.

Pevensey Castle was prepared for defence against enemy forces surrounding its outer walls, with the two main gateways at the west and east ends being blocked and flanked by gun emplacements. Gaps in the Roman and medieval walls were plugged with concrete obstacles covered by machine gun fire. Despite the removal of certain components of the defence, evidence of the Second World War fighting perimeter is now permanently impressed upon the castle's historic fabric.

Access

Access to the inner bailey of the castle requires the payment of an admission charge, but the walls of the Roman enclosure are publicly accessible free of charge. The car park for the castle is adjacent to the Roman east gate.

Published Sources

- Goodall, J A A, 1999 *Pevensey Castle*, guidebook. London: English Heritage
Meades, D, 1991 *Pevensey Castle: A Handbook for Teachers*. London: English Heritage
Osborne, M, 2004 *Defending Britain: Twentieth-Century Military Structures in the Landscape*. Stroud: Tempus Publishing

Documentary Sources

- 'Defence Scheme for 'C' Sub-Area', June 1940 (from 136th Infantry Brigade War Diary) – TNA: PRO WO 166/992

135th Infantry Brigade War Diary, 1940 – TNA: PRO WO 166/990
4th Bn Duke of Cornwall's Light Infantry War Diary, 1940 – TNA PRO WO 166/4215
562nd Field Company Royal Engineers War Diary, 1940 – TNA: PRO WO 166/3800
1/6th Bn Queen's Royal Regiment War Diary, 1940 – TNA: PRO WO 166/4497
'45 Division Defence Scheme', October 1940 (from 45 Division 'G' Branch HQ War Diary) – TNA:
PRO WO 166/536
'C' Sub-Area Defence Scheme', October 1940 (from 219th Infantry Brigade War Diary) – TNA: PRO
WO 166/1072
Südostküste England – Schrägbildreihe III: Eastbourne – Dungeness, 20.11.1940 – RAF Museum,
Hendon AC 95/130/1
9th Bn The King's Regiment War Diary, 1941 – TNA: PRO WO 166/4354
165th Infantry Brigade War Diary, 1941 – TNA: PRO WO 166/1038
Befestigungskarte Großbritannien: 1:50,000 (Sheet 134), 1.6.1941 – BLML 1305(13)
'38 Division Defence Scheme', July 1941 (map) (from 38 Division War Diary) – TNA: PRO WO
166/482
'Pevensey Castle: Maintenance and minor works', 1940–58 (Ministry of Works file) – TNA: PRO
WORK 14/1584

Pevensey Castle: Defence components

Database site reference	NGR	Defence work type	Survival status
1506	TQ 6436104675	MACHINE GUN EMPLACEMENT	E
1507	TQ 6436604828	MACHINE GUN EMPLACEMENT	E
1509	TQ 6438104838	MACHINE GUN EMPLACEMENT	E
1510	TQ 6456004845	MACHINE GUN EMPLACEMENT	E
1511	TQ 6445304898	MACHINE GUN EMPLACEMENT	E
1512	TQ 6456504781	MACHINE GUN EMPLACEMENT	E
9746	TQ 64330469	ANTI TANK GUN EMPLACEMENT	R
11758	TQ 643046	AUXILIARY UNIT SPECIAL DUTIES OUTSTATION	U
16778	TQ 65240464	RAILBLOCK	R
16827	TQ 65160465	ROADBLOCK	R
16828	TQ 64680454	RAILBLOCK	R
16829	TQ 64360468 –	ANTI TANK BLOCK	R
	TQ 64410469 –		
	TQ 64420472 –		
	TQ 64460474		
16830	TQ 64620473 –	ANTI TANK BLOCK	R
	TQ 64890478		
16831	TQ 64940500	ROADBLOCK	R
16832	TQ 64890500 –	ANTI TANK BLOCK	R
	TQ 64920497 –		
	TQ 64970495 –		
	TQ 64980499		
16833	TQ 63780444	ROADBLOCK	R
16834	TQ 63820432	ROADBLOCK	R
16835	TQ 63780432	PILLBOX	R
16836	TQ 63870434	PILLBOX	R
16837	TQ 63830449	PILLBOX	R
16838	TQ 6457404789	PILLBOX	R
16839	TQ 64580476	PILLBOX	R
16855	TQ 64480481	ARMY BATTLE HEADQUARTERS	U
16856	TQ 64050453	ARMY HEADQUARTERS	U
16899	TQ 65210464	PILLBOX	R
16900	TQ 6456804812	ANTI TANK BLOCK	R
16901	TQ 64400487	ANTI TANK BLOCK	R
16902	TQ 64330469	ANTI TANK OBSTACLE	R
16903	TQ 63780448 –	ANTI TANK BLOCK	R
	TQ 63780444 –		
	TQ 63820440 –		
	TQ 63840440 –		
	TQ 63880440 –		
	TQ 63870444 –		
	TQ 63890449 –		
	TQ 63840450		

Pevensey Continued

Database site reference	NGR	Defence work type	Survival status
16912	TQ 64520481	MACHINE GUN EMPLACEMENT	E
16913	TQ 6456704781	MACHINE GUN EMPLACEMENT	E
16917	TQ 64320469	ANTI TANK BLOCK	R
16918	TQ 64430482	ANTI TANK GUN POSITION	R
16919	TQ 64940482	ANTI TANK GUN POSITION	R

E = Extant; R = Removed; I = Infilled; U = Unknown.

Cripp's Corner

Nodal Point Defence

Location Details

4 miles (6.5km) NNE of Battle and 8 miles (13km) N of Hastings

County: East Sussex

Parish: Sedlescombe

National Grid Reference (Cripp's Corner village centre): TQ 777212

Landscape

Cripp's Corner lies within a heavily wooded area of the Weald, and is a small settlement that has grown up at the junction of north to south and west to east routes. The B2089 road is carried over the B2244 by a viaduct here. Around Cripp's Corner there are open areas of grass fields set in a rolling landscape of narrow steep-banked lanes, thick hedgerows, and dense woodland. The main areas of housing, together with the White Hart public house and a garage, are by the road junctions at the centre of the village and alongside the roads running to the east. To the west, the B2089 makes a further junction with lanes at Swaile's Green. Off the B2244 to the south there is a saw mill and a vineyard. A number of houses have been built on the eastern side of the village since the war.

Defences

In the critical invasion danger period of the summer and early autumn of 1940, the East Sussex coast and its hinterland were defended by 45th Division of XII Corps. The division's defence scheme dated October 1940 shows Cripp's Corner as a designated 'fortress' within the Rear Sector of 'B' Sub-Area, required to be surrounded by a continuous anti-tank obstacle either natural or artificial. The strategy here was to deny enemy armoured fighting vehicles access to the road system that radiated from the village. Other fortresses in 'B' Sub-Area were at Rye, Northiam, Battle, and Mountfield. In 1941, the fortresses were redesignated nodal points, additional sites at Winchelsea and Sedlescombe being added to the list.

Cripp's Corner lay between two west to east stop lines: the Division Stop Line to the south, passing through Battle, and the Corps Stop Line to the north, following the River Rother. These stop lines themselves were built into a grid (a system of 'fences') dividing up much of the Weald and were defended at their crossing points, with the aim of containing the advance of the invading enemy forces. The fence lettered WL-WM passed to the west of Cripp's Corner.

The continuous anti-tank perimeter demanded by 45th Division was provided by the construction of some 800 anti-tank blocks, each 7ft (2.1m) high by 5ft (1.5m) broad, placed



FIGURE 282 The enclosed nature of the landscape with its sunken, steep-sided lanes is shown by this photograph of Compasses Lane south of Swaile's Green which for a short distance followed the western defence perimeter of the fortress of Cripp's Corner, and was considered a sufficient anti-tank obstacle by itself without the need for further fortification. (PHOTO: THE AUTHOR, 12 DECEMBER 2003)

in single lines around Cripp's Corner for a total distance of some one and a half miles (2.5km): on its northern side; on its western flank at Swaile's Green and to the south; both west and east of the saw mill in the southern sector; and between the B2089 and B2165 roads to the north-east. Areas of woodland such as Andrew's Wood, Kemp's Wood, and Greenden Wood were also incorporated into the defence perimeter. Where roads cut the perimeter, roadblocks were built, and the sites of two pillboxes to defend these are known, one of which survives [9552]. It is recorded that various houses and other buildings within Cripp's Corner village were placed in a state of defence. This enormous construction programme was carried out by the 205th Field Company Royal Engineers, with the assistance of civilian contractors, between August and mid-September 1940.

The anti-tank blocks were almost certainly cast *in situ*, and represent some 135,000 cu ft (3820m³) of poured concrete. The digging of the holes alone for them, each less than 3ft (1m) from its neighbour, represented a vast amount of labour. The aim was to prevent tanks entering the fortress by the sheer size and close-spacing of the obstacles themselves. There were no anti-tank gun emplacements set around the perimeter.

Significance

The perimeter lines of anti-tank blocks of the designated fortresses of East Sussex appear to survive uniquely at Cripp's Corner where the landscape is very largely unchanged: similar defences at Rye and Battle, for example, are believed to have been almost entirely removed by development. The lines of blocks were set out following field and other property boundaries, and have now become an integral part of those boundaries, a factor that has helped in their survival. At no point were the blocks set, for instance, diagonally across a field, but they were often placed to run along hedgerows on two or more sides of a field.

FIGURE 283 Anti-tank blocks on the southern defence perimeter [9553]. Approximately 800 of these blocks, each some 7ft (2.1m) high and 5ft (1.5m) wide, were set in lines around Cripp's Corner.
(PHOTO: THE AUTHOR, 12 DECEMBER 2003)



The staggered perimeter that was thus formed must have been considered of advantage militarily; certainly the hedgerows would have assisted in camouflage or even made the obstacle more difficult to surmount. On the southern perimeter, the blocks lay on both sides of the B2244 road, creating a defended funnel that ended at a roadblock. Where the

FIGURE 284 Anti-tank blocks [718] forming the north-western defence perimeter running east at the edge of a field at Swaile's Green.
(PHOTO: THE AUTHOR, 12 DECEMBER 2003)





FIGURE 285 The line of anti-tank blocks [9553] can be seen prominently in the winter months from the B2244 road south of Cripp's Corner. A public footpath runs beside them. (PHOTO: THE AUTHOR, 12 DECEMBER 2003)

blocks reached a wood, the edge of the wood itself usually continued the line, as, with the exception of a short section of blocks at Andrew's Wood on the northern perimeter, the blocks appear to have been discontinued at these points. As the woods themselves would not have been considered a sufficient obstacle, it must be assumed that trees were felled to form a barrier. At Greenden Wood, the perimeter appears to have passed through the wood, and further fieldwork here might find evidence of earthwork defences. South of Swaile's Green, a short length of a sunken lane was considered a sufficient anti-tank obstacle in its own right.

An explanation for the far-flung nature of the defence perimeter, particularly to the south, lies in an understanding of its principal role not in defence of the village itself against infantry assault, but in denying enemy tanks access to the road system meeting at the centre of the village: the further out the blocks, the more enclosed countryside the tanks would have to traverse to regain a road to the north.

Cripp's Corner represents the finest surviving example of the perimeter of a nodal point formed by linear anti-tank blocks. Indeed, it is probably the best place in the country to see this form of concrete anti-tank obstacle. There are still gaps in the field evidence to be filled in, and more could be done using local oral history, in particular with regard to the fortification of houses within the village.

Access

The anti-tank blocks can be seen at several locations around Cripp's Corner. The best viewing points are at Swaile's Green and opposite the saw mill to the south, while a footpath passes between the blocks west of Beacon Lane in the north-east sector. Parking is difficult at Cripp's Corner, but there is a pull-off at the head of Compasses Lane at Swaile's Green, and lay-bys close to the garage on the B2089 near the centre of the village and south of the saw mill on the B2244.

Documentary Sources

205th Field Company Royal Engineers War Diary – TNA: PRO WO 166/3675

'45 Division Defence Scheme', October 1940 (from 45 Division 'G' Branch HQ War Diary) – TNA:
PRO WO 166/536

'B' Sub-Area Defence Scheme', January 1941 (from the 133rd Infantry Brigade War Diary) – TNA:
PRO WO 166/988

'Provisional Defence Scheme', 18.2.1941 (from 199th Infantry Brigade War Diary) – TNA: PRO WO
166/1052

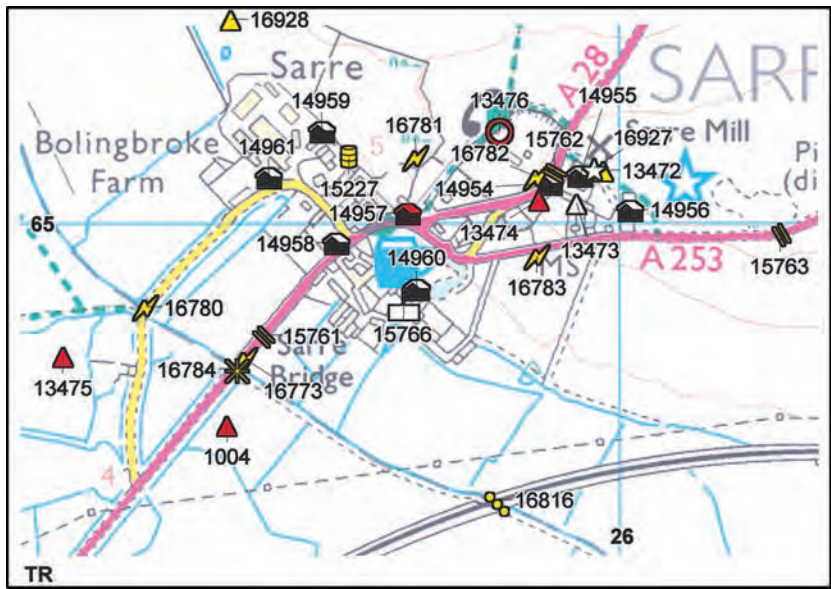
Befestigungskarte Großbritannien: 1:50,000 (Sheet 135), 1.6.1941 – BLML 1305(13)

'38 Division Defence Scheme', July 1941 (map) (from 38 Division War Diary) – TNA: PRO WO
166/482

Cripp's Corner: Defence components

Database site reference	NGR	Defence work type	Survival status
718	TQ 77272123 – TQ 77092114 – TQ 77142106 – TQ 77182105	CUBE	E
1048	TQ 77742133 – TQ 77602134 – TQ 77622123	CUBE	E
9552	TQ 7767920385	PILLBOX (VARIANT)	E
9553	TQ 77662047 – TQ 77672039 – TQ 77792034 – TQ 77912046	CUBE	E
11678	TQ 77652049	ROADBLOCK	R
11679	TQ 78062105 – TQ 78142099 – TQ 78162106 – TQ 78212104 – TQ 78232125 – TQ 78142129 – TQ 78202147 – TQ 7808521490	CUBE	E
16775	TQ 78142098	ROADBLOCK	R
16776	TQ 78332096	ROADBLOCK	R
16779	TQ 77672060	PILLBOX	R
16822	TQ 77202089 – TQ 77322080 – TQ 77342081	CUBE	E
16823	TQ 77262107	DEFENCE WORK	R
16824	TQ 77572113	DEFENCE WORK	R
16845	TQ 7709221093	ROADBLOCK	E
16846	TQ 78282090	ROADBLOCK	E
16884	TQ 77902130 – TQ 77942137	CUBE	U
16885	TQ 77532147 – TQ 77562137	CUBE	U
16886	TQ 77642047 – TQ 77632039	CUBE	E
16914	TQ 77632123	PILLBOX	R
16915	TQ 77182098	CUBE	E
16950	TQ 77632039 – TQ 77462037	CUBE	U

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Sarre

Nodal Point Defence

Location Details

8 miles (13km) NE of Canterbury and 7 miles (11km) SW of Margate

County: Kent

Parish: Sarre

National Grid Reference (centre of Sarre): TR 257650

Landscape

The village of Sarre lies at the western edge of the Isle of Thanet, on a low peninsula that once projected into the Wantsum Channel separating Thanet from the mainland. Remains of a harbour can be found here, and a Saxon cemetery has been excavated on the east side of the village.

Sarre stands at the junction of the A28 road (from Canterbury to Margate) with the A253 that crosses the southern edge of Thanet on its way to Ramsgate. It is a compact settlement that was once much larger, with a church (long since demolished) and two inns – the Kings Head and the Crown – which have catered over the centuries for the many travellers passing this way to the East Kent ports. A working windmill stands on its east side, and a large house (Sarre Court) off the A253 at the centre of the village.

On the western and southern sides of Sarre are level pasture fields, intersected by drainage channels of the former Wantsum Channel. The A28 crosses this drained land on a low causeway known as Sarre Wall. To the south, the River Stour flows from west to east, and running roughly parallel with the river on its north side is the Canterbury to Thanet railway line. On the higher land of the Isle of Thanet to the north of Sarre lie rich arable fields, amongst which is the nearest village, St Nicholas at Wade, a little over a mile away (2km).

There have been few developments to Sarre since the war, although an area of farm buildings adjacent to Bolingbroke Farm on the north-west side has been rebuilt recently as luxury houses. Sarre Mill is still a working windmill open to visitors.

Defences

In June 1940, Sarre was a Category 'A' nodal point lying within the East Kent No 7 Sector defended by 43rd Division. It was one of several nodal points and defended villages facing key invasion danger beaches between Margate and Dover. To their rear ran a XII Corps stop line between Dover and Whitstable. The headquarters of 1 (London) Infantry Brigade were established at Sarre Court, this brigade being replaced later in 1940 by 128 Brigade and, in 1941, by 131 Brigade. Early in 1941, an underground brigade battle headquarters was constructed in tunnels bored into the side of an old quarry off the A28 road on the northern outskirts of Sarre [13476]. Later in the war the tunnels were used to store



FIGURE 286 Looking south-east from Bolingbroke Bridge along the course of the River Wantsum, all that survives today of the former Wantsum Channel that once separated the Isle of Thanet from the mainland. Sarre Bridge is in the background. In 1940, both bridges were prepared for demolition and pipe mines were laid on their approaches.

(PHOTO: THE AUTHOR,
10 FEBRUARY 2004)

explosives.¹ They are believed to survive in good condition, but have been sealed off by the landowner and there is now no access. A small army camp, from which five huts, including three Nissens, survive, was established in the quarry probably at a later period in the war.

Between July and August 1940, Sarre was prepared for all-round defence by B Coy 1st Canadian Pioneer Battalion of the Canadian VII Corps. The defences that were constructed were especially thorough and were intended to serve as 'an example of what might be done elsewhere'. The village was divided into three platoon areas with a company headquarters at its centre. Many houses and other buildings were fortified with pillboxes inserted in them. Roadblocks were established on all routes into the village, and the bridges prepared for demolition with Canadian pipe mines set into the road surfaces to be exploded to create craters that would serve as anti-tank obstacles. Some of these explosives were found still in place when Sarre Bridge was repaired in recent years.

FIGURE 287 The disused quarry within which the tunnels of the underground brigade battle headquarters were dug [13476]. The tunnels survive but are in private ownership and are now sealed. The huts are believed to be from a later army camp. (PHOTO: THE AUTHOR, 10 FEBRUARY 2004)



A map survives with the War Diary of the Canadian VII Corps and shows the defence dispositions in and around the village, with the fields of fire from the defended buildings. It does not show, however, the earthworks – slit trenches, weapon pits, and section posts – that would also have been dug and the extensive earthwork and barbed wire outer perimeters. Such defences are clear in a German air photograph of the other nodal point close by at St Nicholas at Wade, and it is reasonable to assume that they would have been present at Sarre as well. The area of the Isle of Thanet around St Nicholas at Wade was also extensively blocked against enemy aircraft landing. Although units of the regular Field Army would have been manning Sarre’s defences in the critical invasion danger months of 1940, some defence positions were also the responsibility of E Coy 6th (Thanet) Bn Kent Home Guard.

Three pillboxes (possibly four: one adjacent to Sarre Mill could not be located during fieldwork) survive at Sarre. Two to the west of the village [1004 and 13475] are Type 22s and must be on, or close to, the perimeter defences at these points. The third, so overgrown that it can scarcely be seen [13474], lies by the A28 road just south of Sarre Mill. This is a rectangular Type 23 with a central chamber for anti-aircraft fire, a type normally found in Lincolnshire (see, for example, Freiston Shore and Saltfleetby defence areas) and very rare in Kent. Another example of this type close to the mill is believed to have been removed recently, and a further one perhaps stood to the north of Bolingbroke Farm. The area around Sarre Mill was an important point in the eastern defences of Sarre, and the mill almost certainly served as an observation post. A number of pillboxes and fortified buildings, now demolished, stood there.

Of the various buildings that were fortified in Sarre, there is little external evidence today. Some wall paintings by Canadian soldiers are said to have been found in Sarre House in recent years, and the Kings Head Inn has a sign painted on an external wall that is probably of military origin, but it is hard to decipher. Soldiers’ letters and other artefacts



FIGURE 288 Inside the underground battle headquarters [13476]: a photograph taken in January 1998 by the organisation, Subterranea Britannica. (REPRODUCED BY COURTESY OF SUBTERRANEA BRITANNICA)

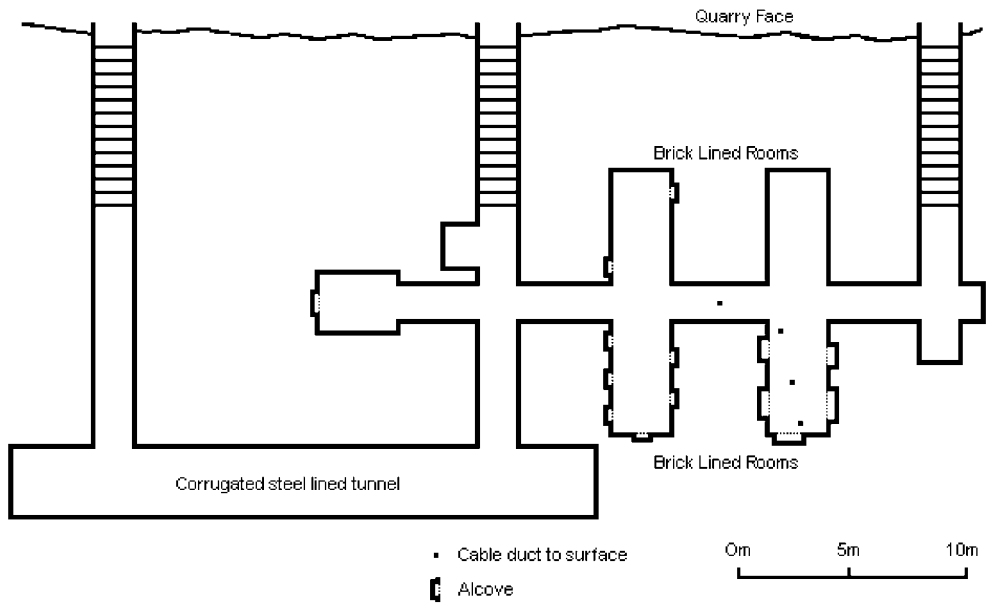
found during refurbishment indicate that the Kings Head had a significant Second World War role, possibly as a battalion, or other unit, headquarters. Tunnels, bricked up by the Army at the end of the war, run from the cellars.

Significance

Sarre provides a good illustration of a frontline nodal point prepared for defence in 1940. It has several unusual features with the potential for further investigation, both in terms of documentary research and fieldwork. Although the great majority of the defence works have long since been cleared away, enough sites survive to indicate the character of the defence; others probably remain to be discovered. The fullness of the documentary evidence enables the defence roles of individual buildings to be established, showing how they were adapted for military purposes.

Although a small amount of housing development has taken place, the general appearance of Sarre remains as it was during the Second World War. The village received

FIGURE 289 Plan made in 1998 by Subterranea Britannica of the underground battle headquarters [13476]. (REPRODUCED BY COURTESY OF SUBTERRANEA BRITANNICA)



an all-round defence perimeter, but was most vulnerable to attack from the north-east where the higher, open land of the Isle of Thanet would have made an enemy approach easier. On its other sides, Sarre was protected by the water-courses and drainage ditches of the former Wantsum Channel, restricting the movement of attacking armoured fighting vehicles. An important route into Sarre was from the south over the causeway of Sarre Wall. The bridge here crossing the River Wantsum was blocked and mined, and a

FIGURE 290 Sarre House [14957] commanded the junction of the A28 and A253 roads at the centre of Sarre village. The house was fortified in 1940/41 with six firing positions covering its north and south sides, but there is no external evidence of this defence today. (PHOTO: THE AUTHOR, 10 FEBRUARY 2004)





FIGURE 291 The King's Head Inn was possibly a unit headquarters during the war. Tunnels, now blocked, lead from the cellars, but their extent and purpose is not currently known. (PHOTO: THE AUTHOR, 10 FEBRUARY 2004)

pillbox [1004] stood forward of it on a low ridge, firing north to cover the roadblock. To its west is another pillbox [13475] occupying a position that must have been on the outer perimeter, but defending as well another bridge close by. It stands today on a small mound with its concrete base exposed, perhaps as a result of the shrinkage of the underlying peat.

Of the three defended localities (platoon areas) within the village, that on the high land at Sarre Mill can be most readily appreciated today. A surviving pillbox nearby was located to fire over a roadblock a short distance to the north [13474]. The commanding position of Sarre House, fortified with machine gun posts, at the road junction at the centre of the village is clear. A new housing development on the site of farm buildings close to Bolingbroke Farm has probably removed evidence of this important defended locality on the vulnerable north side of the village.

Of major importance is the underground battle headquarters, a category of defence site requiring further research. Although other examples survive, for example at Tunbridge Wells, Canterbury, and Reigate, it is believed none has been fully surveyed or is available for public inspection.

Sarre would provide a good location for a local history project to gather surviving oral testimony and to undertake fieldwork that might examine the interiors of buildings known to have been occupied by the Army to see if evidence of their wartime use survives.

Access

Parking is available in the summer season at Sarre Mill where there is an information board providing details of Sarre's place on the 'St Augustine Trail'. The quarry which contains the entrance to the underground battle headquarters can be viewed from the roadside, and a number of Nissen and other huts can also be seen there. There is no public access.

The various dispositions of the defences can be seen by walking the roads of the village. Pillbox [13474] can be inspected on the wooded margin of the road, but the other surviving pillboxes must be viewed at a distance as there is no public access to the land on which they stand. Care should be taken if proceeding to Sarre Bridge as this stretch of the busy A28 road is without a footpath. There is no car parking available in this area.

Note

¹ Information from Mr F Bressington, a veteran of the Royal Engineer who helped to build the tunnels.

Documentary Sources

'No 7 Sector (Thanet) Defence Scheme', 1940 (from 128th Infantry Brigade HQ War Diary) – TNA: PRO WO 166/978

1 Tunnelling Company Royal Canadian Engineers War Diary, 1940 – TNA: PRO WO 179/468
56 Division CRE War Diary, 1940 – TNA: PRO WO 166/718

220th Field Company Royal Engineers War Diary, 1940 – TNA: PRO WO 166/3689

1st (London) Infantry Brigade War Diary, 1940 – TNA: PRO WO 166/1039

'Defence Instructions No 28', 28.6.1940 (from 167th Infantry Brigade War Diary) – TNA: PRO WO 166/1040

'Report on Defensive Scheme: Village of Sarre', 14.8.1940 (from Canadian VII Corps CRE War Diary) – TNA PRO WO 179/14

'List of Nodal Points in Eastern Command', September 1940 (from General Headquarters Papers, Home Forces) – TNA: PRO WO 199/544

Befestigungskarte Großbritannien: 1:100,000 (Sheet 40), 3.9.1940 – BLML Y.336

'Taktisches Luftbildbuch', 23.10.1940 – IWM Duxford: AL 2902

Befestigungskarte Großbritannien: 1:50,000 (Sheet 117), 20.11.1940 – BLML 1305(13)

'43 Divisional Area Defence Scheme (East Kent)', 27 November 1940 (from 43 Division 'GS' War Diary) – TNA: PRO WO 166/508

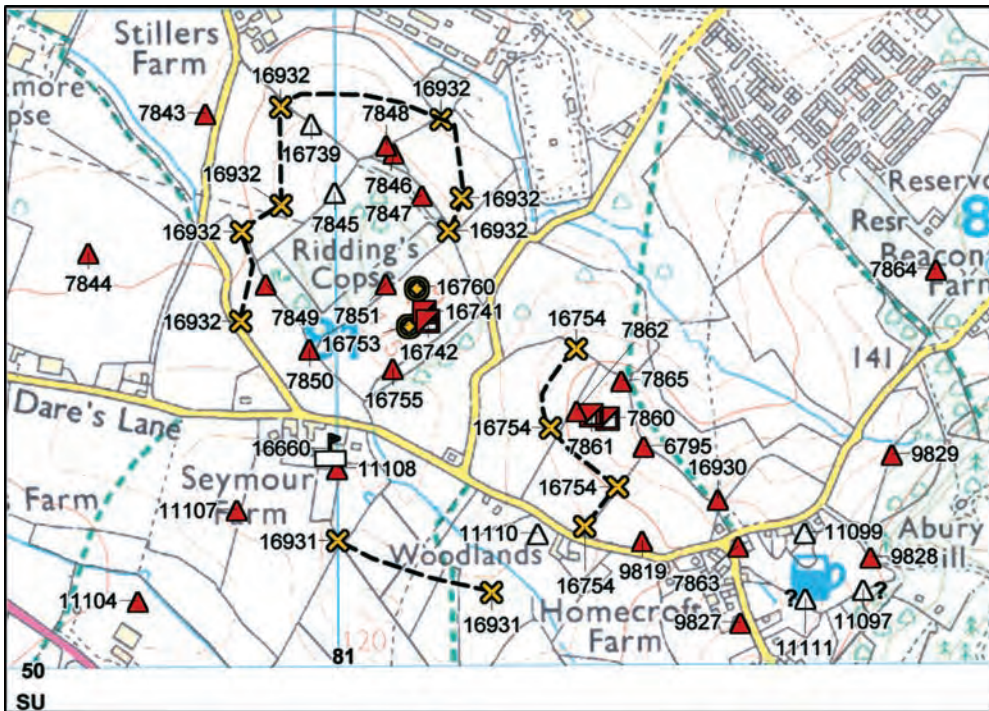
'Plan to Defeat Invasion: No 7 Sector (Isle of Thanet)', 1941 (from 131st Infantry Brigade HQ War Diary) – TNA: PRO WO 166/983

East Kent District 'G' Branch HQ War Diary, 1943 – TNA: PRO WO 166/10851

Sarre: Defence components

Database site reference	NGR	Defence work type	Survival status
1004	TR 25426469	PILLBOX (TYPE 22)	E
13472	TR 25986508	PILLBOX	R
13473	TR 25946503	PILLBOX	U
13474	TR 2588065041	PILLBOX (TYPE 23)	E
13475	TR 25176480	PILLBOX (TYPE 22)	E
13476	TR 25856514	ARMY BATTLE HEADQUARTERS	E
14954	TR 25906506	FORTIFIED HOUSE	U
14956	TR 26026502	FORTIFIED HOUSE	U
14957	TR 25696502	FORTIFIED HOUSE	E
14958	TR 25586497	FORTIFIED HOUSE	U
14959	TR 25566514	FORTIFIED HOUSE	U
14960	TR 25706490	FORTIFIED HOUSE	U
14961	TR 25486507	FORTIFIED HOUSE	U
14995	TR 25956507	DEFENDED BUILDING	U
15227	TR 256651	PETROLEUM WARFARE SITE	R
15761	TR 25476483	ROADBLOCK	R
15762	TR 25896508	ROADBLOCK	R
15763	TR 26256497	ROADBLOCK	R
15766	TR 25686488	ARMY HEADQUARTERS	U
16773	TR 25436478	CANADIAN PIPE MINE	R
16780	TR 25306486	CANADIAN PIPE MINE	R
16781	TR 25706510	CANADIAN PIPE MINE	R
16782	TR 25886507	CANADIAN PIPE MINE	R
16783	TR 25886495	CANADIAN PIPE MINE	R
16784	TR 25436478	MINED BRIDGE	R
16816	TR 25826458	RAILBLOCK	R
16927	TR 25956509	OBSERVATION POST	U
16928	TR 2542565299	PILLBOX	R

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Ewshot

Area Defence

Location Details

3 (5km) miles NW of Farnham and 3 miles (5km) W of Aldershot

County: Hampshire

Parish: Crondall

National Grid Reference (Ridding's Copse): SU 811507

Landscape

The defence area lies south of the suburbs of Fleet and Church Crookham, where there were army barracks, now disused, that were occupied both during and after the Second World War. This is an enclosed landscape of fields and woodland, intersected by narrow lanes bordered by thick hedgerows. Lying astride a ridge is Ridding's Copse, a rectangular block of woodland surrounded by land owned by the Ministry of Defence. The fields here have been uncultivated for many years and are high with rank grass. The grassy ridge is crossed by a narrow lane, and continues to the east where it overlooks Ewshot, a village set amongst wooded hills. To the east of Ewshot, the B3013 road cuts through a now forested landscape of once sandy, open heathland. Ewshot Lane and Dare's Lane connect the village on its western side with the A287 road which runs south of the study area. These lanes are lined to the south by farms and large houses.

The suburbs of Church Crookham have spread to the north, and there has been some housing development on the south-east side of Ewshot. Currently there are plans to develop some of the abandoned barracks to the north-east as housing estates.

Defences

From late June 1940, GHQ Line 'A' was constructed through the area of Aldershot Command (see also Chequers Bridge defence area), running from a point south-west of Reading to Farnham. The principal anti-tank obstacle was a machine-dug anti-tank ditch, in front of which was a demolition belt. Defence of the GHQ Line was organised by a series of Sectors, No 3 of which was anchored on Warren Corner in Crondall, south of the study defence area. The Sector was divided into three focal points defended in August 1940 by troops from the 1st Pioneer Battalion Royal Canadian Engineers. The headquarters of this unit were at Seymour Farm on Ewshot Lane [16660].

To the rear of the front-edge defences of the GHQ Line was a heavily defended area around Ewshot, centred in particular on two hill positions to the north-west of the village. Defence works erected here were Vickers machine gun emplacements and Type 24 pillboxes, surrounded by what was probably a continuous barbed wire perimeter. A focal point of the defences, for reasons that are not understood, was Ridding's Copse, which was

FIGURE 292 Ewshot village set amongst wooded hills. (PHOTO: THE AUTHOR, 21 MARCH 2004)



surrounded by Type 24 pillboxes firing outwards. On the south-east side of the wood were two Vickers emplacements [16741 and 16742] whose fire converged on an enigmatic earthwork [16753], possibly a section trench of First World War origin, visible on air photographs. A second earthwork is situated close by [16760]. The ridge further to the east above Ewshot village was also defended by two Vickers machine gun emplacements, with Type 24 pillboxes in support of this position and also around the village to the south-east.

The defence area provides four good, if overgrown, examples of the Vickers machine gun emplacement, together with a large number of the brick-shuttered Type 24 hexagonal pillbox. Pillbox [16930] overlooking Ewshot's recreation ground is a particularly good, clean example, with an interior brick anti-ricochet wall and hooks on the exterior brickwork for the attachment of camouflage.

Significance

In terms of its concentration of hardened field defences protecting the rear of GHQ Line 'A' in the vicinity of Aldershot – one of the principal centres of the British Army – the defence area is very important. The sheer number of pillboxes and emplacements built, the concentration of which continues beyond the study area to the west, east, and south, makes this one of the most densely defended anti-invasion landscapes in England. The area is also one with a high survival of defence works, many standing still on Defence Estate land largely untouched since the end of the war. Other sites undoubtedly remain to be found on private land, amongst woods, gardens, and paddocks.

There has been no significant development to the landscape of the defence area since the Second World War. The defence works can still be seen in the hedgerows, on roadsides, and at woodland margins where they were sited 65 years ago. The four Vickers machine gun emplacements were positioned at two locations on the forward slopes of the ridge west of Ewshot, firing over the ground to the south-west and south. The westerly of these locations lay within a barbed wire enclosure surrounding Ridding's Copse, encompassing as well land to its east and south, but the easterly location lay just behind the enclosure,



FIGURE 293 A portion of an RAF air photograph taken in December 1942 showing the army camps to the north of Ewshot (off the bottom edge of the photograph). Ridding's Copse is at the centre left, with the two Vickers emplacements [16741 and 16742] standing to the south close to earthworks whose purpose is unknown. The dark line of a possible barbed wire fence on the north side of Ridding's Copse and running across a field to the south-east, close to Vickers emplacements [7860] and [7861], can be made out.
 (RAF/AC/146 fr5104. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)

with the barbed wire perimeter curving to protect its front. Many Type 24 pillboxes were positioned at the edge of woods, or in hedgerows, where they can still be found today; few have been removed from their original landscape context. To understand the tactical siting of these defence works, it is necessary for the pattern of the enclosed landscape to be retained.

The purpose of the defences that are positioned around Ridding's Copse, and the earthworks on its southern flank, is unclear now from the available field and documentary evidence. A project of further research and field survey is required, with the gathering of oral history an important component.

Access

A public footpath crosses the ridge to the north-west of Ewshot, and the open, uncultivated nature of the land here means there is no restriction to roaming it at will. The same appears to be true of the land to the south-east of Ridding's Copse, but the wood itself is fenced off. Several pillboxes can be seen from the roads within and around Ewshot village. Car parking is possible at Ewshot recreation ground or at points on Dare's Lane.



FIGURE 294 Vickers machine gun emplacement [16741] with Ridging's Copse in the background. A second Vickers emplacement stands a short distance to the right [16742], and their embrasures are angled so that their fields of fire would have converged. (PHOTO: THE AUTHOR, 28 AUGUST 2003)



FIGURE 295 Type 24 pillbox [6795] at the eastern end of the ridge overlooking Ewshot village. (PHOTO: THE AUTHOR, 5 SEPTEMBER 2003)

FIGURE 296 The doorway and rear-facing embrasures of the overgrown Type 24 pillbox [9827] next to Homecroft Farm in Ewshot village. (PHOTO: THE AUTHOR, 5 SEPTEMBER 2003)



Published Sources

Alexander, C, 1999 *Ironside's Line*. Storrington: Historic Military Press

Wills, H, 1985 *Pillboxes: A Study of UK Defences 1940*. London: Leo Cooper

Documentary Sources

'Operation Instructions No 6', 22.8.1940 (from South Aldershot Sub-Area War Diary) – TNA: PRO WO 166/1258

Map, 4.11.1940, issued with 'Aldershot Command Defence Scheme' (from Aldershot Command 'G' War Diary) – TNA: PRO WO 166/151

'Aldershot Area Defence Scheme', 15.3.1941 (from Aldershot Area War Diary) – TNA: PRO WO 166/1185

Befestigungskarte Großbritannien: 1:50,000 (Sheet 124), 1.6.1941 – BLML 1305(13)

Correspondence of Henry Wills with A C Pinhorn, former Garrison Engineer at Aldershot, 1975 – Wills Collection, NMR

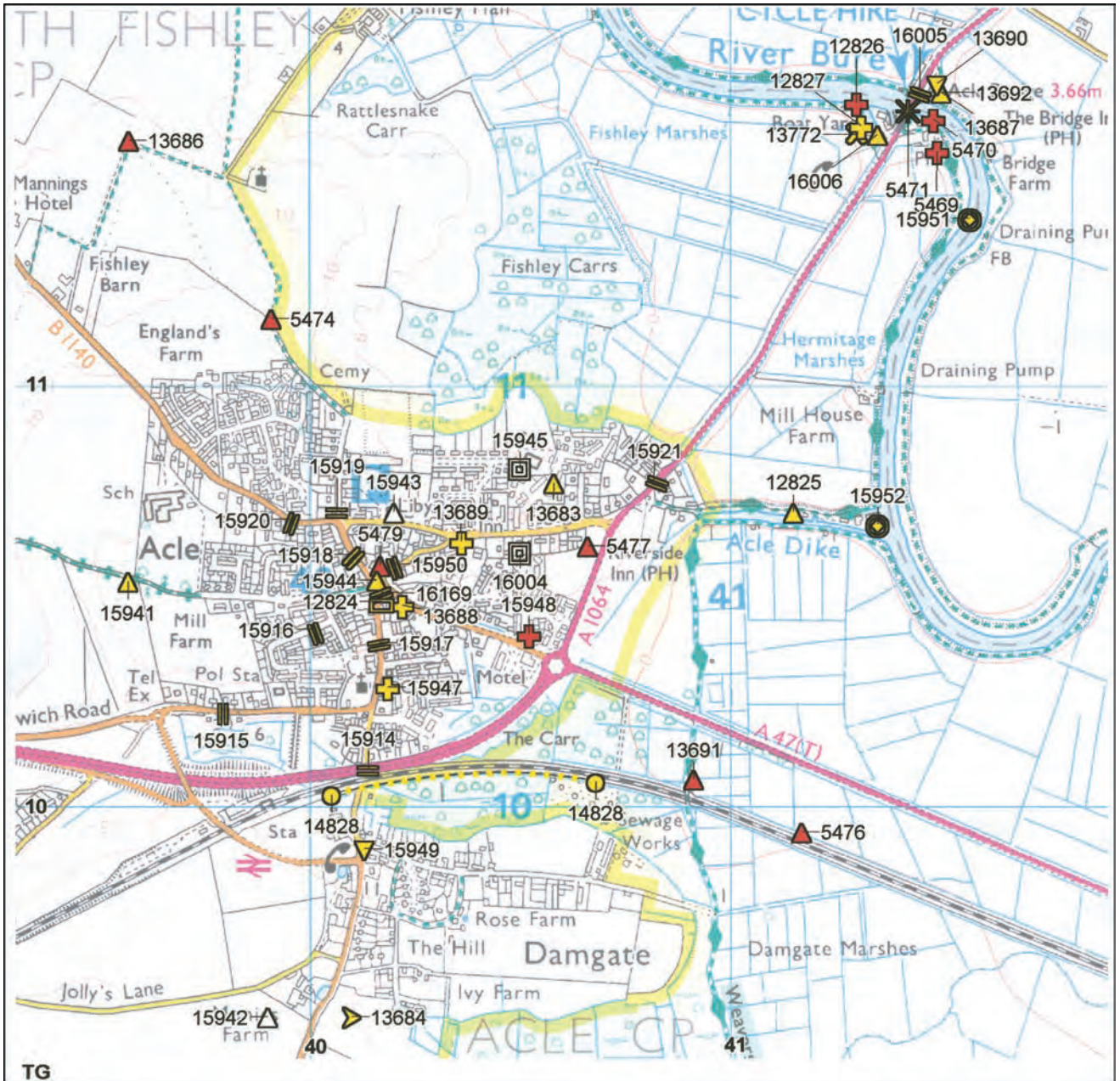
Ewshot: Defence components

Database site reference	NGR	Defence work type	Survival status
6795	SU 8146050332	PILLBOX (TYPE 24)	E
7843	SU 8083250841	PILLBOX (TYPE 24)	E
7844	SU 80635063	PILLBOX (TYPE 24)	E
7845	SU 81005072	PILLBOX (TYPE 24)	U
7846	SU 8108850780	PILLBOX (TYPE 24)	E
7847	SU 8114250721	PILLBOX (TYPE 24)	E
7848	SU 8107450786	PILLBOX (TYPE 24)	E
7849	SU 8089650581	PILLBOX (TYPE 24)	E
7850	SU 8096050482	PILLBOX (TYPE 24)	E
7851	SU 8108150575	PILLBOX (TYPE 24)	E
7860	SU 8140650375	VICKERS MACHINE GUN EMPLACEMENT	E
7861	SU 8138250380	VICKERS MACHINE GUN EMPLACEMENT	E
7862	SU 8137250398	PILLBOX (TYPE 24)	E
7863	SU 81605018	PILLBOX (TYPE 24)	E
7864	SU 81905060	PILLBOX (TYPE 24)	E
7865	SU 8142750432	PILLBOX (TYPE 24)	E
9819	SU 8145450181	PILLBOX (TYPE 24)	E
9827	SU 8162150069	PILLBOX (TYPE 24)	E
9828	SU 8180850174	PILLBOX (TYPE 24)	E
9829	SU 81835033	PILLBOX (TYPE 24)	E
11097	SU 818501	PILLBOX (TYPE 24)	U
11099	SU 817502	PILLBOX (TYPE 24)	U
11104	SU 807501	PILLBOX (TYPE 24)	E
11107	SU 80845024	PILLBOX (TYPE 24)	E
11108	SU 81005030	PILLBOX (TYPE 24)	E
11110	SU 813502	PILLBOX (TYPE 24)	U
11111	SU 817501	PILLBOX (TYPE 24)	U
16660	SU 80995033	ARMY HEADQUARTERS	U
16739	SU 80965081	PILLBOX (TYPE 24)	U
16741	SU 8113350538	VICKERS MACHINE GUN EMPLACEMENT	E
16742	SU 8113850524	VICKERS MACHINE GUN EMPLACEMENT	E
16753	SU 81135055	DEFENCE WORK	I
16754	SU 81365048 – SU 81325043 – SU 81315039 – SU 81325036 – SU 81425027 – SU 81375021	BARBED WIRE FENCE	R
16755	SU 8107950465	PILLBOX (TYPE 24)	E

Ewshot: Continued

Database site reference	NGR	Defence work type	Survival status
16760	SU 81155057	DEFENCE WORK	I
16930	SU 8155350270	PILLBOX (TYPE 24)	E
16931	SU 81005019 – SU 81235011	BARBED WIRE FENCE	R
16932	SU 80855052 – SU 80885061 – SU 80865066 – SU 80925070 – SU 80925085 – SU 80955087 – SU 81165083 – SU 81185082 – SU 81195071 – SU 81175066	BARBED WIRE FENCE	R

E = Extant; R = Removed; I = Infilled; U = Unknown.



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 Scale 1:15,000

Acle

Nodal Point Defence

Location Details

8 miles (13km) W of Great Yarmouth

County: Norfolk

Parishes: Acle; Upton with Fishley

National Grid Reference (The Green, Acle): TG 401105

Landscape

This defence area consists of the small town of Acle and its immediate hinterland, as well as a detached area to the north-east at Acle Bridge where the A1064 road crosses the River Bure. The streets of the town radiate from The Green at its centre. To the south is the Norwich to Great Yarmouth railway line and the A47 road that now bypasses the town.

Acle lies at the edge of The Broads, with marshes intersected by drainage ditches stretching away to the east, through which the River Bure flows. A water-channel known as the Acle Dike connects a boating marina at the edge of the town with the river. Another marina lies alongside Acle Bridge, where there is also a public house, the Bridge Inn. On the west side of the town, the countryside is higher and more undulating, an intensively farmed landscape with large open fields created since the war.

In 1940, Acle was a small, compact town, with a central market area and few suburbs other than a straggle of housing following the principal roads. Since the war there has been a spread of housing development, principally to the north-west and north-east of the town. The bypass was constructed in the late 1980s, but essentially the town, with its immediate environs, remains the close-set community it has been for centuries, still presenting a part-urban and part-rural landscape.

Defences

Acle was a Category 'A' nodal point within No 4 region of Eastern Command. In 1940/41, it was in a position of high invasion danger, being behind the coastal front defences but in direct line of a German breakout from the beaches (had Operation Sealion been carried out against the East Norfolk coast). The definition of a Category 'A' level of defence preparedness was that the town should contain supplies to hold out for seven days, with water for four days. It was also required to have an all-round defence perimeter including anti-tank obstacles where possible, either natural or artificial.

Acle lay in Norfolk Defence Sector 'B', defended by 213 Infantry Brigade, which had its battle headquarters in the town. In 1940, certain of Acle's defences were manned by the 14th Bn South Staffordshire Regiment, but this battalion was replaced in 1941 by the 9th Bn Royal Berkshire Regiment. The defence of the nodal point was principally the



FIGURE 297 Recent air photograph looking north-east over Acle, with Acle Bridge crossing the River Bure in the background. The Acle bypass, built in the late 1980s, swings round the town to the south passing close to the railway line, the embankment of which formed the southern perimeter of the nodal point. Acle Dike connects the eastern extent of the town with the river; it was the base of the Broads Flotilla of the Home Guard. At the centre of the town is the broad The Street, with the Manor House at its northern end flanked by pillbox [5479] (see Fig 299).

(NMR: 23437/01. © ENGLISH HERITAGE. NMR)

responsibility of the 6th Bn Norfolk Home Guard. Two 25pdr artillery guns were positioned to the west of the town, manned by the 238th Battery of 115th Field Regiment RA, as well as at least one 6pdr anti-tank gun in the town itself. Numerous defence works were built in and around Acle, including pillboxes, spigot mortar emplacements, and roadblocks. Some of these works survive, although all evidence of the roadblocks has been removed. The Sector was backed by a II Corps stop line running from Beccles in Suffolk to the Norfolk coast between Wells-next-the-Sea and Stiffkey.

Wey Bridge (as Acle Bridge was known at the time of the Second World War) was on II Corps Demolition Line FII, which ran roughly west to east from Aylsham to Great Yarmouth. Nineteen bridges were prepared for destruction on this line, including Wey Bridge itself. A Home Guard unit, The Broads Flotilla, consisting of three boats with two Lewis guns, also operated from Wey Bridge and Acle Dike. Wey Bridge was additionally a Forward Defended Locality (FDL), with all-round defences, manned by one platoon of the 9th Bn Berkshire Regiment and a section from the battalion's anti-tank company.

FIGURE 298 Type 22 pillbox [13686] at Fishley, north-west of Acle. This was also the position of the main searchlight for Acle.

(PHOTO: THE AUTHOR, 2001)



Of particular interest amongst the surviving defence works is the pillbox attached to the Manor House in the centre of the town [5479]. The north-west of the town was defended by at least three pillboxes, two of which survive [5474 and 13686]. A surviving pillbox of the north-east defences stands in a small paddock by the new bypass road [5477]. Where the railway embankment ends to the south-east of the town, there were at least two

FIGURE 299 Pillbox [5479] attached to the side of the Manor House at the centre of Acle. It was given a pitched roof and faced with matching brick so as to look like an innocuous outbuilding of the main house.

(PHOTO: THE AUTHOR, 2001)





FIGURE 300 Type 22 pillbox [5474], stripped of its brick shuttering, on the north-western outskirts of Acle. (PHOTO: THE AUTHOR, 2001)

pillboxes on the north side of the line, one of which is complete [5476], the other semi-buried [13691].

The defended locality of Wey Bridge was protected by pillboxes on its north-east side (long since removed), and by four spigot mortar emplacements to the south-west and south-east, three of the exceptionally large pedestals of which survive [5469, 5470,



FIGURE 301 Spigot mortar pedestal [5470] in the garden of the Bridge Inn on the south bank of the River Bure at Acle Bridge. (PHOTO: THE AUTHOR, 2001)

and 12826]. The detonation chambers on the underside of the bridge could be seen until the mid-1990s when the bridge span was replaced.

Significance

The Acle defences provide a very good illustration of nodal point defence, with some defence works surviving in the urban landscape, an occurrence that is relatively rare making their future preservation particularly important. It would be regrettable if further defence works were now lost to development, removing the physical evidence for the town's role in the anti-invasion defence of 1940/41. Some good examples of different types of defence works survive, and it is possible to determine from documentary and air-photographic evidence, in part at least, the course of the perimeter defences and the positions of defended localities. The pillbox disguised as an outbuilding of the Manor House dominates the landscape at the centre of the town, with embrasures positioned to fire along streets to the east and the south [5479]. This is a most important defence structure in an urban context, illustrating the detailed attention given to camouflage which included provision for the insertion of window frames around the embrasures. The pillbox is protected as part of the Manor House listed building.

Although there has been some housing development, and a bypass runs to the south, essentially the town retains the same compact pattern of streets and houses in relation to the surrounding countryside as prevailed 65 years ago. The surviving defence works in the fields around the town thus illustrate the all-round defences of a nodal point, and a number are positioned at points on what would have been the defence perimeter. Pillbox [5474] still stands at a junction of pathways concealed in a hedgerow as it did in 1940, and pillbox [13686] at the right-angled corner of a track so that it commanded both approaches. To the south, two pillboxes [5476 and 13691] were positioned on the north side of the railway line, which appears to have formed the southern perimeter of the nodal point, being strengthened as an anti-tank obstacle for part of its length by concrete blocks.

The defences of the Acle nodal point were articulated with the River Bure, which itself represented a demolition line protecting the town from the likely direction of enemy attack. A defended locality at Acle Bridge formed a strongpoint to the north-east that was part of the overall scheme of defence of the nodal point. Here, three surviving spigot mortar pedestals illustrate the importance attached to this Home Guard weapon from mid-1941.

Access

The surviving defence works at Acle can be seen from roads and tracks around the town, although pillboxes [5476] and [5477] stand on private land and can only be viewed at a distance. At Acle Bridge, two of the spigot mortar pedestals can be inspected easily; the third lies in a paddock behind the Bridge Inn.

Published Source

Bird, C, 1999 *Silent Sentinels: The Story of Norfolk's Fixed Defences during the Twentieth Century*. Dereham: The Larks Press

Documentary Sources

- 'II Corps Defence Scheme', 1940 (from II Corps CRE War Diary) – TNA: PRO WO 166/194
- 18 Division 'GS' War Diary, June 1940 – TNA: PRO WO 166/464
- 'List of Nodal Points in Eastern Command', September 1940 (from General Headquarters Papers, Home Forces) – TNA: PRO WO 199/544
- II Corps 'G' War Diary, 1941 – TNA: PRO WO 166/189
- 'A' Sector Defence Scheme', 15.7.1941 (from 213th Infantry Brigade War Diary) – TNA: PRO WO 166/1066
- '9th Bn Royal Berkshire Regiment Defence Scheme', 15.7.1941 (from 9th Bn Royal Berkshire Regiment War Diary) – TNA: PRO WO 166/4528
- Norfolk and Cambridge District HQ War Diary, 1943 – TNA: PRO WO 166/10881
- Files categorising military defence works for maintenance or demolition, 1949–50: Acle – Norfolk Record Office, C/P 8/1/2

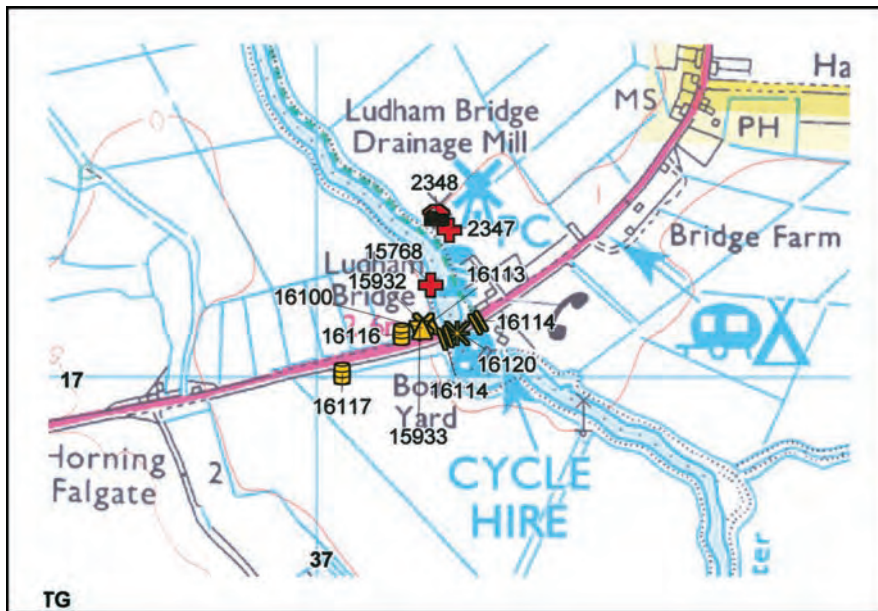
Acle: Defence components

Database site reference	NGR	Defence work type	Survival status
5469	TG 41491156	SPIGOT MORTAR EMPLACEMENT	E
5470	TG 4148011633	SPIGOT MORTAR EMPLACEMENT	E
5471	TG 41441165	DETONATION CHAMBER	R
5474	TG 3990811162	PILLBOX (TYPE 22)	E
5476	TG 41170995	PILLBOX (TYPE 22)	E
5477	TG 40661062	PILLBOX (TYPE 22)	E
5479	TG 4015310586	PILLBOX (VARIANT)	E
12824	TG 40181049	LOOPHOLED WALL	R
12825	TG 41151070	PILLBOX (TYPE 22)	R
12826	TG 4129911674	SPIGOT MORTAR EMPLACEMENT	E
12827	TG 41311162	SPIGOT MORTAR EMPLACEMENT	R
13683	TG 40581077	PILLBOX (TYPE 22)	R
13684	TG 40100950	WEAPON PIT	I
13686	TG 3957011586	PILLBOX (TYPE 22)	E
13687	TG 41501170	PILLBOX	R
13688	TG 40221048	SPIGOT MORTAR EMPLACEMENT	R
13689	TG 40361063	SPIGOT MORTAR EMPLACEMENT	R
13690	TG 41491172	INFANTRY POST	R
13691	TG 4091310066	PILLBOX	E
13692	TG 415117	PILLBOX	R
13772	TG 413116	BARBED WIRE ENTANGLEMENT	R
14828	TG 40051005 – TG 40681006	ANTI TANK BLOCK	R
15914	TG 40141009	ROADBLOCK	R
15915	TG 39791023	ROADBLOCK	R
15916	TG 40011042	ROADBLOCK	R
15917	TG 40171039	ROADBLOCK	R
15918	TG 40101060	ROADBLOCK	R
15919	TG 40081070	ROADBLOCK	R
15920	TG 39951068	ROADBLOCK	R
15921	TG 40811078	ROADBLOCK	R
15941	TG 39591052	PILLBOX	R
15942	TG 399095	PILLBOX	U
15943	TG 402107	PILLBOX	U
15944	TG 40161054	PILLBOX	R

Acle: Continued

Database site reference	NGR	Defence work type	Survival status
15945	TG 405108	ANTI TANK GUN POSITION	U
15947	TG 4018510285	SPIGOT MORTAR EMPLACEMENT	R
15948	TG 40511042	SPIGOT MORTAR EMPLACEMENT	E
15949	TG 40130990	INFANTRY POST	R
15950	TG 40201057	ROADBLOCK	R
15951	TG 41571140	DEFENCE WORK	R
15952	TG 41351067	DEFENCE SITE	R
16004	TG 405106	ANTI TANK GUN POSITION	R
16005	TG 41451170	ROADBLOCK	R
16006	TG 41351160	PILLBOX	R
16169	TG 40171051	ROADBLOCK	R

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Ludham Bridge

Defence of a Defended Locality

Location Details

1½ miles (2.5km) SW of Ludham and 15 miles (24km) NW of Great Yarmouth

County: Norfolk

Parishes: Ludham; Horning

National Grid Reference: TG 372170

Landscape

The defence area consists of the River Ant and its immediate margins at the point where it is bridged by the A1062 road north-east of the small town of Ludham. The bridge has been replaced by a modern structure since the war. A mile (1.5km) to the south, the River Ant joins the River Bure. A flat landscape of fields intersected by drainage ditches stretches away on all sides. On the north-east side of the bridge is the tower of a disused windpump. Nearby on both banks of the river, boats crewed by holiday makers exploring The Broads tie up to take on water and provisions at mooring points. There is a café and shop by the roadside to the east of the bridge.

Defences

Ludham Bridge was a Forward Defended Locality (FDL) of 213 Infantry Brigade within Norfolk Defence Sector 'B'. In 1940/41, it was defended by one NCO and 60 other ranks of the 9th Bn Royal Berkshire Regiment, who were relieved every 48 hours. It lay on the Eastern Command Demolition Belt FI, which ran parallel with the coast from Antingham to Ludham before turning east to meet the sea north of Winterton. All bridges within this demolition belt were prepared for destruction in the event of an enemy landing. One of these was Ludham Bridge, where detonation chambers to hold the necessary explosives would have been drilled out within the fabric of the bridge; it has been replaced in recent years, so no evidence survives. Ludham Bridge also lay on a short defended stop line that ran between Halvergate and Wey Bridge. This stop line was held by a company of the Berkshire Regiment.

The River Ant, joining with the Bure to the south, was patrolled by The Broads Flotilla – small boats manned by the Home Guard and armed with Lewis Guns (see also Acle defence area). The town of Ludham itself was a Category 'B' defended place or nodal point. Later in the war it was garrisoned with troops, army huts being constructed within the built-up area of the town. An airfield also lay to its north-east.

Documentary evidence and air photographs, together with the surviving field evidence, enable the positions of the defences at Ludham Bridge to be determined. The mined bridge was blocked by both bent and horizontal steel rails, the latter ready to be slotted into

concrete plinths on either side of the road in the event of an emergency. A pillbox and an Allan Williams steel turret stood in the fields north-west of the bridge, and flame fougasses were set in the hedgerow banks on either side of the road a short distance from the western end of the bridge. Close by, there was also probably a further sandbagged infantry post. These defence positions had perimeters formed of barbed wire entanglements.

From mid-1941, at least two spigot mortar emplacements were constructed on opposite banks of the river north of the bridge. The weapon-mounting pedestals of these survive [15768 and 2347]. Alongside the eastern of these spigot mortar emplacements was a strongpoint formed by fortifying a disused windpump tower [2348]. Its brick walls had



FIGURE 302 The fortified windpump tower at Ludham Bridge [2348]. (PHOTO: THE AUTHOR, 29 JULY 2002)

FIGURE 303 Loopholes cut into the lower storey of the windpump tower [2348]. There were five loopholes here and three on the floor above. (PHOTO: THE AUTHOR, 29 JULY 2002)



FIGURE 304 Photograph taken c 1980 showing the spigot mortar pedestal [2347] in relation to the windpump tower. The area is now very overgrown and the pedestal scarcely visible. (DEFENCE OF BRITAIN ARCHIVE, NMR)



eight loopholes cut through them on two storeys, and a brick blast wall was constructed to protect the entrance to the tower. The structure, still with the evidence of its Second World War fortification, survives in good condition, although the wooden floor between the two levels of embrasures has now gone.

Significance

The landscape of the defence area differs little from that of 65 years ago: air photographs taken in 1946 show the pattern of fields around Ludham Bridge to be much as today. The area provides a good illustration of a defended locality at a crossing of road and river within a demolition belt.

Both documentary and field evidence enable the defence positions to be determined, and the surviving structures provide physical evidence of the importance of river bridges in the general strategy of defence. The fortified windpump tower dominates the defence of the bridge, providing all-round machine gun fire from a strong position protected by drainage banks close to the river. Together with its adjacent spigot mortar pedestal, it makes a compelling monument to the invasion danger period of 1940/41, and provides an excellent example of how an existing building was fortified by inserted defence posts that were camouflaged as part of the overall structure. The two spigot mortar pedestals show how the defence of the bridge was augmented by this anti-tank weapon after it became available to the Home Guard in mid-1941.



FIGURE 305 Buried spigot mortar pedestal [15768] on the west bank of the River Ant at Ludham Bridge, convenient for boats tying up here. (PHOTO: THE AUTHOR, 29 JULY 2002)

Access

The surviving defence structures can be accessed by footpaths on both banks of the river. Car parking is possible in a lay-by to the west of the bridge.

Published Source

Bird, C, 1999 *Silent Sentinels: The Story of Norfolk's Fixed Defences during the Twentieth Century*. Dereham: The Larks Press

Documentary Sources

'II Corps Defence Scheme', 1940 (from II Corps CRE War Diary) – TNA: PRO WO 166/194

18 Division 'GS' War Diary, June 1940 – TNA: PRO WO 166/464

'A' Sector Defence Scheme', 15.7.1941 (from 213th Infantry Brigade War Diary) – TNA: PRO WO 166/1066

'9th Bn Royal Berkshire Regiment Defence Scheme', 15.7.1941 (from 9th Bn Royal Berkshire Regiment War Diary) – TNA: PRO WO 166/4528

'A' Sector, Norfolk Division Demolition Scheme', August 1941 (from 270th Field Company Royal Engineers War Diary – TNA: PRO WO 166/3739

Home Guard map of Ludham, c 1940 – Norfolk Record Office, MC 1759/2

Files categorising military defence works for maintenance or demolition, 1949–50: Ludham – Norfolk Record Office, C/P 8/1/224

Since the book went into production, photographic evidence has emerged that pillbox [16113] stood on the east bank of the River Ant north of Ludham Bridge, almost directly opposite the spigot mortar pedestal [15768]. It was still in existence in the mid-1950s.

Ludham Bridge: Defence components

Database site reference	NGR	Defence work type	Survival status
2347	TG 37181722	SPIGOT MORTAR EMPLACEMENT	E
2348	TG 37171723	DEFENDED BUILDING	E
15768	TG 37171714	SPIGOT MORTAR EMPLACEMENT	E
15932	TG 371171	BARBED WIRE ENTANGLEMENT	R
15933	TG 371170	INFANTRY POST	R
16100	TG 371170	ALLAN WILLIAMS TURRET	R
16113	TG 37221715	PILLBOX	R
16114	TG 37191707 – TG 37241708	ROADBLOCK	R
16116	TG 372171	FLAME FOU GASSE	R
16117	TG 370170	FLAME FOU GASSE	R
16120	TG 37211708	MINED BRIDGE	R

E = Extant; R = Removed; I = Infilled; U = Unknown.

Canewdon

Vulnerable Point Defence

Location Details

8 miles (13km) N of Southend-on-Sea and 1 mile (1.5km) S of the River Crouch

County: Essex

Parish: Canewdon

National Grid Reference: TQ 905945

Landscape

The defence area is around the village of Canewdon, which lies isolated in a flat landscape of large open fields to the south of the River Crouch. Narrow, sharp-angled lanes connect the village with the nearest towns. Lambourne Hall Road runs east from Canewdon, passing New Hall Farm and Lambourne Hall, to a junction with Gardeners Lane, which runs parallel with Lambourne Hall Road 200m to the south from the centre of Canewdon.

The closure and initial dismantlement of the radar station of RAF Canewdon seems to have taken place in the 1960s, with the last radar tower being removed by 1975. Its main Receiver Site with four timber receiver towers lay to the north of Lambourne Hall Road, in an area from which one large arable field has now been created. The Transmitter Site, which had three steel transmitter towers, survives as a fenced compound containing Second World War-period buildings on the south side of Gardeners Lane.

Housing development has taken place to the east of Canewdon village, with houses now lining what was once the south-west perimeter of the Receiver Site.

Defences

RAF Canewdon was an 'East Coast Type' Chain Home (CH) RDF Station established by August 1937, and at the beginning of the Second World War it was designated by XI Corps as a Vulnerable Point (VP). In 1940/41, the defence of the area was the responsibility of 207 Infantry Brigade, troops from 7th Bn Essex Regiment, and, later, 31st Bn Suffolk Regiment being stationed here. A 6000 yard (c 5500m) defensive perimeter with sixteen pillboxes was set up around the whole village. In November 1940, the commanding officer of 7th Bn Essex Regiment recommended that the perimeter be shortened to 4000 yards (c 3600m), and that five pillboxes of the eastern defences, and four of the western, be abandoned. The remaining seven pillboxes were to be the nuclei of small defended localities, some of which would be occupied by the Home Guard. Four roadblocks were also established in the area.

Two sites for RAF Canewdon were laid out: the Receiver Site to the north-east of the village and the Transmitter Site to the south-east. These were only some 400m apart. Each



FIGURE 306 Air photograph taken in August 1948 showing the two sites of the radar station of RAF Canewdon. The main Receiver Site, with four receiver towers, can be seen at the centre of the photograph on the north side of Lambourne Hall Road; pillbox [440] stands at its entrance. This site has now been entirely cleared and is one large open field. The Transmitter Site, with three transmitter towers, lies off Gardeners Lane to the south: this site remains substantially intact. Many of the pillboxes protecting the two radar station sites, or forming part of the perimeter defences around Canewdon village, can be seen on the photograph. (RAF/58/109 fr5033. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)

site had its own defences, in addition to those of the outer area perimeter, of which a number of the pillboxes survive. At the Receiver Site, two Type 22 pillboxes remain of five constructed here, one at the very edge of Lambourne Hall Road at the former entrance to the site [440] and the other now behind the village hall [439]. In the period 1999–2000, the other three Receiver Site pillboxes were removed during the clearance of the area to create a large arable field.

At the Transmitter Site, there is no public access to the surviving compound and its buildings. However, one pillbox of its perimeter defence, heavily overgrown, can be seen

FIGURE 307 Type 22 pillbox [439] now standing behind Canewdon village hall. It originally formed part of the western boundary fence of the Receiver Site; the metal bars still attached to the pillbox came from that fence. (PHOTO: THE AUTHOR, 13 JUNE 2002)



at the edge of Gardeners Lane [16084], and two others, on the west side and at the south-east corner, can be viewed at a distance [16083 and 16139].

In addition to the all-round defence of the two sites of RAF Canewdon, there is good surviving evidence of the extended perimeter set up around the village of Canewdon itself. Of thirteen pillboxes constructed along this perimeter, six survive, including a Type 23 with an open section for anti-aircraft fire [16963] and a Type 22 with a cone roof mounting for a 20mm light anti-aircraft cannon [13637].

Four roadblocks are documented at Canewdon, the sites of which are known approximately in the case of three but more exactly for the other where a surviving concrete block indicates its position [16507]. Depth charges for road cratering (known in this area of XI Corps as ‘Bosche bumps’) would also probably have been laid. Barbed wire entanglements, around both the two RAF Canewdon sites and the individual pillboxes of the extended perimeter, can also be assumed.

Significance

The surviving pillboxes at Canewdon are an important legacy of the RAF Chain Home Station that stood here from the late 1930s to the 1960s. They serve as a reminder of this important period of the village’s history, and provide visual evidence of the two sites of RAF Canewdon, one of which has otherwise been fully cleared, as well as of the surrounding perimeter defences.

The original field pattern was retained wherever possible during the construction of the Receiver Site: such retention of field divisions assisted in the site’s camouflage when seen

from the air. Many of the perimeter pillboxes were originally set on these hedgerow lines: surviving pillbox [439], for example, stood in a cut-back, reinforced with boundary fencing, at a point to the south-west.

All the pillboxes except two were Type 22s and the survivors form an interesting group. Some have metal attachments which may have been for the addition of camouflage, although there is evidence from pillbox [16084] on the boundary of the Transmitter Site that steel palings still fixed to the sides of pillbox [439] may have come from the perimeter fencing built against the pillbox, which would thus have stood half in and half out of the defended compound.

Modified Type 22 pillbox [13637], built with a brick parapet on its roof and a mount for an anti-aircraft cannon, is a rare example of such modification, and the only one recorded in Essex of over 400 extant pillboxes surveyed. The surviving Type 23 pillbox [16963] is also a rare structure in Essex, only two other examples being known in the county.

The surviving Transmitter Site, where many buildings and possible underground structures still stand, provides a further dimension to the significance of this defence area.

Access

The pillboxes can be accessed, or viewed from a distance, from Lambourne Hall Road and Gardeners Lane, and from footpaths that run both north and south from Lambourne Hall. There is no public access to the Transmitter Site. Parking is possible in Canewdon or at the side of Lambourne Hall Road.



FIGURE 308 Type 22 pillbox [13637] on Gardeners Lane with a brick-walled platform for an anti-aircraft gun built on its roof; the steel gun mounting survives at its centre.

(PHOTO: THE AUTHOR, 13 JUNE 2002)

FIGURE 309 Type 22 pillbox [13634] now standing isolated in an open field south of Lambourne Hall. It originally stood at the south-east corner of a wood.
(PHOTO: THE AUTHOR, 13 JUNE 2002)



FIGURE 310 Embrasure of an overgrown Type 23 pillbox [16963] north of Lambourne Hall; the plinth and metal upright to mount an anti-aircraft machine gun survive. This pillbox type is very rare in Essex.
(PHOTO: © F NASH, ESSEX COUNTY COUNCIL)



Published Source

Nash, F, 2003 Rochford, 1940, *Essex Past & Present*, **5**

Documentary Sources

46th Infantry Brigade HQ War Diary, 1940 – TNA: PRO WO 166/958

'Operation Instruction No 6', 28.7.1940 (from 2nd Bn Glasgow Highlanders War Diary) – TNA: PRO WO 166/4289

45 Division 'G' Branch War Diary – TNA: PRO WO 166/537

'Southern Sector Defence Scheme', April 1941 (from 207th Infantry Brigade War Diary) – TNA: PRO WO 166/1060

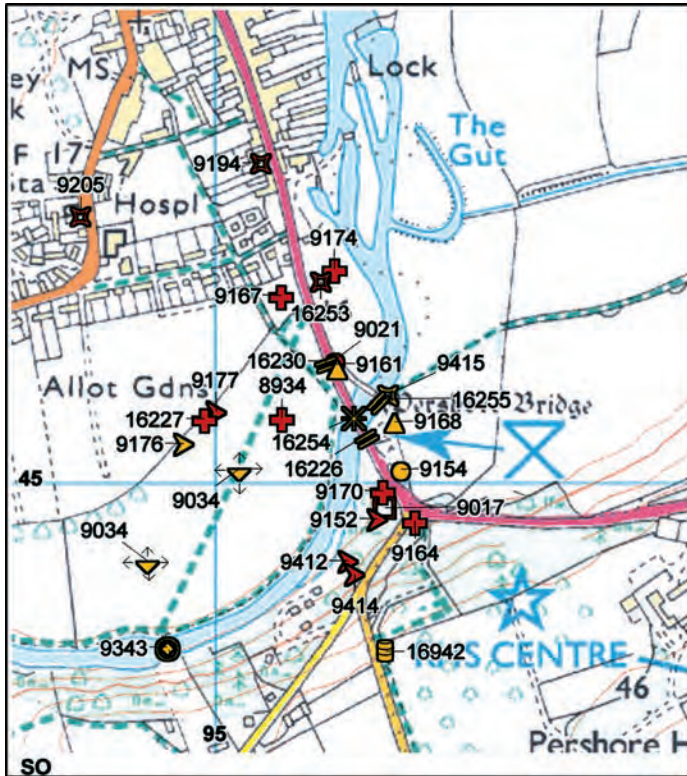
'Hertford Area Defence Scheme', 1941 (from Hertford Area HQ War Diary) – TNA: PRO WO 166/1207

Operations Record Book of Type 7000 Station, Canewdon, 1942–44 – TNA: PRO AIR 29/167

Canewdon: Defence components

Database site reference	NGR	Defence work type	Survival status
437	TQ 90149494	PILLBOX (TYPE 22)	R
439	TQ 9037094641	PILLBOX (TYPE 22)	E
440	TQ 9048094520	PILLBOX (TYPE 22)	E
6804	TQ 9038794800	PILLBOX (TYPE 22)	R
6806	TQ 90929504	PILLBOX (TYPE 22)	R
13634	TQ 91129390	PILLBOX (TYPE 22)	E
13637	TQ 9026194304	PILLBOX (TYPE 22)	E
16083	TQ 90479415	PILLBOX (TYPE 22)	E
16084	TQ 9058994307	PILLBOX (TYPE 22)	E
16139	TQ 90729397	PILLBOX (TYPE 22)	E
16140	TQ 9060894761	PILLBOX (TYPE 22)	R
16506	TQ 91369401	ROADBLOCK	R
16507	TQ 91519402	ROADBLOCK	E
16958	TQ 89259451	PILLBOX (TYPE 22)	E
16959	TQ 89449478	PILLBOX (TYPE 22)	R
16960	TQ 89909505	PILLBOX (TYPE 23)	R
16961	TQ 90519493	PILLBOX (TYPE 22)	R
16962	TQ 91099493	PILLBOX (TYPE 22)	E
16963	TQ 91379458	PILLBOX (TYPE 23)	E
16964	TQ 91449424	PILLBOX (TYPE 22)	E
16965	TQ 91419406	PILLBOX	R
16966	TQ 90009428	PILLBOX	R
16967	TQ 89659428	PILLBOX	R
16968	TQ 89659401	ROADBLOCK	R
16969	TQ 89399425	ROADBLOCK	R

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Pershore Bridges

Defence of a Defended Locality

Location Details

On the S side of Pershore, 8 miles (13km) SE of Worcester and 6 miles (9.5km) W of Evesham

County: Worcestershire

Parishes: Pershore; Wick

National Grid Reference: SO 952451

Landscape

Two bridges crossing the River Avon side-by-side half a mile (*c* 0.8km) south of the town of Pershore provide the focal point of the defence area. The western of the two is a concrete structure opened in 1926 that now carries the A44 road, while 80m to its east is the medieval stone bridge (a scheduled ancient monument) that it superseded. The old bridge is approached by a road that incorporates later flood arches at both its north and south ends. To the north of the bridges, Bridge Street (A44) approaches the outlying suburbs of Pershore, while to the south the main road curves to the east, making a junction with minor roads. This area on the bank of the river is covered by woods and scrubland, and, further east, is intersected by roads south of the junction with the A44. On the west side of the modern bridge, on the north bank of the river, is a large open field known as Weir Meadow, which is crossed by public rights of way. East of the old bridge, fields stretch away within the flat river plain towards the village of Wick.

There has been some housing development at the northern end of Weir Meadow, but the Meadow itself remains an open area with public access. A picnic area with car parking has been set out at the south end of the old bridge. The original approach to the bridge here has been closed off and a new vehicle access route provided, confusing the original line of the road. The woodland on the bank of the river to the south of the bridges is now much thicker than 65 years ago: this area can be reached by a subway under the road.

Defences

Pershore lay within the area of Western Command defended in 1940 by 2 (London) Division of 47 Division, III Corps. The Pershore bridges formed a defended locality on the Avon Stop Line, which followed the course of the river from its junction at Tewkesbury with the River Severn (also a Command Stop Line), then via Evesham and Stratford-on-Avon to Leamington Spa. Worcester was a designated anti-tank island, and it is probable that the towns of Evesham and Pershore were nodal points, although the documentary confirmation of this is lacking. Pershore fell within 'L' Sector of the area of responsibility

of the 4th Bn Worcestershire Home Guard, and was defended by its 'C' Coy. In 1942, both the battalion and company headquarters, and their battle headquarters, were situated in Pershore. The Class 'C' Bomber Command aerodrome, RAF Pershore, lay to the north-east of the town, the relief of which in the event of enemy seizure was the responsibility of mobile columns of Field Army and Home Guard troops coming from Worcester and Redditch respectively.

The Avon Stop Line was constructed by III Corps Troops Engineers, 217th Army Field Coy RE being responsible for the Worcestershire sections. The line was intended to be defended both ways, ie from both the west and the east. Construction work began in August 1940, and was largely complete by the beginning of October. The defences of the Pershore bridges were built between August and September 1940, but they would have been subject to repeated modification. In particular, after the introduction of the spigot mortar weapon to the Home Guard in the summer of 1941, the defences would have been radically revised. Field Army responsibilities for manning the defended locality in 1940 are likely as well to have been handed entirely to the Home Guard from 1941. The defended locality was intended to have a garrison equivalent to one company of troops, but may have fallen well short of that.

The main bridge, and possibly the old bridge as well, would undoubtedly have been mined for demolition in the event of an enemy advance, although there is no documentary source for this or surviving evidence from the fabric of the bridges. Anti-tank mines are also likely to have been laid in the fields either side of the bridges. It is known that one flame fougasse [16942] was positioned by an approach road from the south, and there were probably others.



FIGURE 311 RAF air photograph taken in November 1941, showing the two Pershore bridges over the River Avon, with the old bridge on the right. Two pillboxes can be seen on the north and south approaches to the old bridge [9161 and 9168] as well as the supporting blocks of roadblocks on the main bridge. To the south of the bridges, the square shape of the 6pdr gun emplacement can be made out [9017]. Weir Meadow is on the north bank of the Avon to the west (left) of the bridges.

(RAF/13T/UK767 ft17. ENGLISH HERITAGE
(NMR) RAF PHOTOGRAPHY)

A 6pdr anti-tank gun emplacement [9017] was positioned south of the bridges, firing east along the A44 road but also capable of being traversed to fire north at the bridge. Its form is that known as the ‘Worcestershire type’, of which only one example survives in a complete condition, at Holt Fleet Bridge on the River Severn north of Worcester (SO 825634).

In 1940, the gun was manned by soldiers from the 62nd Anti-Tank Regiment, but later would have become the responsibility of the Home Guard. After the war the emplacement was converted into a pumping house. Two Stent pillboxes (square pillboxes made with prefabricated concrete posts and panels, named after the company that made them) stood at the northern and southern approaches to the old bridge. They were demolished within a few years of the end of the war.

Roadblocks were constructed on both the bridges at their north and south ends. Surviving concrete cylinders at the end of the northern approach road to the old bridge have almost certainly been repositioned since the war, perhaps from a roadblock at the southern end of the old bridge. ‘Hairpin’ roadblocks are recorded in documents – one of these, formed of bent rails, was probably where two blocks can be seen north of the modern bridge in a 1941 air photograph.

Five spigot mortar sites are known, three of which are buried but otherwise believed to be intact. In Weir Meadow, the top of an unusual square pedestal can be seen [8934], and the stainless steel pintle of another [16227]. The positions of [8934] and [9177] defending the bridges are interesting because they appear to indicate an anti-tank role for [8934], being at closer range for the firing of the heavier 20lb (9kg) HE bomb, whereas the task of the longer range [16227] would have been anti-personnel using the lighter 14lb (6.5kg) bomb.

The use of earthworks for defence posts would have been widespread in the defended locality. The hollow of a slit trench apparently associated with the gun emplacement [9017] can be seen in woodland to its south. Within Weir Meadow, the circular depression of a

FIGURE 312 The original appearance of the 6pdr gun emplacement at Pershore Bridges can be understood from the only surviving example of this structural type at Holt Fleet, north of Worcester.
(PHOTO: THE AUTHOR, 31 OCTOBER 2002)





FIGURE 313 Photograph taken c 1946 showing the two pillboxes on Pershore old bridge shortly before their removal. (PHOTO: M FREEMAN)

weapons pit [9177] can be made out adjacent to a spigot mortar site. Weir Meadow itself was blocked against enemy aircraft landing by wooden posts set across the field in a grid pattern. Several posts survive, reused as fence supports near the old bridge.

Of structures associated with the Home Guard structures, a store, or possibly a Molotov cocktail bombing post [9415], stood at the south end of the old bridge, but was removed



FIGURE 314 The emplacement for a 6pdr Hotchkiss gun [9017] converted since the war into a pump house. (PHOTO: THE AUTHOR, 30 OCTOBER 2002)

FIGURE 315 These concrete cylinders [9021] at the north end of the approach road to Pershore old bridge have almost certainly been moved from their original position. This seems to have been done by 1949, and their new purpose – similar to their old – has been to prevent vehicular access to the bridge.

Other blocks were placed on the southern approach road, but were removed in recent years when the picnic site was laid out.

(PHOTO: THE AUTHOR, 30 OCTOBER 2002)



immediately after the war. A further Home Guard store [16253] to the east of Bridge Street survives. Two buildings that were used as Home Guard headquarters still stand in the southern outskirts of Pershore [9194 and 9205].

Significance

This area combines good surviving defence structures with the evidence of those removed, and benefits from a detailed study by the Worcestershire Defence of Britain Project. It provides an excellent illustration of the defence of a river crossing on a major stop line. Various components of defence can be viewed, including a 6pdr anti-tank gun emplacement, the individual concrete obstacles of a roadblock, and the firing pedestals for the Home Guard weapon, the spigot mortar. The research that has been carried out enables the sites of many of the defences that have long since been removed to be located, and their role in the overall scheme of defence to be interpreted.

The landscape surrounding the Pershore bridges is substantially the same as that which prevailed during the Second World War, and it is one that continues to bear evidence of its defended status in 1940/41. The surviving defence works can be seen to stand at critical tactical positions for the defence of the bridges on both their north and south sides. The passive defence of the concrete obstacles and the active defence of the 6pdr anti-tank gun emplacement and the spigot mortar pedestals combine as part of an overall defence scheme which has its focus on the bridges. This fact serves as a reminder that the strategy here was not the defence of Pershore itself but the blocking of a crossing of a stop line in order to maintain the integrity of the linear anti-tank obstacle it provided.



FIGURE 316 The steel pintle of a buried spigot mortar pedestal [8934] in Weir Meadow, positioned to fire at the main Pershore Bridge 150m away. The pedestal is unusual in being square in section rather than the more common cylindrical shape.

(PHOTO: THE AUTHOR, 31 OCTOBER 2002)

Owing to the efforts of the volunteers of the Worcestershire Defence of Britain Project, there are now two information boards (at the north end of the old bridge and near the gun emplacement) on the area's anti-invasion defences.

Access

There is public access to the defence works at both ends of the Pershore bridges and within Weir Meadow. A car park is located at the south end of the old bridge.

Printed Sources

Anon, nd, *The History of the 4th Worcestershire (Evesham) Battalion Home Guard* [copy held by Worcester City History Centre, 355.351]

- Wilks, M, 1998 *An Appraisal of the World War Two Defences around the Pershore Bridges*. Unpubl work produced for Hereford and Worcester County Council [copy in Defence of Britain Project Archive, NMR]
- Wilks, M, 1999 The Defence of Pershore Bridges, 1940–1944, *Defence Lines*, **12**

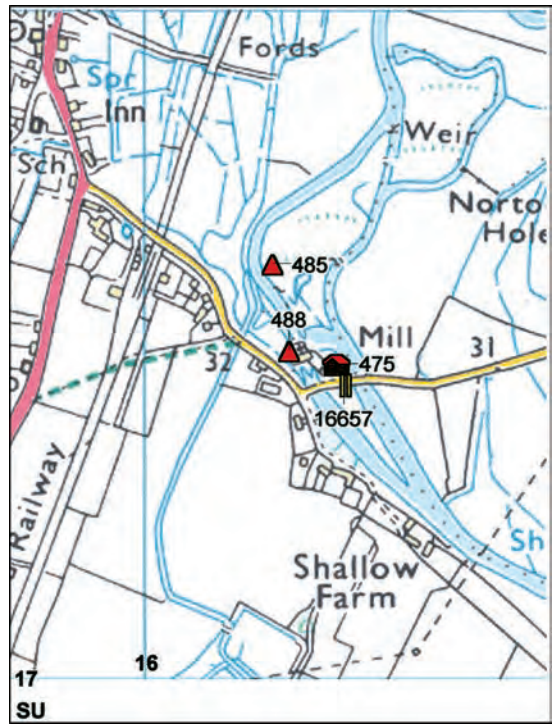
Documentary Sources

- ‘Technical Instructions: Avon Stop Line’, 5 August 1940 (Appendix A to III Corps Troops Royal Engineers War Diary, August 1940) – TNA: PRO WO 166/211
- ‘Organisation of Work’, 10 August 1940 (Appendix B to III Corps Troops Royal Engineers War Diary, August 1940) – TNA: PRO WO 166/211
- ‘2 Lon Division Home Defence Scheme No 4’, August 1940 (from 47 Division ‘GS’ War Diary) – TNA: PRO WO 166/566
- 217th Army Field Company Royal Engineers War Diary, July–October 1940 – TNA: PRO WO 166/3686
- ‘Central Midland Area Defence Scheme’, December 1940 (from Central Midland Area War Diary) – TNA: PRO WO 166/1226
- 62nd Anti-Tank Regiment Royal Artillery War Diary, 1940 – TNA: PRO WO 166/1634
- ‘Operation Instruction No 3’, 17.9.1942 (from Worcestershire Sub-Area War Diary) – TNA: PRO WO 166/6786
- ‘Tactical Handling of A Tk Weapons’, 29.11.1943 (from Home Guard Files) – Tenbury Museum

Pershore Bridges: Defence components

Database site reference	NGR	Defence work type	Survival status
8934	SO 9510145096	SPIGOT MORTAR EMPLACEMENT	E
9017	SO 9525544960	ANTI TANK GUN EMPLACEMENT	E
9021	SO 95204516	CYLINDER	E
9034	SO 94904488	ANTI LANDING POLE	R
9152	SO 95244493	SLIT TRENCH	E
9154	SO 95274503	ROADBLOCK	R
9161	SO 95214517	PILLBOX (TYPE 26)	R
9164	SO 95304494	SPIGOT MORTAR EMPLACEMENT	E
9167	SO 95104528	SPIGOT MORTAR EMPLACEMENT	E
9168	SO 95274509	PILLBOX (TYPE 26)	R
9170	SO 95254498	SPIGOT MORTAR EMPLACEMENT	E
9174	SO 95184532	SPIGOT MORTAR EMPLACEMENT	E
9176	SO 94944506	WEAPON PIT	I
9177	SO 9499645102	WEAPON PIT	E
9194	SO 95074548	HOME GUARD HEADQUARTERS	E
9205	SO 94804540	HOME GUARD HEADQUARTERS	E
9343	SO 94934475	CABLE	R
9412	SO 95204488	WEAPON PIT	E
9414	SO 95214486	SLIT TRENCH	E
9415	SO 95264513	HOME GUARD STORE	R
16226	SO 95244507	ROADBLOCK	R
16227	SO 9498945097	SPIGOT MORTAR EMPLACEMENT	E
16230	SO 95184517	ROADBLOCK	R
16253	SO 95174530	HOME GUARD STORE	E
16254	SO 95224510	MINED BRIDGE	R
16255	SO 95254512	ROADBLOCK	R
16942	SO 95274465	FLAME FOUASSE	R

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Breamore Mill

Defence of a Defended Locality

Location Details

½ mile (1km) S of Breamore village and 2½ miles (4km) N of Fordingbridge

County: Hampshire

Parish: Breamore

National Grid Reference: SU 162175

Landscape

The defence area lies in the broad valley of the River Avon, just beyond the north-west edge of the New Forest. The A338 road runs along the valley from Ringwood, via Fordingbridge, to Salisbury, paralleled at the time of the Second World War by a single-track railway line, now disused. At Breamore, the Avon flows in two main channels, also connecting with a network of drains through the surrounding water meadows.

Just south of Breamore village, a minor road to Woodgreen runs east from the A338, crossing first a drain and then, by two bridges 65m apart, the main channels of the Avon. On the north-east side and straddling the western channel are the red-brick buildings of Breamore Mill, consisting of the mill itself, the mill house, and various outbuildings. The presence of the eastern channel, and a further waterway to the north, mean that Breamore Mill is surrounded on three sides by water.

The main impact on the area in recent years has been tourism, with many visitors coming to the village of Breamore in the summer months. Nearby Breamore House, an Elizabethan country house, is open to the public.

Defences

Breamore was a defended locality on the Ringwood Stop Line, which ran from Christchurch to Salisbury. This was a V Corps Stop Line, built as part of Southern Command's 1940 Home Defence Programme, and was a main anti-tank line facing west. By December 1940, it was half-complete. A short distance to the south of Breamore lies Fordingbridge, designated in 1940 as an anti-tank island but later termed a 'centre of resistance'.

Breamore defended locality was almost certainly centred on Breamore Mill, where defence works survive, rather than to the north-west on Breamore village itself where there are none. A documentary source records the 8th (Avon Valley) Battalion, Hampshire Home Guard manning 'selected posts' at Breamore: the four-figure military grid reference for these positions would exclude Breamore village but include Breamore Mill. The exact position of the roadblock, whether to the east or west of the bridges over the Avon, or between them, has not so far been determined.



FIGURE 317 Breamore Mill from the eastern of the two bridges over the River Avon. The site of a roadblock was probably between the two bridges, overlooked by the defended barn [475]. (PHOTO: THE AUTHOR, 13 AUGUST 2003)

The buildings of Breamore Mill were occupied by the military and fortified. It is possible that the mill house itself was used as a headquarters, in which case the whole property may have been requisitioned. North of the main mill buildings, built against what was once apparently a pumping house but is now a store, is a square pillbox [485] with an exterior blast wall protecting a low entrance. Inside are the remains of wooden firing shelves. A further square pillbox [488] was attached to the north-west corner of the mill buildings, being designed to blend with them through the use of matching brickwork. It was undoubtedly camouflaged further, with possibly an artificial pitched roof.

Unquestionably, the most outstanding of the three Breamore Mill pillboxes is that built within a barn close to the lane and the River Avon bridges, protecting the adjacent roadblock. A rectangular-shaped pillbox [475] was made by building a concrete wall, with an entrance way, within the barn, and covering it with wooden slats to blend with the rest of the barn interior. The external barn walls were probably strengthened to a double thickness of bricks, and openings for three embrasures made through the south-west, south-east, and north walls. The pillbox also received a flat concrete roof. It provides an outstanding example of a building converted for defence, surviving in excellent condition, including a complete wooden firing shelf; it is used today as a store.

The pillboxes that were built into the mill and its outbuildings were undoubtedly supplemented by other defences that have long since been removed or infilled, for example, section and observation posts, slit trenches, cratering charges, fougasses, and barbed wire perimeters. A spigot mortar emplacement might also be expected here, but, if this was constructed, its pedestal has been removed or covered over. The bridges were almost certainly prepared with demolition charges to be blown in the event of an actual invasion.

FIGURE 318 Pillbox [488] built against the western range of buildings at Breamore Mill and faced with brick so as to merge with them. It probably originally had a pitched roof to give the appearance of a small outhouse (see Fig 299 for a comparison).
(PHOTO: THE AUTHOR, 13 AUGUST 2003)



Significance

The pillboxes at Breamore Mill form a most important group protecting a crossing of the River Avon, one of a series of such defended localities on the Ringwood Stop Line. The area provides an excellent example of how buildings were adapted for defence. The pillboxes have always been on private land, and as a result they survive in excellent condition with many interior fittings intact.

There have been no appreciable changes to the landscape of the defence area since the Second World War. The defence positions within the buildings of Breamore Mill were clearly selected for their close proximity to the bridges over the River Avon, a crossing



FIGURE 319 The defended barn [475] with loopholes facing the road. A third loophole facing north is out of view. (PHOTO: THE AUTHOR, 13 AUGUST 2003)

point of the main anti-tank obstacle of the stop line. Pillbox [475] commanded the roadblock on the bridges, while pillboxes [485] and [488] fired west at the expected direction of attack. The area provides a straightforward and coherent example of a 1940 defended landscape.



FIGURE 320 Close-up of the loophole in the south-east wall of the defended barn [475]. The splayed shape of the loophole through the interior concrete wall can be seen. (PHOTO: THE AUTHOR, 13 AUGUST 2003)

Access

There is no public access to the pillboxes at Breamore Mill, although the loopholed buildings can be seen from the lane. There is little space for parking.

Documentary Sources

'Construction of GHQ Zones, defence lines, road blocks, etc', July–October 1940 – TNA: PRO WO 199/1801

Hampshire Area War Diary, 1940–1941 – TNA: PRO WO 166/1206

'Construction of Anti-Tank Islands and Centres of Resistance' (Report on Fordingbridge), April 1941 – TNA: PRO WO 199/1714

Southampton Sub-Area HQ War Diary, 1941 – TNA: PRO WO 166/1319

Southern Command Headquarters 'G' Branch War Diary, 1941 – TNA: PRO WO 166/61

Hampshire and Dorset District War Diary, 1943 – TNA: PRO WO 166/10842

Walker, N, 1996 Breamore Mill. Unpubl report for the Defence of Britain Project – DoB Project Archive, NMR

Breamore Mill: Defence components

Database site reference	NGR	Defence work type	Survival status
475	SU 1628817474	DEFENDED BUILDING	E
485	SU 1619317624	PILLBOX (VARIANT)	E
488	SU 1621817494	PILLBOX (VARIANT)	E
16657	SU 16301744	ROADBLOCK	R

E = Extant; R = Removed; I = Infilled; U = Unknown.

Wooler

Nodal Point Defence

Location Details

16 miles (25.5km) NW of Alnwick
County: Northumberland
Parish: Wooler
National Grid Reference: NT 990280

Landscape

Wooler is a small town that stands on the west bank of Wooler Water, a tributary of the River Till. It is situated at the edge of the Cheviot Hills, which stretch away to the west forming the Northumberland National Park. Moorland and hill pasture grazed by sheep overlook the town on its west and south-west sides, and there are further wooded uplands to the east. To north and south the river valley is farmed, and is followed by the main A697 road that passes through the town. A railway line running from Morpeth via Wooler to Kelso is now disused. At Green Castle to the south-west of Wooler is the site of a Norman motte and bailey castle, close to the edge of the Northumberland National Park.

There have been some small housing developments in recent years on the northern and eastern edges of the town. Caravan parks stand beside Wooler Water to the south, and in the valley of a stream near Humbleton Mill to the west. A small industrial estate now occupies the site of the former railway station and goods yard.

Defences

Wooler was a defended village (synonymous with a nodal point) within the plan for the defence of the Northumbrian Area against a German sea and air landing across the North Sea. In the critical invasion months from June to October 1940, the defence was the responsibility of 162 Infantry Brigade, but early in 1941 this brigade was replaced by 225 Brigade, which, with 202 and 216 Brigades, formed the Northumberland County Division.

The defence of the coast from Berwick to Sunderland necessitated a defence of the interior as well, which was achieved by a system of stop lines and defended villages. The purpose of the stop lines was to prevent the enemy, having landed at one point, being able to move laterally along the coast to mount a flanking attack against a port or other landing site. The intention was to keep the enemy troops contained within the sector where they had landed, until they could be counter-attacked by forces from the Field Army's mobile reserve. Stop lines were established along the River Coquet west of Amble, along the River Wansbeck west and east of Morpeth, between Alnwick and Wooler, and between Belford and Wooler. Wooler was, therefore, an important point in the defence network, being at the junction of two stop lines, and was accordingly prepared for all-round defence. Six pillboxes

and thirteen roadblocks were constructed within the town and in its immediate outskirts, with at least six further pillboxes (possibly built at a later date) on the high land beyond the town to the west and south-west. The defence of Wooler was the responsibility of the Wooler Company of the 1st (Berwick) Bn, Northumberland Home Guard. The town also contained the headquarters of 225 Infantry Brigade, which were set up in the requisitioned Ryecroft Hotel. Later in the war, a prisoner of war camp was built off Brewery Road to the east of the town; the site is now occupied by a school.

Nine pillboxes survive around Wooler, of two principal types. First, a local variant of the hexagonal Type 22, with paired walls of unequal length, light machine gun embrasures in the forward faces, and a small rifle port each side of the doorway. This type appears to have been constructed solely along the line of hills to the south of the town [7296 is an accessible example].

Second, a lozenge-shape pillbox of the type particular to Northern Command (see Atwick and Speeton defence areas), but here with three (not four) embrasures side-by-side in the forward face. It was built principally on the western and northern edges of the town [7297, 7299, and 7300 are examples]. No remains of the ten roadblocks known from documentary sources appear to survive.

Significance

Wooler, and its surrounding landscape, have changed very little since the Second World War, and there has been very little expansion of the town. This explains the high survival of pillboxes close to the urban margins to the north, west, and south, where they were built in prominent landscape positions controlling access routes into the town. Pillboxes to the east beside the railway and river in built-up parts of the town have not survived.



FIGURE 321 Hexagonal infantry pillbox [7296], a local variant on a Type 22, sited on a knoll guarding a pass through the hills south-west of Wooler. (PHOTO: THE AUTHOR, 5 MAY 2003)

FIGURE 322 Lozenge-shaped pillbox [7300], with three embrasures side-by-side in its forward firing face, on a ridge overlooking the site of a roadblock on Burnhouse Road at the western edge of Wooler.
(PHOTO: THE AUTHOR, 5 MAY 2003)



The pillbox positions are instructive in showing how the topography around the town was used to site the defences to the best advantage. Pillbox [7296] stands on a high point commanding a pass through the hills to the south of the town, and three further pillboxes are positioned on the crest of the hills further east, one of which is now used as the base of a wireless mast [7294]. Pillbox [7297] is situated on the bank of the outer bailey of Green Castle overlooking the road running west from the town. To its north, pillbox [7299] stands in a steep-sided valley close to buildings of Humbleton Mill. Along the northern perimeter of the Wooler defences, pillboxes [7300] and [7301] occupy a ridge position alongside houses to command the approaches from the north. At the northernmost point of the defences, pillbox [7302] stands beside the now disused railway line, which, with the river, formed the eastern perimeter.

Wooler provides a good example of a defended place at the hub of a linear system of defence. It is unusual to find such a high survival of pillboxes defending an urban centre, and the evidence provided here of the all-round defence of a town, showing how the countryside at its margins was incorporated in the defended perimeter, makes Wooler outstanding in terms of 1940 anti-invasion studies.

Access

Only pillboxes [7296] and [7297] survive in positions to which there is public access. Many of the others, however, can be viewed at a distance from the roads and tracks of the town; permission would need to be gained from landowners for a closer inspection. A pull-off from Common Road at the edge of the Northumberland National Park west of Green Castle is convenient as a starting-point to see the western and southern pillboxes.

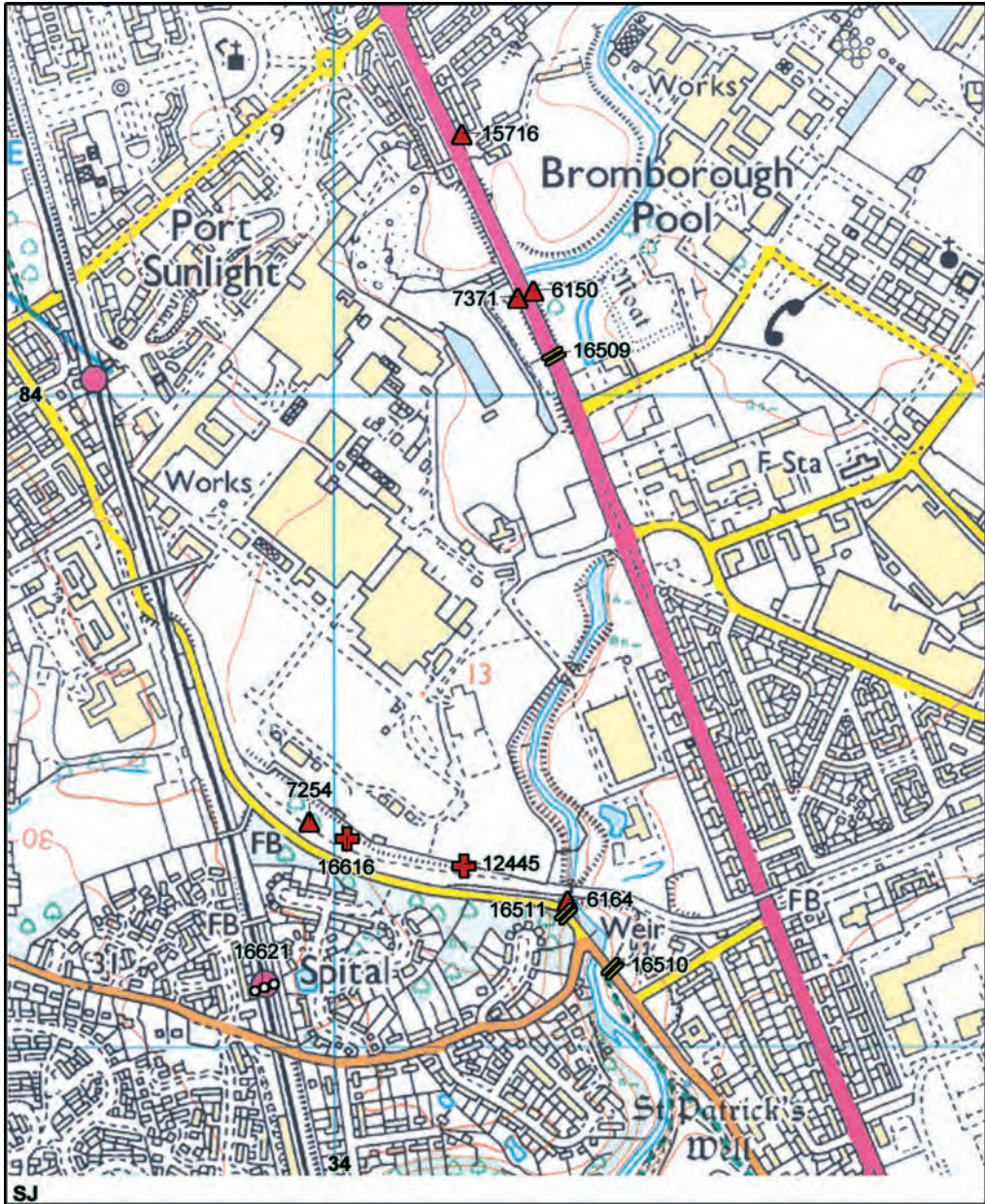
Documentary Sources

- 'Operation Order No 4', 8.9.1940 (from 162nd Infantry Brigade War Diary) – TNA: PRO WO 166/1035
- 'Operation Instruction No 8', 4.11.1940 (from 6th Bn Bedfordshire and Hertfordshire Regiment War Diary) – TNA: PRO WO 166/4134
- 'Operation Instruction No 7', 14.11.1940 (from Northumbrian Area HQ War Diary) – TNA: PRO WO 166/1230
- 9th Bn Border Regiment War Diary, 1941 – TNA: PRO WO 166/4159
- 'Operation Order No 3', 29.4.1941 and 'Operation Order No 5', 31.10.1941 (from 225th Infantry Brigade War Diary) – TNA: PRO WO 166/1078

Wooler: Defence components

Database site reference	NGR	Defence work type	Survival status
7290	NU 005280	PILLBOX (VARIANT)	E
7291	NT 994278	PILLBOX (TYPE 22)	R
7292	NT 99202757	PILLBOX (VARIANT)	R
7293	NT 9908127678	PILLBOX	R
7294	NT 9891327627	PILLBOX	E
7296	NT 9844527595	PILLBOX (TYPE 22)	E
7297	NT 9829027778	PILLBOX (VARIANT)	E
7299	NT 9839028028	PILLBOX (VARIANT)	E
7300	NT 9861228369	PILLBOX (VARIANT)	E
7301	NT 98872843	PILLBOX (VARIANT)	E
7302	NT 9914528822	PILLBOX (VARIANT)	E
7303	NT 9931028552	PILLBOX (VARIANT)	R
7304	NT 9938628229	PILLBOX	R
7305	NU 006286	PILLBOX (TYPE 22)	E
7319	NT 99122748	ROADBLOCK	R
7320	NT 99482781	ROADBLOCK	R
7322	NT 98432784	ROADBLOCK	R
7323	NT 98712825	ROADBLOCK	R
7324	NT 99132856	ROADBLOCK	R
7325	NT 99482825	ROADBLOCK	R
7326	NT 99222852	ROADBLOCK	R
16480	NT 99182774	ROADBLOCK	R
16481	NT 99452785	ROADBLOCK	R
16482	NT 99532783	ROADBLOCK	R
16508	NT 99192851	ARMY HEADQUARTERS	U
16614	NT 98862762	PILLBOX	E
16615	NT 98732760	PILLBOX	E

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Bromborough Pool

Defended Locality and Vulnerable Point Defence

Location Details

½ mile (1km) S of Port Sunlight and 3 miles (5km) S of Birkenhead

Unitary Authority: Wirral

Parish: Bebington

National Grid Reference (Bromborough Pool Bridge): SJ 343841

Landscape

Bromborough Pool Bridge carries the A41 New Chester Road over the River Dibbins, a tributary of the River Mersey, close to Bromborough Pool itself, which was developed as an industrial dock from the mid-19th century and is currently disused. A short distance to the north-west is the model village of Port Sunlight, while to the south-west lie the Port Sunlight Works (previously the Lever Works), the soap products of which originally gave Port Sunlight its name. South-east of the bridge, an area of former works has been redeveloped as the 'Wirral International Business Park'. A short distance further to the south, the B5137 Bromborough Road crosses the River Dibbins as it emerges from the Port Sunlight Works and runs below a steep tree-covered cliff that marks the original southern perimeter of the works. The main railway line to Birkenhead crosses the defence area on its western side.

The Lever Works have been demolished and rebuilt as the Port Sunlight Works, and areas formerly occupied by factory buildings and their attendant infrastructure now lie open. The southern perimeter of the works, once occupied by railway lines and sidings, is today followed by a public right of way that can be accessed from Bromborough Road.

Defences

Bromborough Pool Bridge, with its surrounding area, was defended as part of the defences of the Birkenhead Sector of the Mersey Garrison. A particular task of the defences at Bromborough was to prevent the penetration into Port Sunlight and Birkenhead of enemy airborne troops landing at Hooton airfield to the south. Birkenhead, linked with Wallasey, was a designated anti-tank island within Western Command, and heavily defended with encircling stop lines fronted by anti-tank ditches and minefields.

The particular defence works of the Bromborough Pool area were pillboxes to defend both the southern and northern ends of the road bridge [15716, 6150, and 7371], as well as a roadblock a short distance to the south. All three pillboxes built at the bridge survive and provide rare examples of pillboxes surviving in an urban environment relatively unaffected by modern vandalism. They are hexagonal Type 24 infantry pillboxes constructed with local variations to doorways and embrasures. The positions of the two southern pillboxes



FIGURE 323 Bromborough Pool Bridge and its three pillboxes can be made out at the centre right of this 1948 air photograph. The Lever Works are towards the bottom of the photograph, with their own dock served by the canalised waterway from Bromborough Pool. At the top, the geometric layout of the model village of Port Sunlight can be seen. (RAF/CPE/B/UK/19 fr5362. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)

FIGURE 324 Pillboxes [7371] (left) and [6150] at the southern end of Bromborough Pool Bridge. The pillboxes have survived as the bridge is broad and they do not impede vehicular or pedestrian traffic. They seem now to have become accepted as part of the bridge fabric. (PHOTO: THE AUTHOR, 19 MAY 2003)



[6150 and 7371] are perhaps surprising in as much as [7371] faces east across the road rather than south like its companion, while also firing along New Chester Road to the south. Bromborough Pool Bridge itself was almost certainly prepared with detonation chambers for demolition.

FIGURE 325 Pillbox [6150] facing the roadblock which stood some 100m further along the road. (PHOTO: THE AUTHOR, 19 MAY 2003)





FIGURE 326 Type 24 pillbox [15716] at the edge of New Chester Road, north of Bromborough Pool Bridge. This is a good example of a pillbox surviving in an urban landscape. (PHOTO: THE AUTHOR, 19 MAY 2003)

Two further roadblocks were constructed on Bromborough Road to the south, and two pillboxes close by protected the southern perimeter of the Lever Works, which was a designated Vulnerable Point producing war materials. The eastern of these pillboxes [6164] is of an unusual five-sided shape. It has been vandalised, and its embrasures and doorway are now blocked up. The western pillbox, at the southern edge of the former works [7254], is of a square type which has also been badly vandalised and covered in spray-paint graffiti. Between the pillboxes, against the embankment of former railway sidings, stand the pedestals (without their central steel pintles) of two spigot mortar emplacements [12445 and 16616]. A railblock was positioned on the main line by Bromborough Station at the south-west corner of the defence area.

The Bromborough Pool defences were manned by units from the 4th (Wirral) Bn Cheshire Home Guard, although the railblock at Bromborough Station was the responsibility of a 'railway platoon' from the 21st Bn Cheshire Home Guard.

Significance

The defence area is an excellent example of defence works surviving in an urban landscape where usually physical evidence of the Second World War has been removed. Although there have been considerable changes to the manufacturing and industrial landscape around Bromborough Pool Bridge, the basic structure of the roads and factory areas that were once defended remains the same. The defence works fall into two groups, the first to the north of the area around Bromborough Pool Bridge and the second to the south on land bordering the former Lever Works. Several different types of defence works and construction methods are represented.

The northern group protected the principal road route into Birkenhead at an important crossing of the canalised River Dibbins. The significance of the strategic siting of the

pillboxes at both ends of the bridge can be appreciated, with the two pillboxes at its south end [6150 and 7371] positioned to concentrate fire on the bridge approaches while also covering the roadblock some 150m further south on New Chester Road. These two pillboxes can be viewed now as an integral part of the fabric of the bridge and a tangible reminder of its recent history.

The southern group provides evidence of the perimeter defences of the Lever Works, a Vulnerable Point whose defences formed part of the overall defence strategy of the area, and was linked thereby with the northern group of defences. Pillbox [6164] was sited to take advantage of a steep cliff behind and a watercourse on its eastern flank, from which position it covered roadblocks on Bromborough Road. The second pillbox [7254], and two spigot mortar emplacements, were positioned on the embankment of railway sidings to protect the open working areas of the factory to the north. Today these defence works form part of the landscape of the former works, preserved by the broad embankment and a cycle track that runs beside it.

Access

All the defence works can be seen from the roads or from the public footpath and cycle track that runs along the southern perimeter of the Port Sunlight Works. No parking is allowed on Bromborough Pool Bridge, and it is advisable to park in nearby streets and proceed on foot.

Published Source

Port Sunlight. Available: <http://www.diarama.cwc.net>. Accessed: 2003

Documentary Sources

'Mersey Garrison Operation Instruction No 1', 27.9.1940 and 'Operation Order No 1', 4.12.1940 (from Mersey Garrison HQ War Diary) – TNA: PRO WO 166/1351

Works Reports, 1940 (from 284th Field Company Royal Engineers War Diary) – TNA: PRO WO 166/3753

'Mersey Garrison Home Security Scheme', March 1942 (from Mersey Garrison HQ War Diary) – TNA: PRO WO 166/6872

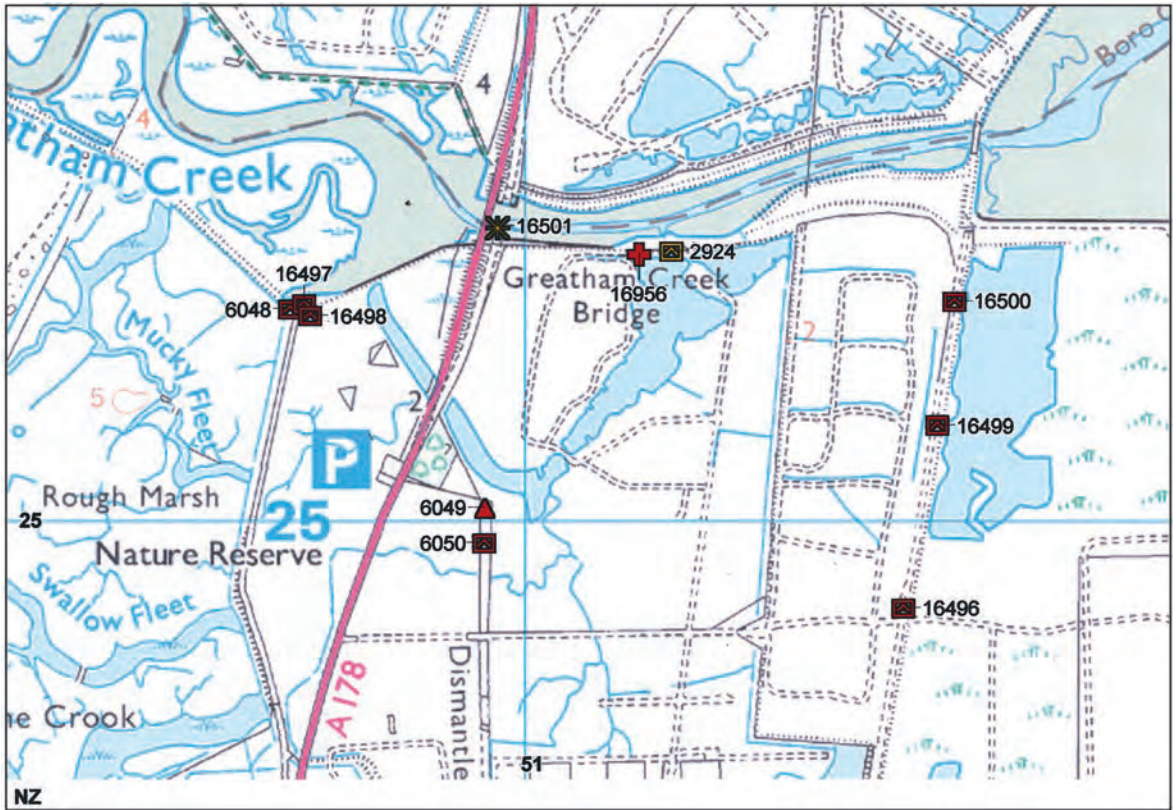
'Standing Operation Instruction', 1943 (from West Lancashire District HQ War Diary) – TNA: PRO WO 166/10858

'Operation Instruction No 5', 1943 (from Mersey Sub-District War Diary) – TNA: PRO WO 166/10985

Bromborough Pool: Defence components

Database site reference	NGR	Defence work type	Survival status
6150	SJ 3430984161	PILLBOX (TYPE 24)	E
6164	SJ 3435883221	PILLBOX (VARIANT)	E
7254	SJ 33968334	PILLBOX (VARIANT)	E
7371	SJ 3428584150	PILLBOX (TYPE 24)	E
12445	SJ 3420183281	SPIGOT MORTAR EMPLACEMENT	E
15716	SJ 3419984401	PILLBOX (TYPE 24)	E
16509	SJ 34348407	ROADBLOCK	R
16510	SJ 34438313	ROADBLOCK	R
16511	SJ 34358322	ROADBLOCK	R
16616	SJ 3402283320	SPIGOT MORTAR EMPLACEMENT	E
16621	SJ 33898310	RAILBLOCK	U

E = Extant; R = Removed; I = Infilled; U = Unknown.



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Greatham Creek

Area Defence

Location Details

5½ miles (9km) NE of Stockton-on-Tees and 5 miles (8km) S of Hartlepool

Unitary Authority: Stockton-on-Tees

Parish: Billingham

National Grid Reference (Greatham Creek Bridge): NZ 509254

Landscape

The defence area lies to the immediate south of Greatham Creek, which is a tributary of the River Tees that flows into the North Sea some three miles (5km) to the east. At the time of the Second World War, this was a largely undeveloped area of salt marsh and sand. A series of sea banks forming a rectangular shape crosses the marshes; these banks run along the edge of Greatham Creek and to the south of it, fronting what in 1940 were the open Seal Sands to the east and, to the west, Rough Marsh and Cowpen Marsh. The majority of the defence works were built on these sea banks, partly to give them a commanding position and partly to ensure they stood above the water in the event of a need to flood the marshes as a defence measure by opening sluices in the banks.

A railway line, now dismantled, ran to a point close to Greatham Creek where its embankment ended abruptly. The area is bisected south to north by the A178 road to Seaton Carew, which crosses Greatham Creek by a bridge. This bridge has been replaced in recent years and stands a few metres west of its predecessor.

From the 1960s, the area to the east of the A178 road was developed for brine fields needed for the petrochemical industry, and much of the land is still owned and managed by Huntsman Petrochemicals (UK) Ltd. Oil refineries and chemical works fill the horizon, although the land immediately south of Greatham Creek, bordering the eastern sea bank, has been largely cleared of its former petrochemical works, and now forms part of the Teesmouth National Nature Reserve. Some of the character of the original salt marshes and their adjacent sand flats has returned as a result; seals can be observed again on Seal Sands, and a number of hides have been built for bird watching.

Defences

Greatham Creek was a defended locality within Hartlepool Sub Sector of No 1 Sector, defended in 1940 by 176 Infantry Brigade, and later by 217 Brigade. This defended locality formed part of the rear defences of Hartlepool and also acted as a rear position behind the defences of the coast between Hartlepool and Seaton Carew. Its main purpose appears to have been to prevent enemy troops landing on the sands and salt marshes to make a flanking attack against the docks at Hartlepool. A further defended locality was at



FIGURE 327 Greatham Creek looking west towards the road bridge. (PHOTO: THE AUTHOR, 1 MAY 2003)

Greatham village itself, one and a half miles (2.5km) to the north-west. Here an additional responsibility was the protection of Greatham Airfield.

On 9 June 1940, work commenced on a coast defence scheme from North Gare, at the mouth of the River Tees, to West Hartlepool, and it seems likely that the defence works at Greatham Creek were built as part of this construction programme undertaken by 510th Field Company Royal Engineers. The construction of 'rifle section posts' is recorded, and it is this type of defence structure that was erected at Greatham Creek. An Operation Instruction from 176 Brigade refers to the provision of concrete rifle posts in place of open trenches, each to have ten loopholes. The defended locality was also protected by roadblocks and surrounded by a barbed wire perimeter. Greatham Creek Bridge was mined for demolition in the event of an invasion. The Royal Engineers unit which constructed the defences was also responsible at first for manning them; by 1941, however, the defence was being undertaken by the 19th Bn Durham Home Guard.

The particular feature of the defence works at Greatham Creek is the remarkable section posts that survive there, either individually or in groups. These appear to have developed from earthwork infantry section posts, the sides of which were concreted and loopholed, and then roofed. The main body of the section post is angled, with small projections at each end containing the two entrances. The embrasures are all small, suitable for rifle, or possibly Bren gun, fire only, and they are constructed in both the forward and the rear faces, as well as in the end walls. One section post in the group to the west of the defence area has eighteen forward-facing embrasures [16498].

A further group of section posts is arranged in a square, and is situated towards the north end of a disused railway embankment [6050]. The group stands close to a small pillbox [6049], and the relationship between the two defence works, one with some 36 embrasures and the other with only three, is far from clear. Both were contained within a rectangular barbed wire enclosure.



FIGURE 328 Greatham Creek crosses the centre of this November 1946 air photograph. The sea banks running south of it show clearly, and on them can be made out the positions of the various section posts. The principal group of three section posts is at the left centre of the view, at a point where the bank makes an angled turn and is joined by a drain. The disused railway embankment can be seen running towards the bottom of the photograph, with the square-shaped section post [6050] towards its northern end. Other section posts are on the right-hand sea bank facing Seal Sands and the River Tees.
(RAF/CPE/UK/1835 fr3055. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)



FIGURE 329 Angled section post [16496] positioned to fire across the flats of Seal Sands.

(PHOTO: THE AUTHOR, 1 MAY 2003)

On the eastern sea bank, three individual section posts have only recently become available for inspection following clearance. A fallen sign still states ‘Beware of Blockhouse’, presumably a warning to the demolition gangs. The southerly of these section posts [16496] is in the best condition as its forward face is not buried like the others and it can be inspected internally. It has a total of nineteen embrasures, with eleven in the forward (east) face. A further section post [2924] on the south bank of Greatham Creek has been removed in recent years. Alongside it was the pedestal of a spigot mortar emplacement, which is now buried in the bank with just its steel pintle showing [16956].

Significance

The defence area provides a most important group of defence works in an industrial landscape different from any other examined in this study. What has survived here is a unique transformation into concrete of infantry earthworks that would have been dug at other defended localities, and which have long since been infilled.



FIGURE 330 Pillbox [6049] (left) and section post [6050] standing on the disused railway embankment. The section post had a square arrangement with some 36 embrasures allowing fire to be laid down in all directions except the north where pillbox [6049] stood. Oil refineries form a backdrop to this industrialised defence landscape.

(PHOTO: THE AUTHOR, 1 MAY 2003)

FIGURE 331 There is no public access to the sites on the railway embankment, but the eight embrasures in the west face of section post [6050] can be seen in this view.

(PHOTO: THE AUTHOR,
1 MAY 2003)



Although the reason for placing a defended locality here can be understood, the intensity of the defence provided for by the groups of section posts is perhaps surprising. The number of forward-firing embrasures of the various groups totals 120, showing that provision was made to defend the locality at company strength, with fields of fire criss-crossing the defended area. The section posts were set prominently on the sea banks and the railway embankment, commanding the flat, marshy landscape around. In 1940,

FIGURE 332 The interior of section post [16496] with its firing shelf beneath the embrasures.

(PHOTO: THE AUTHOR,
1 MAY 2003)



the northern and eastern sea banks also ran between standing water. The section posts at the latter positions were clearly intended to combat a seaborne landing from the estuary of the River Tees to the north-east. The north-west group of section posts may also have had the purpose of repelling invaders advancing up Greatham Creek, but the central group, with the detached pillbox, was probably intended for fire against enemy paratroopers landing on the surrounding marshes. It was clearly positioned to command the area from the centre, allowing for a 360 degree fire. A similar anti-airborne landing purpose could be attributed as well to the north-west group, which also had all-round arcs of fire.

This defence area is particularly important as its character is unusual. It is hoped that the landscape can remain in its present cleared state and the defence works preserved within it.

Access

A car park for the nature reserve is located on the west side of the road south of Greatham Creek Bridge, from which a path runs by the side of the A178 road to the bridge. A boardwalk runs east of the bridge by which it is possible to reach the sea bank overlooking Seal Sands. The group of section posts to the west of Seaton Carew Road, however, should not be visited as, despite a convenient stile and footbridge, there is a warning notice that the land here is contaminated. There is no public access to the central square group of section posts, or its accompanying pillbox, as this land is fenced off and security patrolled.

Published Source

Hook, R, 1993 *Teesside: An architectural survey of Urban Development Corporation areas*. Report for the Royal Commission on the Historical Monuments of England, 111–18

Documentary Sources

510th Field Company, Royal Engineers War Diary, 1940 – TNA: PRO WO 166/3776

2/6th Bn South Staffordshire Regiment War Diary, 1940 – TNA: PRO WO 166/4688

‘Operation Instruction No 4’, 13.7.1940 (from 176th Infantry Brigade War Diary) – TNA: PRO WO 166/1045

‘Operation Order No 2’, 16.7.1940 (from 6th Bn North Staffordshire Regiment War Diary) – TNA: PRO WO 166/4482

‘Hartlepool Dock Area Defence Scheme’, 10.10.1940 (from 15th Bn The Durham Light Infantry War Diary) – TNA: PRO WO 166/4229

‘No 1 Sector Operation Instruction No 1’, 8.11.1940 (from 217th Infantry Brigade War Diary) – TNA: PRO WO 166/1070

‘Plan of Pillboxes at Cowpen Marsh’, Wills Collection, NMR

Greatham Creek: Defence components

Database site reference	NGR	Defence work type	Survival status
2924	NZ 5123025420	SECTION POST	R
6048	NZ 5063925330	SECTION POST	E
6049	NZ 5093925021	PILLBOX	E
6050	NZ 50932496	SECTION POST	E
16496	NZ 5158624865	SECTION POST	E
16497	NZ 5066125338	SECTION POST	E
16498	NZ 5067025320	SECTION POST	E
16499	NZ 5164025150	SECTION POST	E
16500	NZ 5166825342	SECTION POST	E
16501	NZ 50962547	MINED BRIDGE	R
16956	NZ 51182540	SPIGOT MORTAR EMPLACEMENT	E

E = Extant; R = Removed; I = Infilled; U = Unknown.

Kirkleatham

Defence of a Defended Locality

Location Details

2 miles (3km) S of Redcar

Unitary Authority: Redcar and Cleveland

Parish: Kirkleatham

National Grid Reference (Kirkleatham Hall): NZ 595218

Landscape

Kirkleatham is a small village that in the mid-18th century was incorporated into the estate of Kirkleatham Hall, the inhabitants being removed to surrounding settlements. The former area of the village was then landscaped to include the Hall itself (enlarged in the Gothic style), the church, a 17th-century Hospital (Turners Hospital), and a Free School (termed today the Old Hall, housing a museum). Kirkleatham Hall, requisitioned by the military during the Second World War, was demolished in 1956, and a special needs school now occupies its site. The stable block, however, remains standing.

Today, Kirkleatham is bypassed by roads built in the 1970s: the A1042 and A174 that run to its west and south. It has few inhabitants and stands detached from the busy world around. Footpaths and cycle tracks run through the former grounds of the Hall. To the west of Kirkleatham are cooling towers and other industrial works, and housing estates spread to the north and east as far as the sea at Redcar and Marske. To the south rises a line of wooded hills, and between them and Kirkleatham lie flat, open fields which have taken the place of the smaller fields and stands of woodland that were here in 1940.

Defences

From June 1940, Kirkleatham formed a rearward defended locality of the Left Sub-Sector, Central Zone of the North Riding Coastal Area defended by 176 Infantry Brigade from 59th Division. This Central Zone was occupied by the 'Kirkleatham Battalion', which in August 1940 was the 1/6th Bn South Staffordshire Regiment. In September it was replaced by the 6th Bn North Staffordshire Regiment, and in October by the 12th Bn Green Howards. Battalion headquarters were at Kirkleatham Hall. The defended locality was to provide a rear defence to the coastal defences at Marske. A mobile column was also based within it to go to the relief of the beachfront defences in the event of an enemy landing or to confront airborne assault troops.

The defence of Kirkleatham was set around nine pillboxes and infantry posts, four roadblocks, and an anti-tank ditch, the defences being manned by three infantry companies. The role of the defending troops was given as guarding battalion headquarters, supplying the ground and air defence of the locality, manning roadblocks, and having a standing



FIGURE 333 Kirkleatham in an air photograph taken in 1946. Kirkleatham Hall at the upper right centre is now demolished and the site is occupied by a school, although the stable block to the west (left) still stands. Today, the A1042 and A174 roads pass close to the village to its west and south. The line of the infilled anti-tank ditch running south-east from Turners Hospital can be seen in this photograph crossing the field to Fishponds Road; to the east of the road it appears to survive as a field ditch. An unfilled section of the ditch also runs along the south border of Turners Hospital.

(RAF/CPE/UK/1835 fr3142. ENGLISH HERITAGE (NMR) RAF PHOTOGRAPHY)

patrol ready for deployment at night or in fog. To the north, the defence of the area between Kirkleatham and the coastal frontline was the responsibility of No 6 Company of the 4th (Guisborough) Bn, North Riding Home Guard. Open fields south and east of Kirkleatham were blocked by posts against enemy air landing.

The defences of Kirkleatham were constructed from the beginning of July 1940 by the 509th Field Company Royal Engineers, and the pillboxes and roadblocks had been largely completed by the end of that month, although some additional machine gun emplacements were built later. Some two and three-quarter miles (4.5km) of anti-tank ditch, forming the perimeter defences north, east, and south of Kirkleatham, were dug during August.

In mid-1941, the battalion based at Kirkleatham was the 7th Bn Leicestershire Regiment, whose War Diary for this period includes a detailed map of the defences. By this time, Kirkleatham Hall was the headquarters of several military units, including an Army Sub-Group south of the River Tees and a detachment of the Royal Air Force. The defended locality, with its substantial defences, had become a base of growing importance. Four 2pdr anti-tank guns from the 68th Anti Tank Regiment were positioned within its perimeter, as well as two 60pdr guns with the task of firing at enemy vessels off Marske Sands.

Two purpose-built pillboxes surviving at Kirkleatham now stand in the middle of an open field where they can be seen to be of different types, one being brick-shuttered with three firing chambers and a total of nine embrasures [5916], and the other smaller and concrete-faced [5917].

Regrettably, two pillboxes have been removed recently, one at the crossing point of the anti-tank ditch with Fishponds Road and the other at the south-east corner of Turners Hospital grounds. A machine gun post that was built within one of the 18th-century drum towers of the perimeter wall of Kirkleatham Hall grounds still shows the evidence of its blocked embrasure [10148].

FIGURE 334 Plan with the War Diary of the 7th Bn Leicestershire Regiment showing the defences of Kirkleatham, December 1941. (THE NATIONAL ARCHIVES: PRO WO 166/4421)

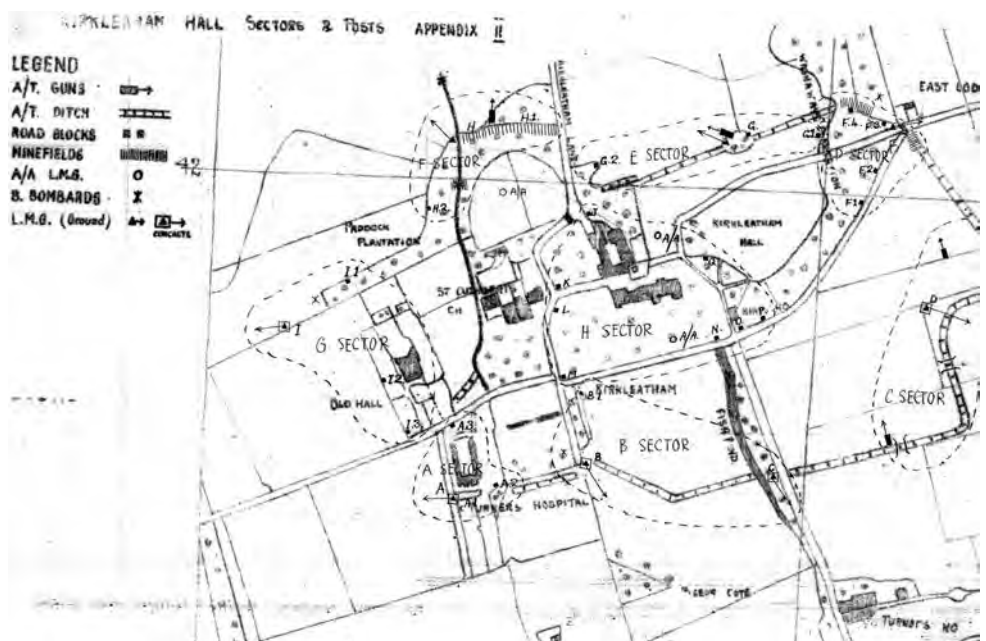




FIGURE 335 Pillboxes [5917] (left) and [5916] standing in a large open field south-east of Kirkleatham. They were built at bends in the anti-tank ditch which made a zig-zag course through the several fields that existed then. (PHOTO: THE AUTHOR, 30 APRIL 2003)

Another important survival is the spigot mortar pedestal by the perimeter wall at East Lodge [10722]: it was constructed using corrugated iron as shuttering, which is unusual. Other surviving defence works may well remain to be located at Kirkleatham.

Significance

Kirkleatham provides an excellent illustration of a defended locality in a rear position in support of front-edge coastal defence, and one used increasingly throughout the war to protect an important military headquarters. The intensity of the defence suggests that



FIGURE 336 Eighteenth-century drum tower by West Lodge on Kirkleatham Lane loopholed for defence in 1940 [10148]. The loophole has been crudely bricked up. (PHOTO: THE AUTHOR, 30 APRIL 2003)

FIGURE 337 Spigot mortar pedestal [10722], constructed with corrugated-iron shuttering, at the eastern entrance to the Kirkleatham Hall grounds. The spigot mortar formed part of the Kirkleatham perimeter defences, and was positioned to fire over the wall along the approach road from the east. At that time, the land where the houses stand was open fields. (PHOTO: THE AUTHOR, 30 APRIL 2003)



Kirkleatham Hall may have been used additionally for some exceptional purpose that is not stated in the available records. The excellent documentary sources provide a rare opportunity to reconstruct the complete defence scheme.

Although the surviving defence works are few in number, nonetheless they provide interesting examples of their type. They serve as an important reminder of Kirkleatham's role in the Second World War, as well as providing physical indicators of the 1940/41 defence perimeter. Pillboxes [5916] and [5917] stood on opposite sides of the anti-tank ditch at the south-east corner of the perimeter, each sited at a right-angled bend so that three lengths of the ditch, and the ground between, were covered by their interlocking fire. The positions of the pillboxes today, marooned in a large field, mark the course of the ditch, now long since filled in. Various divisions in this field have been removed since the war, as has a belt of woodland parallel with Fishponds Road, at the edge of which pillbox [10198] once stood. Further defence positions were concealed in an enclosed pattern of small fields, woods, and buildings on the western perimeter: it is possible that one or more of these may survive.

Landscape features of the formal grounds of Kirkleatham Hall can still be seen today, including the gateways and various drives, one of which running to the south of the Hall has been converted into a cycle path. The north-east defence perimeter followed the edge of the grounds, meeting Kirkleatham Lane next to the loopholed drum tower in the boundary wall. Close to the lodge at the eastern gate to the grounds, a spigot mortar pedestal was positioned by the estate wall covering an approach road that in 1940 ran through fields but is now lined with houses.

Kirkleatham provides an interesting example of a preserved 18th-century landscape, upon which several later layers have been added, including the Second World War defences. It is important that the mid-20th-century history of Kirkleatham continues to be represented by its surviving physical evidence.

Access

The defence sites can be visited from the streets and paths of Kirkleatham, with the exception of the two pillboxes on farmland to the south-east where permission needs to be obtained. There is a museum of Kirkleatham in the Old Hall, although the Second World War period is omitted entirely. Parking is possible within Kirkleatham, and there is a pull-off on Fishponds Road at the point where it was crossed by the anti-tank ditch.

Published Source

Philo, P, c 1991 *Kirkleatham: A History of the Village Estate and Old Hall Museum*. Langbaugh on Tees Museum Service

Documentary Sources

509th Field Company Royal Engineers War Diary, 1940 – TNA: PRO WO 166/3775

1/6th Bn South Staffordshire Regiment War Diary, 1940 – TNA: PRO WO 166/4687

‘Operation Instruction No 10’, 25.9.1940 (from 6th Bn North Staffordshire Regiment War Diary) – TNA: PRO WO 166/4482

‘59 Div Left Sub-Sector Defence Scheme’, October 1940 (from 176th Infantry Brigade War Diary) – TNA: PRO WO 166/1045

‘Operation Instruction No 2’, 12.10.1940 (from 12th Bn Green Howards War Diary) – TNA: PRO WO 166/4320

‘Operation Instruction No 1’, 8.11.1940 (from 217th Infantry Brigade War Diary) – TNA: PRO WO 166/1070

‘North Riding Coast Sector Home Defence Scheme’, August 1941 (from 215th Infantry Brigade War Diary) – TNA: PRO WO 166/1068

‘A’ Sub Sector of Tees Coastal Sector Defence Scheme’, 20.12.1941 (from 7th Bn Leicestershire Regiment War Diary) – TNA: PRO WO 166/4421

Kirkleatham: Defence components

Database site reference	NGR	Defence work type	Survival status
5916	NZ 6006021860	PILLBOX (VARIANT)	E
5917	NZ 60202197	PILLBOX (VARIANT)	E
10148	NZ 5943522015	DEFENDED BUILDING	E
10198	NZ 5980921525	PILLBOX	R
10199	NZ 5951021565	PILLBOX	R
10486	NZ 59362152 – NZ 59502156 – NZ 59702150 – NZ 60122170 – NZ 60072184 – NZ 60222192 – NZ 60022216	ANTI TANK DITCH	I
10502	NZ 60342174	ANTI LANDING POLE	R
10513	NZ 59432180	ROADBLOCK	R
10514	NZ 60012218	ROADBLOCK	R
10515	NZ 59842150	ROADBLOCK	R
10516	NZ 59242157	ROADBLOCK	R
10722	NZ 6000222175	SPIGOT MORTAR EMPLACEMENT	E
10864	NZ 59442174	CANADIAN PIPE MINE	R
10865	NZ 60022217	CANADIAN PIPE MINE	R
16516	NZ 59912222 – NZ 59582207 – NZ 59572208 – NZ 59502204	ANTI TANK DITCH	I
16517	NZ 59262164 – NZ 59312170	ANTI TANK DITCH	I
16518	NZ 59962163	ANTI TANK GUN POSITION	R
16519	NZ 60132192	ANTI TANK GUN POSITION	R
16520	NZ 59992218	MACHINE GUN POST	R
16521	NZ 59972219	INFANTRY POST	R
16522	NZ 59922220	INFANTRY POST	R
16523	NZ 59712214	INFANTRY POST	R
16524	NZ 59852216	INFANTRY POST	R
16525	NZ 59952211	INFANTRY POST	R
16526	NZ 59922205	INFANTRY POST	R
16527	NZ 59662214	ANTI TANK GUN POSITION	R
16528	NZ 59652212	MACHINE GUN POST	R
16529	NZ 59452207	INFANTRY POST	R
16530	NZ 59492196	INFANTRY POST	R

Kirkleatham: Continued

Database site reference	NGR	Defence work type	Survival status
16531	NZ 59562194	ANTI AIRCRAFT GUN POST	R
16532	NZ 59612178	ANTI AIRCRAFT GUN POST	R
16533	NZ 59622178	INFANTRY POST	R
16534	NZ 59722179	INFANTRY POST	R
16535	NZ 59802183	INFANTRY POST	R
16536	NZ 59932222	MINEFIELD	R
16537	NZ 59292210	ANTI TANK GUN POSITION	R
16538	NZ 59312208	MINEFIELD	R
16539	NZ 59222205	MACHINE GUN POST	R
16540	NZ 59232196	MINEFIELD	R
16541	NZ 59202192	INFANTRY POST	R
16542	NZ 59462172	INFANTRY POST	R
16543	NZ 59492168	INFANTRY POST	R
16544	NZ 59512150	SPIGOT MORTAR EMPLACEMENT	U
16545	NZ 59372153	INFANTRY POST	R
16546	NZ 59302151	PILLBOX	U
16547	NZ 59312150	SPIGOT MORTAR EMPLACEMENT	U
16548	NZ 59302161	INFANTRY POST	R
16549	NZ 59232160	INFANTRY POST	R
16550	NZ 59182166	INFANTRY POST	R
16551	NZ 58982174	PILLBOX	U
16552	NZ 59052179	SPIGOT MORTAR EMPLACEMENT	U
16553	NZ 59122184	INFANTRY POST	R
16554	NZ 59312198	ANTI AIRCRAFT GUN POST	R
16555	NZ 59452184	INFANTRY POST	R
16556	NZ 59452180	INFANTRY POST	R
16611	NZ 59752179	ROADBLOCK	E

E = Extant; R = Removed; I = Infilled; U = Unknown.

Summary and Conclusion

Summary of Findings

The Defence Structures

Within the 67 defence areas there are 1791 anti-invasion defence sites, of which 832 structures survive, including 630 hardened weapon emplacements (primarily pillboxes). The most common type is the Type 24 infantry pillbox, of which 232 survive in the study areas. There are 56 surviving examples of anti-tank gun and field gun emplacements (mainly Types 28 and 28A pillboxes), 23 Vickers machine gun emplacements, 30 spigot mortar emplacements, and 68 Type 22 pillboxes.

One of the most noteworthy aspects of the concrete weapon emplacements is their regional variation, both in their basic form and in details of fittings and additions. The type termed the 'Dover Quad' is only known from that town and its immediate hinterland, and is remarkable for the lack of strength of its structure in such a front-line location, with wide embrasures and a thin overlapping roof slab. Another local type is the 'Suffolk Square', found in particular around Walberswick and Southwold, with two side-by-side embrasures in each face except the rear. Noted in Essex and Cambridgeshire is a thick-walled, square infantry pillbox with a loopholed detached blast wall known by the general term, the 'Eastern Command type'. Within Northern Command in Lincolnshire is a distinctive rectangular three-bay pillbox type, the central bay open for anti-aircraft fire; one similar outlying structure was recorded at Sarre in East Kent. Also in Northern Command, in Yorkshire and Northumberland, two other variant pillbox types can be found, one of a lozenge shape with four small embrasures side by side in its forward face, and another known as the 'eared' type, intended for medium machine gun fire, with two entrances, one at each end, giving the 'eared' appearance. Other known variant pillbox types are not represented within the 67 defence areas: the thick-walled D-shaped version of the Type 24 pillbox built by Mowlems and a distinctive anti-tank gun emplacement with a wide embrasure set low to the ground are two examples, both on the GHQ Line in Surrey.

A purpose-designed square emplacement for the Vickers medium machine gun, with a concrete table on which to stand the weapon, is only found in a few discrete areas – in particular on the Taunton Stop Line and in Aldershot Command. A few rare examples have more than one main embrasure. As the largest of the field fortifications, the 2pdr and 6pdr anti-tank gun emplacements are costly to remove and hence survive well in some landscapes, in particular on GHQ Lines Red and Blue where they can be found grouped in twos. Some have two main embrasures, with a side chamber for light machine gun fire. The fullest deployment of the anti-tank gun emplacement was in the Sulham Valley, which was probably the most heavily defended sector of a stop line in the country.

There are many other regional and local variations in terms of the sizes and shapes of embrasures; the presence, or otherwise, of anti-ricochet walls and external blast walls; in entry porches; and in the type of shuttering used to pour the concrete, both internally and

externally. All such variations have been noted in the main site descriptions available with the Defence Areas Project full report and on-line through the Archaeology Data Service (see p xxix and p 32).

Many variations to otherwise standard pillbox types as laid down by the Directorate of Fortifications and Works were occasioned by their adaptation by local Royal Engineers troops or civilian contractors, very often to meet the requirements of the site where they were positioned. For instance, a Type 24 pillbox built against a railway embankment might have its door offset to one side rather than opening to the rear where the slope of the embankment would make entry difficult. Some pillboxes were built extra tall to allow a field of fire, for example, over an embankment or the crest of a hill.

All pillboxes would have been camouflaged, either by being painted or draped with netting, or by a covering of earth and grass. Some had frames attached to them upon which the structure of a civilian building would be simulated, for example a seaside kiosk, a bus-stop shelter, or a signal box. In a few rare cases, elements of the camouflage scheme survive: the pillbox on Druridge Bay built as a ruined cottage and the pillbox at the centre of Acle disguised as an addition to a house are two exceptional examples.

Examples of rarer forms of pillbox-type structures were found within the defence areas. The dome of an Allan Williams Turret is still present at Studland Bay and a Norcon pillbox on the site of the Abbotsbury Battery. At Sudbury, although its concrete cupola has been removed, the chamber of a Tett Turret remains dug into a railway embankment. A major find at Holbeach was a complete Ruck Machine Gun Post, one of only a handful of examples in the country. Evidence of the pits and wall bases of Rucks at Freiston Shore suggests that this weapon was used relatively widely in Lincolnshire, a fact for which documentary evidence is lacking. Good examples of Type 24 pillboxes formed with pre-constructed concrete panels as internal and external shuttering can be seen at Avening.

Concrete section posts might otherwise be recognised as elongated rectangular pillboxes, but they appear to be a particular form of defence work that has developed out of an infantry section earthwork fire trench. The hardened form is best seen at Greatham Creek where the structures are in two wings angled at the centre, with the combined forward faces in one example having eighteen side-by-side embrasures. Another distinctive form of the section post was constructed at Dunster Beach where it can be identified in air photographs; only one example, however, is known to survive, and that is now built into the sea wall so its plan is partly lost. A further good example of a concrete section post can be seen at Cayton Bay, now in a perilous position on a crumbling cliff edge.

A category of defence works requiring further research is that of defended houses and other fortified buildings. Such conversions of existing buildings into defence posts were widespread in area defence and on stop lines. The fortification could vary from the simple loopholing of a cowshed wall to the insertion of concrete walls and ceilings into houses. Sometimes evidence of the defence use of a building survives in the external appearance of the loophole, usually now blocked but with its shape still showing. Good examples can be seen on the Leeds & Liverpool Canal near Burscough. At Breamore Mill, a former carriage shed had a pillbox effectively inserted within it, with internal concrete walls and ceilings: it has changed little since the day it was built. At Ludham Bridge, the fortification of a disused windpump with loopholed walls and a blast wall also survives in excellent condition.

In many village and urban locations, the internal strengthening of houses and other buildings is probably still present even where there is now no external evidence. At Sarre, a

surviving map shows the fortified houses with the fields of fire from their defence positions, and there is documentary evidence as well for the fortification of houses at Cripp's Corner. Within the London suburbs, documents state that houses adjacent to roadblocks were also taken over for defence. Local projects to undertake internal inspections of buildings to provide evidence of wartime alterations might yield significant results. One advantage of such fortification is that it came with ready-made camouflage, being already part of the built landscape.

Hardened weapon emplacements represent a category of anti-invasion defence works which survives well. The concrete pedestals (or 'thimbles') of spigot mortar emplacements are also relatively common, although examples with their surrounding firing pit and ammunition lockers are much rarer. Evidence for the use of the spigot mortar for coastal defence in Norfolk was identified, a deployment of this weapon not known from documentary evidence.

One of the most common categories of defence works is one that is now relatively rare and increasingly vulnerable to further loss: the roadblock. Most roadside blocks supporting horizontal rails have long since been removed as an obstruction to traffic, and the same is true of railblocks, although there is a good survival of the latter on the Taunton Stop Line. The sockets to take vertical posts have also largely disappeared under successive re-tarring of the road surface: examples can be seen near Dunmill Lock and at Godney. Concrete pimples – the popularly known dragon's teeth – are becoming rare as they are relatively easy to remove. Surviving examples tend to stand in hedgerows well to the side of the road where they may have been missed in clearance, or are now *ex situ*, having been moved perhaps to serve a continuing anti-vehicular role.

Concrete blocks forming the main anti-tank obstacle of a stop line are more commonly found, and there are some outstanding survivals, including the double line of cylinders through Coxmoor Wood (Chequers Bridge defence area). Other good examples are at Wakes Colne Viaduct and Drift Bridge. Anti-tank blocks were used extensively at the coast where many significant examples can be seen, in particular the monumental anti-tank barriers at Abbotsbury and Winterton-on-Sea. The enclosed village area and its hinterland at Cripp's Corner, formed of hundreds of massive blocks, is also a remarkable survival of obstacles designed to deny road communications to the enemy.

Defence works made of metal, for example the Allan William Turret, anti-tank scaffolding, hairpin obstacles, or the vertical or horizontal posts and rails of road and rail blocks, are a scarce survival. Most of these have long since been removed as obstructions or for the scrap value of their metal.

Earthworks are a significant category of defence works where survival to their original depth and width is rare as they have generally been infilled or have silted up. The most outstanding examples of an open anti-tank ditch and of slit trenches are at Hog Wood, and further good examples of slit and fire trenches can be found at Farthingloe, Dover. Evidence of anti-aircraft landing trenches has almost all been removed, but hollows in the chalk on Tennyson Down above Freshwater show their position.

Defences in the Landscape

The defence areas encompass a wide variety of differing landscapes. At the coast, they range from the steep rocky cliffs of Porthcurno to the flat expanses of salt marsh and sand

of Holbeach, to the open sandy beaches, backed by sand dunes, of Druridge Bay and Studland Bay. Different topographies presented different problems, and required different solutions, for the defence engineers. The most vulnerable shorelines to enemy assault were those with either a gently shelving beach (Druridge) or those with deep water offshore (Weybourne). In either case, access to the hinterland behind the beach was critical. At both Studland Bay and Druridge, gaps in the sand dunes provided easy exits from the beachfront, and these were blocked with double, and sometimes triple rows of anti-tank blocks, as well as by continuous scaffolding.

The exit points from beaches normally provided the locations of the Forward Defended Localities where infantry positions defended by machine gun fire and sometimes beach defence guns were situated. Surviving defence works at Druridge, Saltfleetby, and Walberswick, for instance, show these clearly. Many beaches were divided into compartments to prevent enemy armoured fighting vehicles traversing them laterally to seek exits or firing targets inland; this was achieved through lines of anti-tank blocks running at right angles to the beach as far as the sea's edge. Remnants of such lines can be viewed, for example, on Speeton Sands. The massive anti-tank barrier at Abbotsbury has already been mentioned: it was constructed to prevent enemy armour reaching the shore around the head of the lagoon behind Chesil Bank.

The presence of cliffs was not necessarily considered a sufficient natural obstacle to obviate the need for further defences. The lines of anti-tank blocks on Speeton Sands stand beneath crumbling clay cliffs 50m high. Two lines of pillboxes, one on the cliff edge and another amongst the low hills behind, offered further protection. Similar defence provision can be seen at Cayton Bay, at Atwick, and at Hollicombe Beach. The British defenders feared assault by specially trained mountain troops who would seize the cliffs above a bay in order to command the open beach beneath where the main assault would take place. The threat of small raiding parties climbing cliffs and then linking to deliver a flanking attack against a port was a further consideration. The possibility of such raiding parties operating against defence installations was also an important factor determining the defence provision at Bawdsey Point and Porthcurno.

Perhaps the best illustration of a coastal defence area where a range of differing defence components can still be seen in place is Cuckmere Haven. Here the Germans would have landed on a narrow beachfront with high ground on either flank dominating a funnelled valley. An advance inland along the valley floor would have been hampered by a network of connecting field drains and river tributaries. The surviving pillboxes, with an open section of anti-tank ditch and lines of anti-tank cubes and a wall, bear testimony to the intensity of the defence here.

Inland, landscapes vary from the flat drained wetlands of the Somerset Levels and the Cambridgeshire Fens to the enclosed, wooded countryside of the Kent and Sussex Weald, and the broad river valleys of Suffolk, Berkshire, Essex, and Surrey. Urban landscapes are represented by the outer London suburbs at Drift Bridge near Epsom, by the outskirts of Birkenhead at Bromborough Pool, and by the small towns of Acle and Wooler.

The use of rivers and other waterways to form the principal anti-tank obstacle of a stop line is well illustrated through several of the defence areas. In particular, it can be seen how the river obstacle was often strengthened in places by the erection of concrete obstacles on its banks (see, for example, Dorking Gap and Sidlow Bridge) or by straightening out salients created by loops of the river through the digging of lengths of anti-tank ditch

across their base (as at Wadbrook). At Waverley Abbey, an artificial anti-tank ditch was cut across the river plain connecting wide loops in the river; the purpose here was to bring the front-edge anti-tank obstacle into the open valley centre, rather than the curving wooded river bank, so that it could be commanded by fire from the heights behind. This particular defence area forms a constricted battleground, contained within enclosing hills and woods, where the advantage lay clearly with the defender.

Two contrasting methods of preparing a prospective battlefield are illustrated by two of the defence areas. At Hartford End on the GHQ Line, strong, thick-walled Type 24 pillboxes, supplemented by the square Eastern Command-type pillbox, are pushed forward to the river edge to provide maximum firepower to stop any crossing of the anti-tank obstacle. At Hartford End itself, this firepower is supplemented by that of an anti-tank gun emplacement and spigot mortars. Set back amongst hedgerows on the defended slope of the valley are light Type 22 pillboxes whose interlocking fire was designed to cut down infantry attempting to advance beyond the river. On the Taunton Stop Line at Wadbrook, however, the lighter defence works, in this case Type 24 pillboxes, stand close to the river bank while the main fire commanding the valley slope is from Vickers machine gun emplacements on the crest of the hill. A similar arrangement can be seen a little to the south at Weycroft.

The best example of a battlefield prepared in depth behind a stop line – in this case the GHQ Line in front of Aldershot – comes from the Ewshot defence area. Here the defences are carried back through a series of ridge-top positions, with Vickers emplacements commanding the slopes and smaller pillboxes concealed in hedgerows and dug into the banks of lanes. This is a landscape still well populated with defence works, arguably the most densely defended of any area in England.

Other areas where the population of pillboxes and other defence works remains almost as built are at Penshurst, where two branches of the GHQ Line following respective river valleys meet, at Semington – Whaddon, where GHQ Line Blue leaves Line Green, and at Sudbury, where the pillboxes, most with central wells for anti-aircraft fire, are placed amongst diverging water channels of the River Stour. At Barcombe Mills, River Brue: Cripp's Bridge, Old Lodge Warren, and River Lark: Jude's Ferry Bridge the runs of pillboxes are also complete.

Turning to area defence, the remarkable lines of anti-tank blocks surrounding Cripp's Corner, which only break when lanes, road crossings, and woods are included in their perimeter, provide an excellent example of an attempt to deny a road intersection to enemy armoured columns by using obstacles alone. Only two light pillboxes are known at Cripp's Corner, so the defenders could not have covered these long lines of blocks with fire. The purpose of the perimeter blocks seems to have been to force enemy tanks to take to the open countryside away from the road junction at the centre of Cripp's Corner, thereby hoping to halt or slow down an armoured thrust in the densely enclosed countryside of woods and steep-sided lanes.

The anti-tank island of Ilton, as an area consisting predominantly of open fields around a junction of communication routes, preserves more components of its defence than would have been the case had it been part of an urban landscape where more removal would certainly have taken place. The surviving documentation is so good here it is possible to retrace the defence perimeter and to appreciate the Royal Engineers' adaptation of the earlier stop line defences to those required for an anti-tank island. The nodal point of Acle

also preserves examples of its outlying defences, and the pillbox at its centre, beneath its covering building, is an outstanding survival. At Wooler as well, the pillboxes forming part of the west and south-west sectors of its perimeter are virtually complete.

The continuity of the historic landscape is seen vividly at Pevensey Castle, where the Second World War emplacements have been preserved within the Roman and medieval walls. At Waverley Abbey also, and at St Michael's Mount and Audley End, the ancient past connects tangibly with the near-present through the juxtaposition of Second World War remains with historic structures. At Hog Wood, the crossing of the infilled hollow of the anti-tank ditch, seen in the spring wheat, with the slight raised line of a Roman road is a reminder that the events of yesterday are just as much a part of the archaeological record as those of more distant times.

Conclusion

One of the most significant findings of the Defence Areas Project is how much work remains to be done identifying, categorising, and interpreting the material remains of the Second World War. The record held by individual county HERs varies considerably in its completeness and accuracy. Much further research is required to understand the military occupation and infrastructure of differing parts of the country, and, in this regard, it is recommended that work be carried out at a local level by place or defence group (eg a section of stop line), using all the resources outlined in this study. An important component would be to build up a fuller oral history from personal testimony while this rapidly diminishing resource is still available.

The Worcestershire Defence of Britain Project has shown the way as an example of a detailed local study of this nature, combining field evidence with documentary research and oral history, as well as research into individual units, weaponry, and tactics. A current project examining the defences of the Taunton Stop Line also shows the value of detailed research into a total defence line running over many miles (see Schofield 2004, 42).

A local study might look as well at aspects of the military landscape for which as yet there has been little research: for example the accommodation of troops, the requisitioning of buildings for headquarters, designated military roads, and civilian restrictions and eviction.

A major documentary resource, little touched upon for this study, is Unit War Diaries (TNA: PRO WO 166) for the period 1942–45. Most of the current research was carried out using War Diaries for 1940–41, but a sample looked at for later dates shows that anti-invasion defences were being maintained and extended, and adapted against the threat of German raids.

Appendix A to this book is an index of place names where details of individual sites were noted amongst documents held by The National Archives. These vary from a few references to very detailed defence schemes with maps. The index was compiled quickly during the course of research, and there has been no opportunity to check it further, so inevitably it will contain some errors. However, it is hoped it will provide a useful start for research into the anti-invasion defence of particular local areas.

There is a clear need as well for popular publications that provide information on the subject of anti-invasion defences, and describe sites and the access to them. Many of the defence areas considered in this study allow admirable scope for a walk to be conducted through them so that people can view the pillboxes and other defence works at first hand and in their landscape context. There is a considerable interest in this recent ‘people’s history’, not least for the symbolism evoked of 1940 – ‘Britain’s finest hour’, and her last-ditch resistance to Nazism.

A consideration of whether Britain would have been successful in repelling a German ground attack launched from the sea and the air in 1940/41 is beyond the scope of this book. What is certain, however, is that the defence works – the anti-tank ditches, the



FIGURE 338 Concrete supporting block for a horizontal rail roadblock next to the Seahorse public house at Shalford, Surrey. The plaque affixed to the block reads, 'GHQ. This roadblock marks the line of the last ditch defence against German invasion, Summer 1940'. (PHOTO: C URQUHART, c 1998 DEFENCE OF BRITAIN ARCHIVE, NMR)

concrete obstacles, the scaffolding, the flame fougasses, the depth charge craters, the pillboxes – would have succeeded in their principal objective of holding up the attack and altering its direction. But defence works by themselves do not win battles: at their best, they provide time for counter-attack by well-led armies with the requisite arms and equipment.

Winston Churchill's famous speech delivered on the 4 June 1940:

We shall fight on the beaches, we shall fight on the landing grounds,
we shall fight in the fields and in the streets, we shall fight in the hills;
we shall never surrender . . .

defines the areas of English landscape today where the remains of the extensive defence systems built in 1940/41 can still be found. Although no ground fighting took place on British soil, the relics of these defences seen in lines across the countryside can be viewed as reflecting the high water mark of Nazi expansion – battlefields that were prepared but to which, thankfully, the contesting armies never came.

Despite the passing of 65 years, and all the clearance of defence works that has been carried out, much survives as an evocative reminder of the desperate days of 1940. These concrete and earthwork remains, often hidden by vegetation and abandoned in farmyard and garden, in hedgerow and river valley, on ridge and cliff top, represent more than archaeology, more than illustrations of mid-20th-century fortification: they are recent history, history that is closely identified with by all manner of people, part of the nation's endurance and suffering still within the lifetime of many.

The landscape is given added meaning by the continuing presence of these defences. Through them, in the rise and fall of the land, the course of the valley, the line of the road, and the junction of road and railway, can be seen the movements of armies, the battles that so nearly happened. Time does not destroy the immediacy of the events that came so perilously close. It is important that these defence structures are given recognition. Maintaining the character of complete landscapes of defence is vital for our continuing understanding of the strategies that gave them their purpose.

APPENDIX A: Place Name Index to 1940/41 Defence Schemes and Operation Instructions

References are all from The National Archives record class of Home Forces Unit War Diaries (WO 166), unless otherwise stated.

NB: This index represents only a fraction of these document resources. Documents referenced here vary from a few details to complete defence schemes with maps.

Place Name	WO 166 piece nos (or other reference)
Aberdeen	1331
Acle	1066; 4528
Adur Gap	3815
Aldeburgh	4180
Alton	1264; 6722
Amberley	930
Angmering	930
Ansty airfield	965
Ardleigh	4181
Arundel	930
Ashby-de-la-Zouch	1222; WO 199/1439
Ashford	6852 (map)
Baginton airfield	965
Baldock	508
Battle	3675
Bawdsey	958
Beccles	953
Benacre	4599

Place Name	WO 166 piece nos (or other reference)
Bexhill	4598
Bircham Newton airfield	993
Birmingham	1332; 4276; 6855
Bishopstone	4216
Bishop's Stortford	508; 3729
Blundellsands Beach	482
Blyth	1036
Bockhanger	4496
Bognor Regis	4331
Bordon and Longmoor	1264; 6722
Boscombe	1319
Boston	6754
Bourne	6754
Bournemouth	1319
Brading	4461 (map)
Bramcote airfield	965
Brenzett	4501
Bridlington	4245; 4378
Brighton	1004
Brinklow airfield	965
Brookland	4440 (map); 4501
Brough airfield	4688
Bungay	953
Burmarsh	4496; 4640 (MFQ 1330)
Bury St Edmunds	1320
Buxton	6733
Cambridge	6728 (Also, Cambridge Record Office)
Canewdon RDF station	1060
Canterbury	1040; 1335; 3679; 4266 and 6859
Canwick	579
Catsfield	4598
Chatham	1272; 6860; WO 199/627 (Also, Rochester Library)
Chesterfield	6733
Chichester	915; 973; 1054; 1082
Church Lawford airfield	965
Clacton	1076
Coatham	4320; 4421
Colchester	537; 686; 1339; 4180
Corsham	1342; 4638
Covehithe	4599
Coventry	1226

Place Name	WO 166 piece nos (or other reference)
Cromer	468; 4136
Deal	4597
Derby	6733
Dewsbury	WO 199/1560
Docking airfield	993
Dorking	Map in Dorking Local History
Dover	Library 981; 1072; 1343; 4172; 4208 (map); 4209; 4266; 4328 (map); 4603; 4646; 6649
Dovercourt	1076
Downham Market	1193; 6728
Dumpton Gap	4597
Dundee	933
Dungeness	4501; 4440 (map); 4533 (map)
Dunwich	4680 (map)
Durham	1036
Dymchurch	4496; 4640 (MFQ 1330); 4657
Eastleigh airfield	1319
Eastwell Park	4496
East Wretham airfield	999
Elstead	1264; 6722
Ely	1193; 3709; 6728
Essex sites	537
Exeter	10953
Fairlop airfield	940
Falmouth	4135; 4218
Farnborough airfield	1256; 6739
Farnham	1264; 6722
Faversham	4502
Finningley airfield	4433 (map)
Folkestone	979; 1059
Ford airfield	909; 1054
Frinton and Walton	1076; 4592
Frome	WO 199/1801 (map)
Frostenden	4599
Gateshead	4227
Godalming	1264; 6722
Gower Peninsula	4602
Grangetown airfield	4445
Grantham	6754
Grayshott	1264; 6722
Greatham	1264; 6722

Place Name	WO 166 piece nos (or other reference)
Greatham airfield	1045; 4688
Great Massingham airfield	993
Great Mongeham	4597
Great Yarmouth	468
Grimsby	4421; 4562 (map)
Guildford	6863; 11039
Ham Street	1051
Happisburgh	965; 1073
Harrietsham	3791
Hartford Bridge airfield	10962
Hartlepool	4229
Hartsholme	579
Harwich	WO 199/625
Haslemere	1264; 6722
Hastings	3675
Haveringland Hall	3757
Hawkinge airfield	979
Hayle harbour	4732
Heighington	360
Henstead	4599
Hertford	508; 3729
High Post airfield	1329
Hillington Hall	6765
Hinckley	1222
Hindhead	1264; 6722
Hitchin	508
Holbeach	6754
Holt	3709; 4422; 4560
Hooton airfield	482
Hornchurch airfield	4249 (map)
Hoylake	3753
Huddersfield	WO 199/1560
Hull	1346; 6865; 11640
Hunsdon	4683
Hythe	1059
Ilminster	3826
Ipswich	958; 1061; WO 199/3366
Isle of Wight	1067; 4491; 4545; 4732
Kennington, Kent	4496
King's Lynn	468; 1193
Kirkleatham	4421
Lavenham	1320
Lees Court	4496

Place Name	WO 166 piece nos (or other reference)
Leicester	1222; 6751; WO 199/1439
Lerwick	4345
Lincoln	3717; 6754
Lindfield	10893
Liphook	1264; 6722
Littlehampton	930; 973
Littlestone-on-Sea	4639
Littleport	3709; 6728
Liverpool	482; 973; 1350
London	1159; 6814; 10862; WO 199/1202; MT 95/169
Longbridge airfield	965
Longford Castle	6800 (map)
Long Melford	1320
Loughborough	WO 199/1439
Lower Hare Park, Newmarket	186
Lowestoft	956; 4454
Ludham	4528
Lurgan	6084
Luton airfield	4599
Lutterworth	1222
Lydd	4440 (map); 4501; 4533 (map); 4656
Lympne airfield	979; 1044
Mablethorpe	4562
March	1193; 6728
Market Deeping	6754
Market Harborough	1222
Middlesbrough	1070
Middleton St George airfield	1640; 4483 (map)
Milford	1264; 6722
Mundesley	4136
Necton Hall	10988
Newhaven	4216; 4679
Newlyn	4732
New Romney	4639
Ninfield	4598
Northallerton	4255
North Weald airfield	4683
Norwich	468; 952
Nottingham	4421; 4562
Odiham airfield	6739
Olantigh Park	4496

Place Name	WO 166 piece nos (or other reference)
Oxshott	3815
Palling	965; 1073; 4136
Penshurst	1027
Penzance	4732
Plymouth	1007; 1064; 1252; 3913; 6875; 10953
Polegate	3814 (maps)
Porthcawl	4296; 4473
Portland	6876; 8654
Pyrland Hall	10904
Redcar	1057; 3775
Richborough Castle	1040; 4596
Richmond, Yorkshire	WO 199/1521
Robin Hood's Bay	1068 and 4410
Rochester	1272; 6860; WO 199/627 (Also, Rochester Library)
Rochford	1060
Ross	4602
Royal Military Canal	4606 (map); 4656
Royston	508
Ryde	4491
Rye	4453
St Albans	508
St Ives, Cornwall	4732
St Margaret's at Cliffe	4208
St Margaret's Bay	3493; HLG 79/1318
St Mary in the Marsh	4639
St Nicholas at Wade	978; 4156 (map)
Salthouse	468; 4560
Sandwich	4596
Sarre	978; WO 179/14; WO 179/468
Saxthorpe	960
Scarborough	1050
Seaford	4354
Sheringham	468; 4422
Shoreham airfield	930
Sleaford	6754
Sleights	6770
Southampton	1319; 11054
Southend	4346; 4672
South Shields	1036
Sowerby Bridge	WO 199/1553
Speke airfield	482

Place Name	WO 166 piece nos (or other reference)
Stapleford Tawney	4683
Steyning	930
Stourton	579
Sturry	4328
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Sullington	930
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APPENDIX B: Bibliography

This bibliography is of general works concerned, in whole or in part, with the subject of the anti-invasion defence of Britain in the Second World War as well as its present-day recording. Additional works specific to a defence area are given at the end of each research report.

- Alexander, C, 1999 *Ironside's Line*. Storrington: Historic Military Press
- Barnett, C, 1974 Strategies of Speculation, *Daily Telegraph Magazine*, 10 May
- Bird, C, 1999 *Silent Sentinels: The Story of Norfolk's Fixed Defences during the Twentieth Century*. Dereham: The Larks Press
- Collier, B, 1957 *The Defence of the United Kingdom*. London: Her Majesty's Stationery Office
- Dobinson, C S, 1996 Anti-invasion defences of WWII, *Twentieth Century Fortifications in England II*. York: Council for British Archaeology
- Fleming, P, 1957 *Invasion 1940*. London: Rupert Hart-Davies
- Foot, W, 1998 The impact of the military on the agricultural landscape of Britain in the Second World War. Unpubl MPhil thesis, University of Sussex
- Foot, W, 2001 *Second World War Defence Landscapes in England: Report for English Heritage on a Pilot Project*. York: Council for British Archaeology
- Foot, W *et al*, 2002 *A Review of the Defence of Britain Project*. York: Council for British Archaeology
- Foot, W, 2003 Public Archaeology: Defended Areas of World War II, *Conservation Bulletin*, **44**, 8–11. London: English Heritage
- Foot, W with Thomson, C, 2004 *Defence Areas: A national study of Second World War anti-invasion landscapes in England*. York: Council for British Archaeology/English Heritage
- Gardiner, M, 1990 Britain's Finest Hour, *Fortress*, **5**, 55–60
- Gilbert, A, 1990 *Britain Invaded: Hitler's Plans for Britain, a documentary reconstruction*. London: Century
- Glover, M, 1990 *Invasion Scare 1940*. London: Leo Cooper
- Greeves, I D, 1978 If the Invaders had Come, *London John*, 18–19
- Greeves, I D, 1993 The Construction of the GHQ Stop-Line: Eridge to Newhaven, June–November 1940, *Fortress*, **16**, 52–61
- Kemp, A, 1979 British Fortifications 1940, *Airfix Magazine*, August, September, November
- Kent, P, 1988 *Fortifications of East Anglia*. Lavenham: Terence Dalton
- Kieser, E, 1997 *Operation Sea Lion: The German Plan to Invade Britain, 1940*. London: Arms and Armour Press
- Lacey, C, 2003 The Application of GIS Techniques to Historic Military Data. Unpubl MSc dissertation, Univ of Southampton
- Lake, J, 2000 *Twentieth-Century Military Sites*. London: English Heritage

- Longmate, N, 1972 *If Britain had Fallen*. London: Greenhill Books
- Lowry, B (ed), 1996 *20th Century Defences in Britain: An introductory guide*. 2nd edition. York: Council for British Archaeology
- Lowry, B, 2004 *British Home Defences 1940–45*. Oxford: Osprey Publishing
- Macksey, M, 1980 *Invasion: The German Invasion of England July 1940*. London: Arms and Armour Press
- Macleod, R & Kelly, D (eds), 1962 *The Ironside Diaries 1937–1940*. London: Constable
- Marix Evans, M, 2004 *Invasion! Operation Sealion 1940*. Harlow: Pearson Education
- Newsome, S, 2003 The Coastal Landscapes of Suffolk during the Second World War, *Landscapes*, **4**(2), 42–58
- Osborne, M, 2004 *Defending Britain: Twentieth-Century Military Structures in the Landscape*. Stroud: Tempus Publishing
- Pakenham-Walsh, R P, 1952 *Military Engineering (Field)*. The War Office
- Robertson, M & Schofield, J 2000 Monuments in Wartime: Conservation policy in practice, 1939–45 *Conservation Bulletin*, **37**. London: English Heritage
- Rottman, G, 2004 *German Field Fortifications 1939–45*. Oxford: Osprey Publishing
- Ruddy, A J, 2003 *British Anti-Invasion Defences 1940–1945: A Pocket Reference Guide*. Storrington: Historic Military Press
- Schenk, P, 1990 *Invasion of England 1940: The Planning of Operation Sealion*. London: Conway Maritime Press
- Schofield, J (ed), 1998 *Monuments of War: The evaluation, recording and management of twentieth-century military sites*. London: English Heritage
- Schofield, J, 2004 *Modern Military Matters: Studying and managing the twentieth-century defence heritage in Britain – a discussion document*. York: Council for British Archaeology
- Smith, M, 2000 *Britain and 1940: History, myth and popular memory*. London: Routledge
- Taylor, G, 1987 The General Design and Use of Hardened Defences in Twentieth Century Warfare, *Royal Engineers Journal*, **101**, 75–101
- Ward, A, 1997 *Resisting the Nazi Invader*. London: Constable
- War Office, January 1940, *Reinforced Concrete Work in the Field: Field Engineering Pamphlet No 3*.
- War Office, October 1940, *Field Engineering (All Arms): Military Training Pamphlet No 30: Part III Obstacles*.
- War Office, February 1941, *Field Engineering (All Arms): Military Training Pamphlet No 30: Part V Protective Works*.
- War Office, March 1942, *Operations: Military Training Pamphlet No 23: Part II The Infantry Division in Defence*.
- Wheatley, R, 1954 The German Plans for the Invasion of England 1939–1942 (Operation Sea Lion). Unpubl monograph, Historical Branch, Cabinet Office. Copy, TNA: PRO CAB 146/6
- Wheatley, R, 1958 *Operation Sea Lion: German Plans for the Invasion of England 1939–1942*. Oxford: Clarendon Press
- Wills, H, 1976 British Invasion Defences, *After the Battle*, **14**, 38–46
- Wills, H, 1985 *Pillboxes: A Study of UK Defences 1940*. London: Leo Cooper
- Wynne, G C, 1948 Defence Plans for the United Kingdom. Unpubl monograph. Copy, TNA: PRO WO 277/37

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