CgMs HERITAGE
PART OF RPS

Q14 BUILT HERITAGE STATEMENT

Site Address
Fort Halstead, Kent

On behalf of
Merseyside Pension Fund

Date
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1.0 INTRODUCTION

1.1 This Built Heritage Statement has been researched and prepared by CgMs Heritage, part of RPS, on behalf of Merseyside Pension Fund. It has been prepared to accompany a Listed Building Consent application for the conversion of building Q14 at Fort Halstead in Kent (Fig.1).

Background and Purpose of the Built Heritage Statement

1.2 Building Q14 is Grade II listed.

1.3 In 2011 DSTL announced its intention to relocate from the site to Porton Down and Portsdown West, with complete vacation anticipated by 2021.

1.4 Outline planning permission was granted in December 2015 (planning reference SE/15/00628/OUT) for the demolition of buildings and development of a mixed-use scheme comprising a business area, 450 residential units, a hotel of up to 80 beds, a village centre, use of the Fort Area and bunkers as an historic interpretation centre with ancillary workshop space and associated works. This application has been implemented and is extant. The current application seeks permission for additional development.

1.5 As part of the current application, it is proposed to alter and extend building Q14 to form part of the new village centre which would sit at the heart of the new settlement. The intention of this Statement is to assess the historical development and significance of building Q14 and to assess the impact of the proposals upon that significance. A separate site wide Fort Halstead Built Heritage Statement and ES Chapter have been prepared to consider the impact of the broader development proposals upon identified built heritage assets within the wider site which also considers the potential impacts to the setting of Q14.

Methodology and Sources Consulted

1.6 This report refers to the relevant legislation contained within the Planning (Listed Buildings and Conservation Areas) Act 1990 and both national and local planning policy. In addition, relevant Historic England guidance and information including Q14's listing citation has also been consulted in preparing this Built Heritage Statement.

1.7 The conclusions reached in this report are the result of historical research at The National Archives, Historic England Archive and Fort Halstead Archive, a site visit, review of existing literature, map studies and the application of professional judgement. Detailed historic research and analysis previously carried out on the site by others, including Waterman Energy, Environment and Design, Heritage Collective and Historic England has been reviewed and has helped inform the findings of this Statement.

Consultation

1.8 A site meeting was held on 18th October 2018 with the Head of Design and Conservation at Sevenoaks District Council (SDC) and several pre-application meetings were held to discuss the emerging designs. Feedback received during these meetings has informed the development of the proposals.

1.9 Consultation with Historic England has also been undertaken to discuss the current proposals. CBRE, JTP and CgMs Heritage met with Paul Roberts in December 2018. The feedback received from Paul and more recently Alice Brockway from Historic England has informed the development of the proposals.

Limitations

1.10 The Site is currently occupied by the Defence Science and Technology Laboratory (DSTL) and QinetiQ. In common with other government research establishments involved in weaponry research and development, and particularly due to the nature of the atomic bomb research that has occurred here, there is little documentary evidence in the public domain. Given these restrictions our understanding of the significance is limited and not exhaustive.

1.11 The findings of this report are based on the known conditions at the time of writing and all findings and conclusions are time limited to no more than three years from the date of this report. All maps, plans and photographs are for illustrative purposes only.

2.0 LEGISLATIVE AND PLANNING POLICY FRAMEWORK

2.1 The current national legislative and planning policy system identifies, through the National Planning Policy Framework (NPPF), that applicants should consider the potential impact of development upon '*heritage assets'*. This term includes: designated heritage assets which possess a statutory designation (for example listed buildings and conservation areas); and non-designated heritage assets, typically compiled by Local Planning Authorities (LPAs) and incorporated into a Local List or recorded on the Historic Environment Record.

Legislation

2.2 Where any development may affect certain designated heritage assets, there is a legislative framework to ensure proposed works are developed and considered with due regard to their impact on the historic environment. This extends from primary legislation under the Planning (Listed Buildings and Conservation Areas) Act 1990.

2.3 The relevant legislation in this case extends from section 16 and 66 of the 1990 Act which states that special regard must be given by the decision maker, in determining applications, to the desirability of preserving a listed building and its setting.

National Planning Policy

National Planning Policy Framework (Ministry of Housing, Communities and Local Government, February 2019)

2.4 The NPPF is the principal document that sets out the Government's planning policies for England and how these are expected to be applied.

2.5 It defines a heritage asset as a: '*building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest'*. This includes both designated and non-designated heritage assets.

2.6 Section 16: Conserving and Enhancing the Historic Environment relates to the conservation of heritage assets in the production of local plans and decision taking. It emphasises that heritage assets are '*an irreplaceable resource, and should be conserved in a manner appropriate to their significance'*.

2.7 For proposals that have the potential to affect the significance of a heritage asset, paragraph 189 requires applicants to identify and describe the significance of any heritage assets that may be affected, including any contribution made by their setting. The level of detail provided should be proportionate to the significance of the heritage assets affected. This is supported by paragraph 190, which requires LPAs to take this assessment into account when considering applications.

2.8 Under '*Considering potential impacts'* the NPPF emphasises that '*great weight'* should be given to the conservation of designated heritage assets, irrespective of whether any potential impact equates to total loss, substantial harm or less than substantial harm to the significance of the heritage assets.

2.9 Paragraph 195 states that where a development will result in substantial harm to, or total loss of, the significance of a designated heritage asset, permission should be refused, unless this harm is necessary to achieve substantial public benefits, or a number of criteria are met. Where less than substantial harm is identified paragraph 196 requires this harm to be weighed against the public benefits of the proposed development.

2.10 Paragraph 200 notes that local planning authorities should look for opportunities for new development within Conservation Areas and World Heritage Sites and within the setting of heritage assets to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to, or better reveal the significance of, the asset should be treated favourably.

2.11 Within the NPPF Annex 2: Glossary, 'significance' is described as the value of a heritage asset to this and future generations because of its heritage interest. The interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting.

National Guidance

Planning Practice Guidance (MHCLG)

2.12 The Planning Practice Guidance (PPG) has been adopted in order to aid the application of the NPPF. It reiterates that conservation of heritage assets in a manner appropriate to their significance is a core planning principle.

2.13 Key elements of the guidance relate to assessing harm. It states that substantial harm is a high bar that may not arise in many cases and that while the level of harm will be at the discretion of the decision maker, generally substantial harm is a high test that will only arise where a development seriously affects a key element of an asset's special interest. It is the degree of harm, rather than the scale of development, that is to be assessed.

Conservation Principles, Policies and Guidance (English Heritage, April 2008)

2.14 Conservation Principles outlines Historic England's approach to the sustainable management of the historic environment. While primarily intended to ensure consistency in Historic England's own advice and guidance, the document is recommended to LPAs to ensure that all decisions about change affecting the historic environment are informed and sustainable.

2.15 The guidance describes a range of heritage values which enables the significance of assets to be established systematically, with the four main heritage values being: evidential value; historical value; aesthetic value; and communal value.

Overview: Historic Environment Good Practice Advice in Planning

2.16 The PPS5 Practice Guide was withdrawn in March 2015 and replaced with three Good Practice Advice in Planning Notes (GPAs) published by Historic England. *GPA1: The Historic Environment in Local Plans* provides guidance to local planning authorities to help them make well informed and effective local plans. *GPA2: Managing Significance in Decision-Making* includes technical advice on the repair and restoration of historic buildings and alterations to heritage assets to guide local planning authorities, owners, practitioners and other interested parties. *GPA 3: The Setting of Heritage Assets* replaces guidance published in 2011. These are complemented by the Historic England Advice Notes in Planning which include *HEA1: Understanding Place: Conservation Area Designation,*

Appraisal and Management (February 2016), *HEA2: Making Changes to Heritage Assets* (February 2016), *HEA3: The Historic Environment and Site Allocations in Local Plans* (October 2015), and *HEA4: Tall Buildings* (December 2015).

GPA2: Managing Significance in Decision-Taking in the Historic Environment (March 2015)

2.17 This document provides advice on numerous ways in which decision making in the historic environment could be undertaken, emphasising that the first step for all applicants is to understand the significance of any affected heritage asset and the contribution of its setting to that significance. In line with the NPPF and PPG, the document states that early engagement and expert advice in considering and assessing the significance of heritage assets is encouraged. The advice suggests a structured, staged approach to the assembly and analysis of relevant information:

1) Understand the significance of the affected assets;

2) Understand the impact of the proposal on that significance;

3) Avoid, minimise and mitigate impact in a way that meets the objectives of the NPPF;

4) Look for opportunities to better reveal or enhance significance;

5) Justify any harmful impacts in terms of the sustainable development objective of conserving significance balanced with the need for change; and

6) Offset negative impacts to significance by enhancing others through recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.

Local Planning Policy

2.18 The local planning context is currently prescribed by Sevenoaks District Council (SDC). The Council are currently in the process of preparing the new Local Plan for the District 2015-35, which has been submitted for examination and is due to be adopted in 2020. Whilst they are yet to be adopted, they can be given significant weight, relevant draft policies include:

Draft SDC Local Plan 2015-35 (Proposed Submission Version December 2018)

2.19 *Policy HEN1 - Historic Environment Proposals for development will be required to reflect the local distinctiveness, condition and sensitivity to change of the historic environment as defined in the following guidance: ▪ Local Plan policies relating to design, heritage assets and landscape character ▪ Other relevant principles in the hierarchy of local guidance including the Kent Design SPD, Kent Historic Environment Record (HER) and the Local List SPD ▪ Findings as set out in the Sevenoaks District Historic Environment Review, Conservation Area Appraisals, Sevenoaks Landscape Character Assessment. All new development should demonstrate an awareness and commitment to the overall protection and, where possible, enhancement of the historic environment of the District by making positive reference to the themes in the Historic Environment Review and demonstrating the following in Planning Statements or Design and Access Statements: a. Clear consideration of the relationship with the historic evolution of the District and local area; b. A broad appreciation of the historic character of the local area including current conditions; c. An understanding of the presence of heritage assets and their associated significance, vulnerabilities and opportunities;*

2.20 *Policy HEN2 - Heritage Assets Proposals that affect a designated or non-designated Heritage Asset, or its setting, will be permitted where the development sustains or enhances the heritage interest of the asset. Applications will be assessed with reference to the following: a) The significance of the asset and its setting b) The significance of any elements to be lost. Any development that might affect the significance of a listed or locally listed building, conservation area, registered park of gardens, scheduled monument, historic landscape or an archaeological site will be required to submit a Heritage Statement with any Planning and/or Listed Building Consent Application. This includes development affecting their setting. The assessment of proposals should refer to the Sevenoaks District Historic Environment Review and relevant guidance. Where an application is located within or would affect an area of Archaeological Potential or suspected area of archaeological importance an archaeological assessment must be provided to ensure that provision is made for the preservation of important archaeological remains/findings. Preference will be given to preservation in situ unless it can be shown that recording of remains, assessment, analysis report and deposition of archive is more appropriate.*

2.21 Until the emerging Local Plan has been adopted the current policies remain those contained within the Core Strategy and the Allocations and Development Management Plan and are listed below.

Sevenoaks District Council Core Strategy, February 2011

2.22 ***Policy SP 1 Design of New Development and Conservation*** *All new development should be designed to a high quality and should respond to the distinctive local character of the area in which it is situated. Account should be taken of guidance adopted by the Council in the form of Kent Design, local Character Area Assessments, Conservation Area Appraisals and Management Plans, Village Design Statements and Parish Plans. In rural areas account should be taken of guidance in the Countryside Assessment and AONB Management Plans. In areas where the local environment lacks positive features new development should contribute to an improvement in the quality of the environment. New development should create safe, inclusive and attractive environments that meet the needs of users, incorporate principles of sustainable development and maintain and enhance biodiversity. The District's heritage assets and their settings, including listed buildings, conservation areas, archaeological remains, ancient monuments, historic parks and gardens, historic buildings, landscapes and outstanding views will be protected and enhanced.*

2.23 This policy pre-dates the NPPF and does not allow for the concept of balancing harm to designated heritage assets against the public benefits of a proposal. It therefore should not be attributed full weight when considered against current national policy.

Allocations and Development Management Plan, February 2015

2.24 ***Policy EN4 Heritage Assets*** *Proposals that affect a Heritage Asset, or its setting, will be permitted where the development conserves or enhances the character, appearance and setting of the asset. Applications will be assessed with reference to the following: a) the historic and/or architectural significance of the asset; b) the prominence of its location and setting; and c) the historic and/or architectural significance of any elements to be lost or replaced. Where the application is located within, or would affect, an area or suspected area of archaeological importance an archaeological assessment must be provided to ensure that provision is made for the preservation of important archaeological remains/findings. Preference will be given to preservation in situ unless it can be*

shown that recording of remains, assessment, analysis report and deposition of archive is more appropriate.

2.25 This policy does not allow for the balancing harm to designated heritage assets against the public benefits of a proposal. It therefore should not be attributed full weight when considered against current national policy.

2.26 ***Policy EMP3 – Redevelopment of Fort Halstead*** *[…] Redevelopment proposals would be expected to: […] - Protect and integrate the Scheduled Ancient Monument and listed buildings into the development with improved access and setting […].*

Kent Downs Area of Outstanding Natural Beauty Management Plan, 2014-2019

2.27 ***HCH1*** *The protection, conservation and enhancement of the historic character and features of the Kent Downs landscape will be pursued and heritage-led economic activity encouraged.*

2.28 ***HCH2*** *A wider understanding of the cultural, scientific and artistic importance of the Kent Downs landscape and its historic character will be supported in part to inform the interpretation and management of the AONB.*

2.29 ***HCH3*** *The preparation and use of best practice guidance for adapting the historic and cultural environment to climate change will be supported.*

2.30 ***HCH4*** *Opportunities to develop contemporary artistic, historic, cultural and scientific interpretation and celebration of the landscape and people of the Kent Downs will be pursued.*

2.31 ***HCH5*** *The application of high standards of design sympathetic to cultural heritage within the AONB, identified in guidance including the AONB Landscape Design Handbook, Kent Downs Farmstead Guidance and any relevant Village Design Statements and Neighbourhood Plans, will be pursued.*

Sevenoaks District Historic Environment Review, December 2017

2.32 The document sets out a Historic Environment Review for Sevenoaks District Council to form the basis for conservation and heritage local planning in the District and to provide guidance to be followed in the future. With regards to

military heritage in the District, it identifies that '*there is an opportunity for 20th century war heritage to offer an important heritage tourism and educational resource. Heritage trails, for example the Battle of Britain Trail which takes people to various sites and monuments across south-eastern Kent, helps improve knowledge and grow appreciation of our war heritage […] There is an opportunity for the formal identification of heritage assets associated with 20th century war heritage within the planning system with the best designated for further protection at a local level […] Opportunities for collaboration between the general public, enthusiasts and stakeholder groups could be sought to strengthen the evidence base of 20th century war heritage. This could include working together to identify related heritage assets or to improve the documentation of their social and economic history'.*

3.0 HISTORIC BUILT ENVIRONMENT APPRAISAL

Introduction

3.1 Building Q14 is Grade II listed (List Entry Number: 1396578). The following section describes the building as its stands today, explores its historical development and concludes with an assessment of its significance, including the contribution made by its setting.

Building Description

3.2 Q14 is a two-storey, flat concrete roofed building with a rectangular planform. It is built in red brick laid in stretcher bond encasing a steel frame structure.

3.3 The main entrance to the building was originally to the south elevation through glazed double doors. A further pedestrian entrance is located on the east elevation, and there is evidence of a former doorway at the north east end of the building which has now been blocked (neither of these doorways are original). A former, large equipment entrance to the south west has been blocked but retains its original exterior wall light. This door head is suggestive of the former presence of a roller shutter door, now partly obscured by a later plant room. The form of the original fenestration to the west and north elevations remains legible as double-height windows to the ground floor to light the former workshop inside. These large openings are now bricked up with smaller ground-floor windows inserted. Ground floor windows on the east elevation are later insertions. All first-floor windows are PVCu replacements although re-use original window openings. There is a late twentieth-century fire escape staircase to the north elevation.

3.4 The ground floor comprises a double-height workshop space which has a later inserted ceiling. A small kitchen area and the principal, dog-leg staircase occupy the southern-most bay of the building. An English Heritage internal inspection in May 2008 confirmed steel framing in the ceiling void of the workshop area although it is unknown whether this was structural or a gantry for the travelling crane which is known to have been here originally. Steel pillars are also located between each window bay but are covered by boxing out. The walls are painted brick with a simple skirting. The floor is in a poor state of repair and has been partially covered with carpet tiles.

3.5 The first floor has a central spine corridor lit by two roof lights. Regularly sized rooms are located to the east and west sides. Dividing walls between offices are built of solid painted brick some with boxing out in front. Two door architraves have evidence of former strong room type doors.

3.6 The building is located within the Fort Halstead complex, surrounded by hundreds of other buildings and structures related to its function as a former mobilisation centre and military research site. The listed building's immediate setting is formed by the Q enclave, incorporating several other brick built structures. Crow Drive runs to the south of this enclave and separates the area from the Fort Halstead Scheduled Monument. Areas of hard standing surround the building on all sides but are interspersed with grassed areas planted with mature trees.

Historical Development

Nineteenth Century - The Mobilisation Centre

3.7 The 1844 Tithe map (Fig.2) and apportionment show the Fort Halstead site as undeveloped woodland, owned by Charles Polhill.

3.8 On 11th March 1889 the London Defence Positions Scheme was adopted by the Government, in response to the perceived threat of invasion by France and Russia, and a lack of confidence in the Royal Navy's ability to protect the country. The scheme was devised to protect London from the anticipated directions of the attack; to its north-east, east and south. Fort Halstead was one of thirteen purpose built mobilisation centres which were to be linked by trenching intended to be used as an armament and tool store, which in the event of invasion could be used to equip local volunteer forces.

3.9 The War Office bought 9 and ¾ acres of land at Halstead between 1890 and 1891, plans for the Fort were drawn up in 1894 and it is likely that the Fort was constructed between 1895 and 1897 (Griffiths 1984, 4).

3.10 The Fort is not shown on the 1896 Ordnance Survey map (Fig.3) although a clearing within the woodland is depicted and the two semi-detached caretakers' cottages (now known as A14) are shown outside of the Fort boundary. The caretaker's cottages provided accommodation for a caretaker and a labourer who were responsible for the care and inspection of the Fort and its contents. Such

accommodation was provided at all of the mobilisation centres. On this map the Fort site is shown surrounded by woodland to the north, east and west, however, a small section of land to the south is clear of trees. It is likely that the fort area was deliberately left blank for security reasons (a common convention for military structures on early maps). A13 does not appear on this map, but was built subsequently to serve the mobilisation centre as a detached tool store.

3.11 In March 1906 the London Defence Positions Scheme was officially abandoned.

Early Twentieth Century

3.12 Part of the London Defence Positions Scheme was resurrected during the First World War, when Fort Halstead was used as a defendable ammunition store forming part of the London anti-invasion stop line.

3.13 In 1921 the Fort was sold by auction to Lt. Colonel Bradshaw (a retired army colonel) and Dr Allpart (a Harley Street specialist). Bradshaw lived in the laboratory (F14), the cottages (A14) were converted into a single residence and the site was used as a campsite for the Territorial Army, Boy Scouts, Girl Guides and provided accommodation for destitute refugees (Clive 1977).

The 1930s Projectile Development Establishment (PDE)

3.14 In terms of national military development during the twentieth century, aviation was of critical importance. British interest in rocketry strengthened and in 1936 the Committee for Imperial Defence gave Alywn Crow of the Armourments Research Department (ARD) the task of developing rockets for anti-aircraft defence, long range attack, air combat and assisted take off units (Crow, 1947 cited in Cocroft, 2010). This part of the ARD's work initially began at the Royal Arsenal in Woolwich however a remoter site was soon sought due to safety concerns.

3.15 The 1936 Ordnance Survey (Fig.4) shows the Fort and the buildings contained within it, alongside buildings A13 and A14. The surrounding area remains undeveloped woodland traversed by a series of roads.

3.16 In 1937 Fort Halstead was repurchased by the War Office to accommodate the rocketry work of the ARD. Several of the Fort's casemates and magazines were altered and further buildings were built within the Fort.

3.17 Following the success of this initial work, in 1938 under the directorship of Alwyn Crow, Fort Halstead became the separate Projectile Development Establishment (PDE). One of the earliest buildings constructed for the PDE was an experimental filing shed (F11), erected in 1938 for filling cordite rocket motors. The pioneering work undertaken by Sir Alwyn Crow at the Fort led to the development of explosive and armament technologies, such as Unrotated Projectiles which were widely used in the D-Day operations.

3.18 Additional land around the Fort was purchased in 1939.

3.19 During World War II in order to avoid the Blitz, the Armaments Design Department and Research Department moved to Fort Halstead from Woolwich. The site also accommodated the Ministry of Supply which co-ordinated the supply of equipment to the British Armed Forces. Military and civilian staff at the fort increased from 1000 to 3000 between 1939 and 1942 (Waterman 2009).

3.20 By the end of the war *circa* eighty buildings including explosives filling sheds, a large laboratory, workshops, administration buildings, and welfare facilities, such as a canteen, had been built and the site had expanded beyond the immediate boundary of the Fort. The development also included air raid shelters, a war time fire-watchers' post, road and drain networks and a housing estate to the north for the War Department Police (Cocroft 2010). Fig.5 is a plan of the site in 1947 which shows the extent of development to the north, east and west of the Fort that had occurred by this time.

The Atomic Bomb, High Explosives Research (HER)

3.21 In January 1947, the British cabinet decided to proceed with the development of the atomic bomb under the direction of William Penney, Chief Superintendent Armaments Research (CSAR) at Fort Halstead. Penney was a physicist and had been a leading member of the wartime British Mission to the United States Manhattan Project responsible for creating the first atomic bombs in the world. To mask its true purpose the atomic work was codenamed High Explosives Research (HER).

3.22 The atomic bomb project involved developing the Mark 1 warhead which when assembled in its casing for service was known as 'Blue Danube'. Additional structures for this research were built inside the Fort including the bomb chamber (F16), detonation chamber (F17) and a recording laboratory (F18) and

casemates (F4 and F8). Existing buildings were also adapted for use as workshops and stores and significant new development occurred to the north-east of the Fort in the Q area.

3.23 The link between the project and the Fort was top secret and although few records exist, it is understood that Fort Halstead personnel were responsible for developing both high explosive and electronic detonators for the atomic bomb (Historic England list entry 1412292). Penney's team worked within a secure fenced enclave within the Fort and the group of buildings to its immediate north and west. The boundary of the enclave is shown on a 1952 plan of the Site (Fig.6). Other research sites around the country were responsible for the research, development, manufacture and testing of other components of the bomb, including the Royal Arsenal in Woolwich, AWRE in Foulness, Royal Aircraft Establishment in Farnborough, Hudswell Clarke and Co Ltd in Leeds, Percival Aircraft in Luton, Woolwich Common factory, Orford Ness range and RAF Woodbridge (Cocroft and Fiorato, 2012).

3.24 Q14 was designed in 1949, built as part of this phase of development to serve the HER (Figs 7, 8, 9 &10) and was colloquially known as the 'RAF building' (per comm. Colin Hughes in Cocroft 2010). The plans show a ground floor double height workshop with a bench along the entire length of the northern internal elevation and a (probably 5 ton) travelling crane above. The space is divided by a single-storey glazed partition and a small office with false ceiling to the east. At first floor level, much of the extant layout is shown, with a central spine corridor lit by two roof lights leading to a series of smaller rooms, including Conference Room, offices, male and female toilets, 'Comp' Room, Metrological Laboratories, 'Plan Reg' Rooms, fireproof Strong Rooms, Special Duties Room, and Gauging Room. A note indicates that all ground-floor windows were to have internal iron grilles and were to have obscured glass to the lower half sections. One doorway is shown on the south elevation and one on the west (both extant) and were intended to have 'collapsible gates'. According to Cocroft '*It was a purpose-built structure designed for the assembly of the prototype warhead and its ballistic casing and was the only place where a complete model was assembled, and certainly the one location where all of the HER components were brought together […] In this building inert wooden replicas were used instead of the live explosive components*' (Cocroft 2010).

3.25 There was close co-operation between HER and Royal Air Force (RAF) personnel. Squadron Leader John Rowlands was in charge of ten staff involved with the development and was responsible for guiding the RAF in the bombs' future storage, maintenance and operation, in addition to ensuring overall quality. Most of the RAF team worked within the purpose built Q14 workshop, and included Squadron Leaders Rowlands, Brown, Mitchell and Skelley and Flight Lieutenant Blythe who were responsible for the weapon's assembly, Squadron Leaders Betts and Pulvermacher who worked on electronics, Flight Lieutenant Mercer on explosives and Wing Commander Hunty-Toddy on mathematics. Under William Penney, HER personal included Leonard Tyte and his team who were in charge of electronics and high speed measurements. Kluas Fuchs, an émigré German scientist also contributed to the work at Fort Halstead, but was subsequently discovered to be a Soviet spy (Cocroft and Fiorato, 2012).

3.26 On 3rd October 1952 Britain exploded her first atomic bomb on the Mont Bello Islands, Australia.

3.27 Atomic research and development continued at Fort Halstead until 1955 when staff transferred to the Atomic Weapons Research Establishment at Aldermaston in Berkshire.

3.28 During the late twentieth century and early twenty-first century Q14 underwent several phases of alterations. New windows were installed on the east and south elevations at ground floor level, a suspended ceiling was installed, double height windows were reduced in size and PVCu glazed units were installed throughout. Further additions have included an external staircase to the north, plant room added to the west elevation and two additional entrances were added on the east elevation (one of which has subsequently been blocked up). Fig.11 shows the site in 1993.

Statement of Significance

3.29 Paragraph 189 of the NPPF states that planning decisions should be informed by the significance of the potentially affected heritage assets. The level of detail supplied by an applicant should be proportionate to the importance of the asset and should be no more than sufficient to understand the potential impact of the proposal upon that significance.

3.30 This section describes Q14's significance including the contribution made by its setting. In line with the NPPF Annex 2: Glossary (2019) this Statement utilises the value typologies of Archaeological, Architectural, Artistic and Historic to define the asset's significance.

Historic Interest

3.31 Q14 was designed in 1949 and had been built by 1952. It was originally known as Building 27 and was used to assemble a prototype of the atomic bomb. It has undergone a series of alterations during the late twentieth century (architectural plans indicate 1958 and 1971 as phases of potential alteration), including additional entrances, an external fire escape staircase, additional ground floor windows to the east elevation, alteration of internal partitions and insertion of a suspended ceiling.

3.32 Q14 is of considerable, national historic interest through its association with William Penney Chief Superintendent of Armaments Research and a collection of scientists who worked on Britain's atomic bomb development programme. The association is celebrated by a memorial plaque.

3.33 It also holds historic interest as the only building nationally where the prototype atomic bomb was put together and was thus instrumental in the detonation of Britain's first atomic bomb in 1952.

Architectural Interest

3.34 The building's unique architectural interest is derived from how its form and design reflect its function as a purpose-built workshop for Britain's atomic bomb development programme. This value is principally manifest in the double height ground floor workshop with gantry for a travelling crane, as well as evidence of former strong rooms on the first floor.

3.35 The building's form and design also express the secrecy surrounding the HER programme and the work that was being carried out inside. The HER secure boundary was drawn to the east of Q14 and therefore the building's east elevation at ground floor level was blind on the public-facing side. Double height windows were placed on the north and west sides probably to maximise daylight for the work being carried out inside, though these were glazed with obscured glass to the lower half and had internal metal grilles.

3.36 The building's functional architecture reflects both the urgency with which the HER needed the new purpose-built buildings, and the rise of modernism, which championed the idea that form should follow function. The building's rectangular shape, lack of ornamentation, use of metal frame and concrete flat roof are illustrative of this period of military architecture.

Artistic Interest

Q14 is utilitarian and functional, and whilst deriving interest from how its architecture reflects technological developments and functions, the building derives no significance from artistic interest.

Archaeological Interest

3.37 Q14 is considered to have low archaeological value given its twentieth century date which means it is unlikely that further examination of fabric will reveal additional information regarding twentieth century military building techniques not already apparent or understood from the surviving architect's drawings. That said, the limited amount of documentary evidence increases our reliance on the built fabric and removal of the ground floor suspended ceiling may reveal historic plant and provide further evidence regarding the original, specific use of the building.

Setting

3.38 The building is located within the Fort Halstead complex, surrounded by hundreds of other buildings and structures related to its function as a military research site; these structures have a predominantly utilitarian character and range from subterranean to three storeys in height, with the tallest building reaching 22 metres above ground level (Pegasus). The building's immediate setting is formed by the Q Area, which incorporates closely packed buildings

ranging from the 1930s to the late twentieth century in date, and was surrounded by a security fence during the HER phase. Crow Road runs to the south of this area and separates it from the Fort. Areas of hard standing surround the building on all sides but are interspersed with grassed areas planted with mature trees, which likely formed part of an early planting scheme reflecting a concern for the working environment, which is seen on many contemporary airfields. Intervisibility with the wider surroundings is restricted by the density of surrounding built form including the adjacent Q8, Q11 and Q12 which as a result of their relatively recent dates, high levels of alterations and/or standardised design are considered to make a range of neutral to detrimental contributions to the asset's setting. Other buildings in the Q area which share a visual and historical association such as Q01, Q03, Q04, Q04-1 and Q13, along with the adjacent Fort make a positive contribution to the setting and significance of the asset.

Summary

3.39 In terms of a significance hierarchy, those elements of the building and its setting that date to the HER phase are of the highest significance relative to the building. Most of the more recent alterations and additions, such as blocking of original windows and doors, insertion of new windows on the east elevation, installation of suspended ceilings, PVCu windows and fire escape staircase are not of special interest and are considered to have had a detrimental impact on the significance of the asset.

4.0 PROPOSALS AND IMPACT ASSESSMENT

4.1 In 2011 DSTL announced its intention to relocate from the site to Porton Down and Portsdown West, with complete vacation anticipated by 2021. As such a new sustainable future for Q14 is required in order to safeguard its heritage significance. The NPPF states the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation.

4.2 CgMs Heritage, as built heritage consultants, have advised on the evolution of the proposals, seeking to provide enhancement to the significance of Q14 and where unavoidable suggestions on ways to mitigate harm.

4.3 The listed status of the building is a constraint to alteration. However this listed status does not preclude change. National guidance and policy recognise the need for change within the historic environment and advocate a pragmatic process of sustainable management or Constructive Conservation. This is a values-based approach, whereby the significance of a place and an understanding of how its values are manifest in its fabric and setting, is balanced with necessary alterations required to ensure positive change and continued viability.

4.4 It is proposed to convert Q14 to A1/A3/B1a/D1 use (or a combination of these) in order to offer a publicly accessible space which will form part of the heart of the village centre. The current application seeks consent for a number of external alterations and the removal of the later inserted suspended ceiling. Further information on the proposals can be found in the drawings and Design and Access Statement accompanying the application. It is anticipated that further Listed Building Consent Applications will follow in the future, in relation to the layout and detailing of the building's interior.

4.5 The impact of the current proposals has been set out in the following table.

Element of Proposal	Impact on significance of Q14	Mitigation
Reinstate full height window openings on west and north elevations	Highly Beneficial	n/a
Reinstate Crittall style windows within historic openings based on original elevation drawings. Double glazed with a 'T' shaped glazing bars	Highly Beneficial	n/a
Demolish later plant room and re-establish former entrance on west elevation	Highly Beneficial	n/a
Insert new full-height window openings on south elevation	This elevation was originally designed to be devoid of windows at ground floor level. The current windows are secondary insertions and the change in brickwork under the windows shows that there has been an entrance here at some point. Given the high level of alteration to the fabric here, it is considered that the proposals would cause a negligible level of less than substantial harm.	Careful consideration of detail. Use of Crittall style windows to match style proposed elsewhere on the building.

Re-instatement of doorway on north-east corner	Evidence on the elevation clearly shows that an entrance has been positioned here previously but since infilled. It is proposed to reinstate the entrance but widen the doorway to allow for double doors to match those proposed elsewhere. This will result in the localised loss of fabric on either side of the previous opening. In order to reduce the harm, the doorway is proposed here given that this area has already undergone change. Negligible less than substantial harm.	n/a
Remove PCVu windows and doors and block openings on east elevation	This elevation was originally intended to be blind and all of these openings are later insertions. Moderately Beneficial	n/a
Replacement of PVCu windows on east elevation with Crittall style windows, double glazed with a 'T' shaped glazing bars	Moderately Beneficial	n/a
Replacement of fire escape staircase	Neutral	n/a
Replacement of two existing windows with entrances on west elevation	This would result in localised loss of historic fabric below the windows and would further erode the historic circulation throughout the building which was devised to manage entrances and maintain secrecy. In order for the building to adequately address the Village Square and provide separate access to the rear of the building these doors are required. In order to mitigate this harm, the doors have been designed to sit harmoniously and discreetly next to the Crittall style windows. Low level of less than substantial harm.	Careful consideration of detail. Use of Crittall style.
New entrance into atrium	This would result in localised loss of fabric below the window and would further erode the historic circulation/controlled visibility throughout the building which was devised to manage entrances and maintain secrecy. In order to minimise loss of fabric the opening has been located within an existing window and the cill dropped. Low level of less than substantial harm.	In order to minimise loss of fabric the opening has been located within an existing window and the cill dropped.
Inclusion of permanent interpretation boards telling the history of Q14 and the Q area	Moderately Beneficial	n/a
Addition of glass link atrium	The design of the link building, set back, lower in height than Q13 and Q14 and in a different material, will allow it to be read as a subservient and modern addition linking two formerly separate	

	buildings. Neutral impact on significance.	
Removal of suspended ceiling in ground floor space to reinstate original double height proportions	Highly Beneficial	n/a
Insertion of lift within atrium with access from first floor of Q14	Mid- late twentieth century plans show that it was previously proposed to add an external lift to the east elevation however there is a lack of fabric evidence to suggest that these plans were ever carried out. The insertion of a lift will allow greater access to the first-floor rooms. In order to minimise harm caused by the insertion of a lift, it has been located outside of the building within the atrium to avoid loss of historic fabric internally. Furthermore, the entrance will be formed by an existing window opening which will have a dropped cill. Whilst this will result in the localised loss of fabric and partial concealment of the external elevation, it will increase access to the building which is considered beneficial. On balance it is considered that the lift would have a minor beneficial impact through increasing access to the asset.	Carefully positioned in order to minimise loss of historic fabric and disruption of internal spaces within Q14.
Removal of air conditioning units to external elevations	Moderately beneficial	n/a
Re-installation of plaque	Neutral impact	n/a

5.0 CONCLUSION

5.1 This Built Heritage Statement has been prepared in order to assess the potential impact on the historic built environment arising from the proposed alterations to building Q14.

5.2 This Built Heritage Statement has found a range of impacts arising from the proposals for Q14. Some aspects of the proposal will result in harm however in all cases this harm would be considered to fall within the less than substantial spectrum. As such the decision maker will be mindful of paragraph 196 of the NPPF which states that where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use. They will also be mindful of paragraphs 193 and 194 of the NPPF that requires that great weight be given to a designated heritage asset's conservation and that any harm, or loss of, significance of a designated heritage asset requires clear and convincing justification. It should also be noted that where limited harm has been identified, suitable design mitigation measures have been introduced to minimise the potential harm arising from these interventions.

5.3 The decision maker will be mindful of the duties imposed under sections 16 and 66 of the Planning (Listed Buildings and Conservation Areas Act) 1990 which states that special regard must be given by the decision maker, in determining applications, to the desirability of preserving a listed building and its setting.

5.4 The proposals also include some considerable heritage benefits and opportunities for enhancement and as such the decision maker will also be mindful of paragraph 192 which states that in determining applications, local planning authorities should take account of: a) the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation; b) the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and c) the desirability of new development making a positive contribution to local character and distinctiveness.

5.5 In terms of local built heritage policy, the decision maker will be considerate of policies SP1, EN4 and EMP3 and emerging policies HEN1 and HEN2.

5.6 On balance it is considered that the overall impact of the current proposals would be beneficial and would enhance the significance, and our ability to appreciate the significance of Q14. When taken as a whole, therefore, the proposals will preserve the significance, or special architectural and historic interest, of the listed building. The proposals therefore comply with Sections 16 and 66 of the 1990 Act.

BIBLIOGRAPHY AND SOURCES

Primary Sources

National Archive Document References:

AIR 62/811
AIR 62/814
AVIA 22/2304
AVIA 22/2554
AVIA 37/357
DEFE 15/614
DEFE 15/810
DEFE 51/2
DEFE 51/17
DEFE 51/21
HLG 131/414
WO 195/13579
WO 195/14113

Historic England Archive Document References:

RAF-540-731-RP-4075
RAF-CPE-UK-1974-FP-1110
MAL-71144-V-124

Additional Cartographic Material:

1844 Otford Tithe Map and Apportionment
1896 Ordnance Survey
1909 Ordnance Survey
1936 Ordnance Survey

Fort Halstead Archive:

Q14 plans
General Site Plans

Secondary sources (publications)

Beanse, A., & Gil, R. (2001) The London Mobilisation Centres. Palmerston Forts Society.

Clive, R. (1977) Fort Halstead: A Celebration of the First 100 years.

Cocroft, W., & Fiorato, V. (2012) Fort Halstead: A Summary History.

Cocroft, W. (2010) Fort Halstead, Dunton Green, Sevenoaks, Kent: a brief assessment of the role of Fort Halstead in Britain's early rocket programmes and the atomic bomb project. English Heritage Research Department.

Cocroft, W. (2007) The High Down Test Site, Isle of Wight: rocket test site survey report. English Heritage Research Department.

English Heritage. (2013) English Heritage (Listing) Advice Report for Fort Halstead: Buildings F11, F14, F16, F17 and F18.

English Heritage. (2013) English Heritage (Scheduling) Advice Report for Fort Halstead.

Griffiths, N. (1984) R.A.R.D.E. Fort Halstead: A short history.

Hasted, Edward. (1797) The History and Topographical Survey of the County of Kent

Saunders, A., & Smith, V. (2001) Kent's Defence Heritage. Kent County Council.

Saunders, A., & Smith, V. (2001) Kent's Defence Heritage. Gazetteer. Kent County Council.

Grey Literature

Waterman Energy, Environment and Design (2009) Heritage Assessment.

Heritage Collective (2015) Built Heritage Statement.

Historic England (2017) Military Structures: Listing Selection Guides.

Historic England (2003) Twentieth-Century Military Sites: current approaches to their recording and conservation.

Historic England (2008) Conservation Principles, Policies and Guidance.

Historic England (2015) GPA2: Managing significance in Decision-Taking in the historic Environment.

Historic England (2017) GPA3: The Setting of Heritage Assets.

Historic England (2016) HEAN2: Making Changes to Heritage Assets.

Websites

https://www.victorianforts.co.uk/redan/lmc.htm

https://historicengland.org.uk/listing/the-list/map-search?clearresults=True

http://www.heritagegateway.org.uk/gateway/advanced_search.aspx

https://www.british-history.ac.uk/

https://maps.nls.uk/

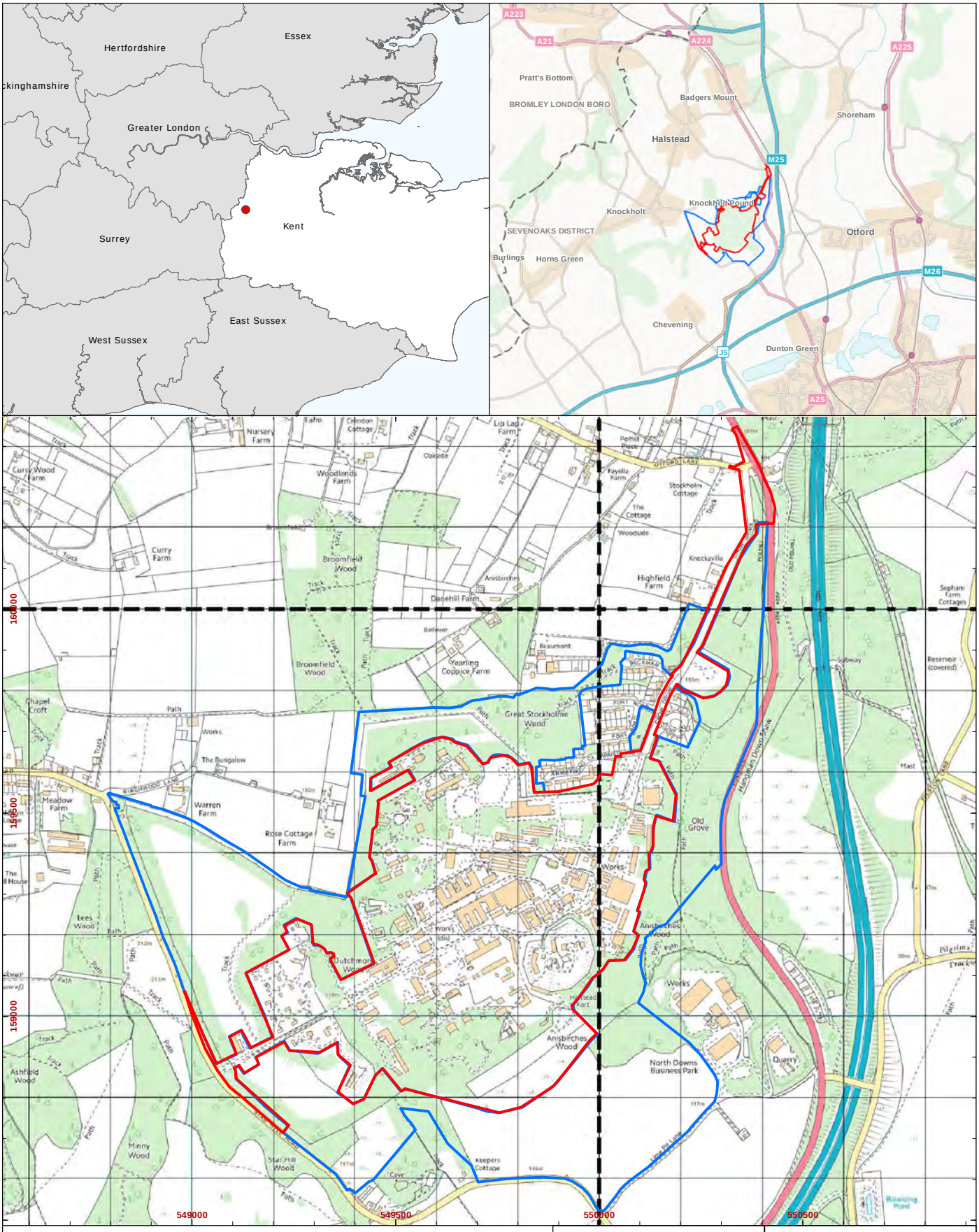
http://www.imagesofengland.org.uk/

https://historicengland.org.uk/images-books/photos/

http://discovery.nationalarchives.gov.uk/

https://www.gov.uk/guidance/conserving-and-enhancing-the-historic-environment

FIGURES



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Application Boundary

Current Ownership Boundary

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Figure 1:
Site Location

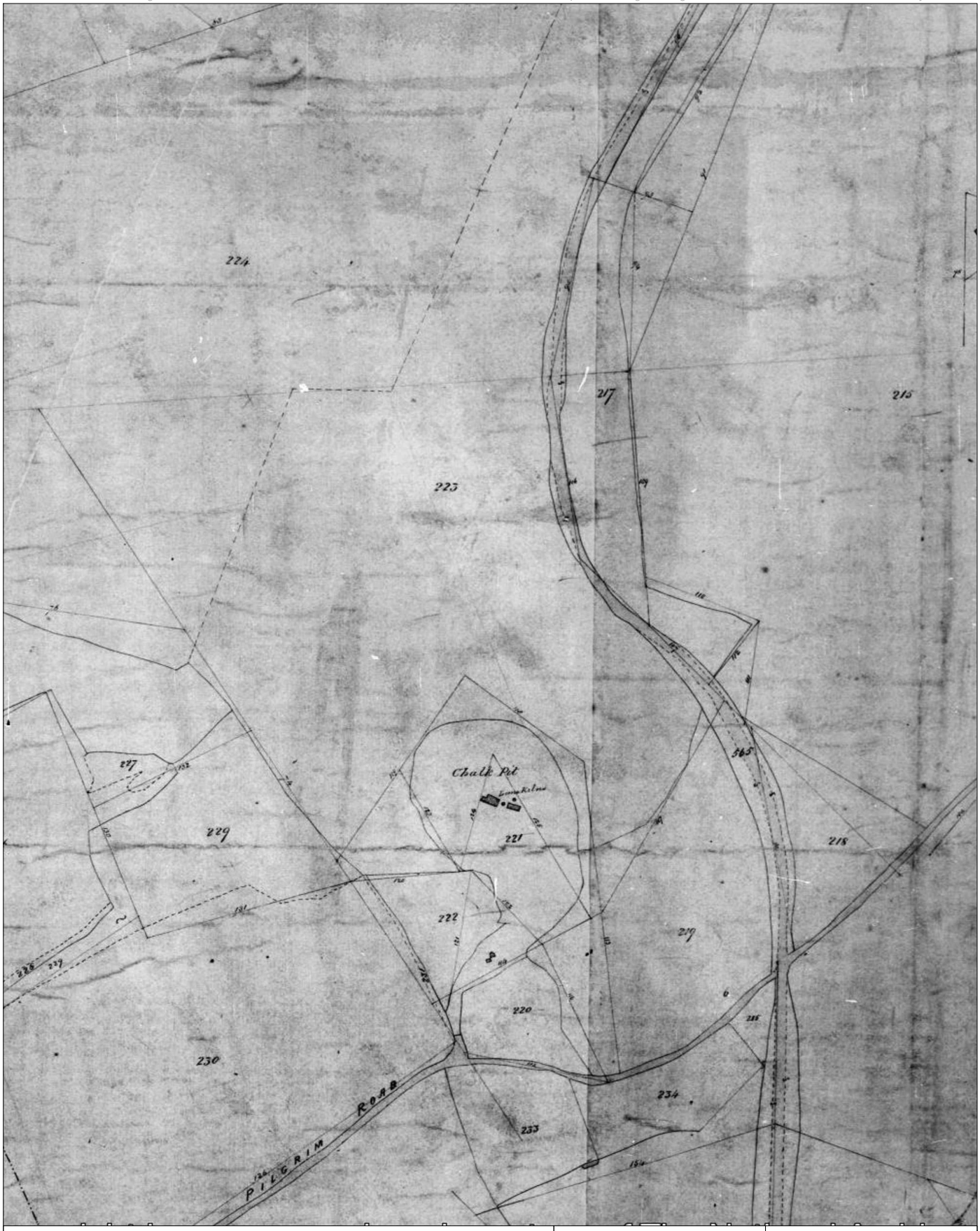

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Figure 2:
1844 Otford Tithe Map

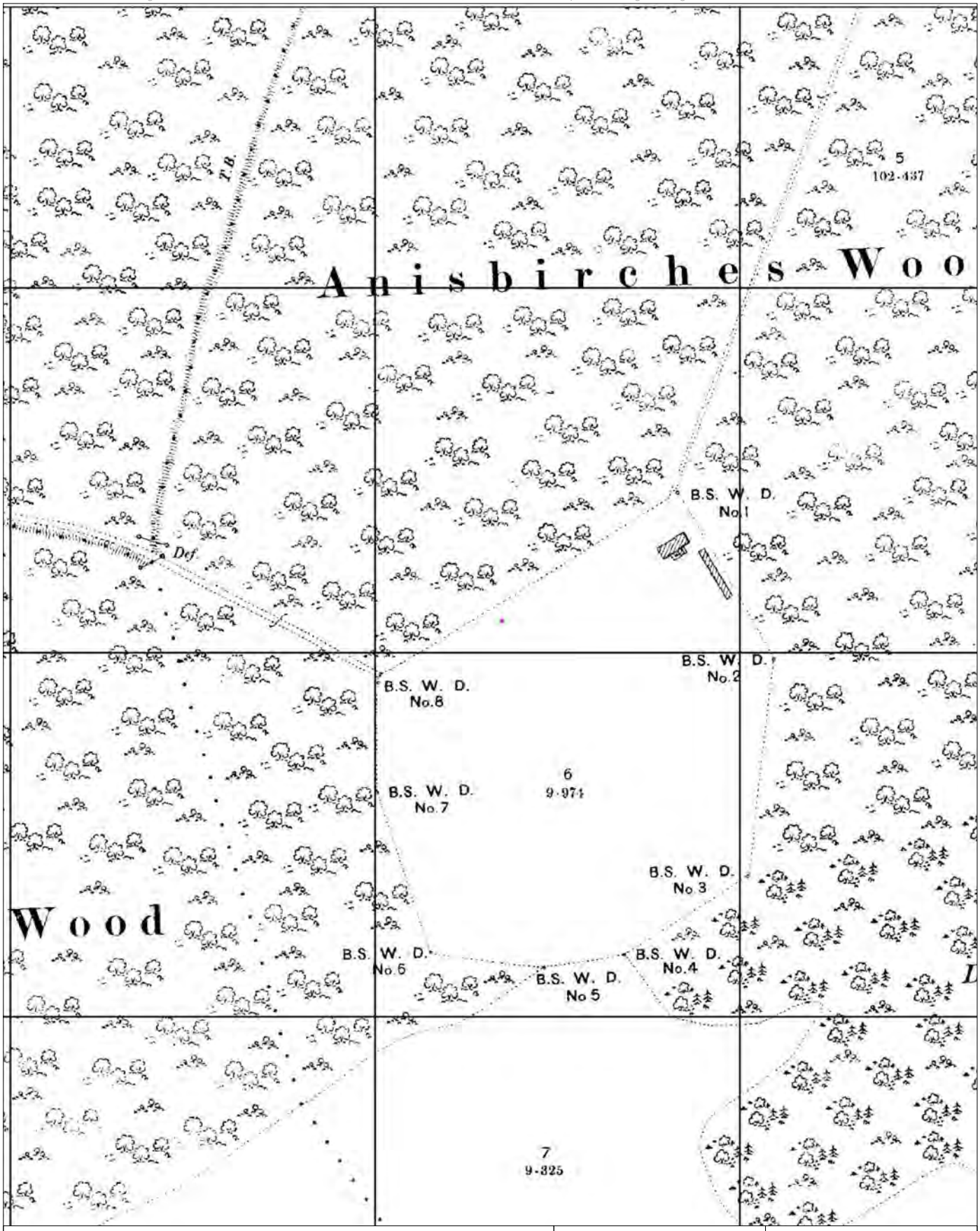

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Figure 3:
Second Edition Ordnance Survey Map, 1896

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Figure 4:
1936 Ordnance Survey Map

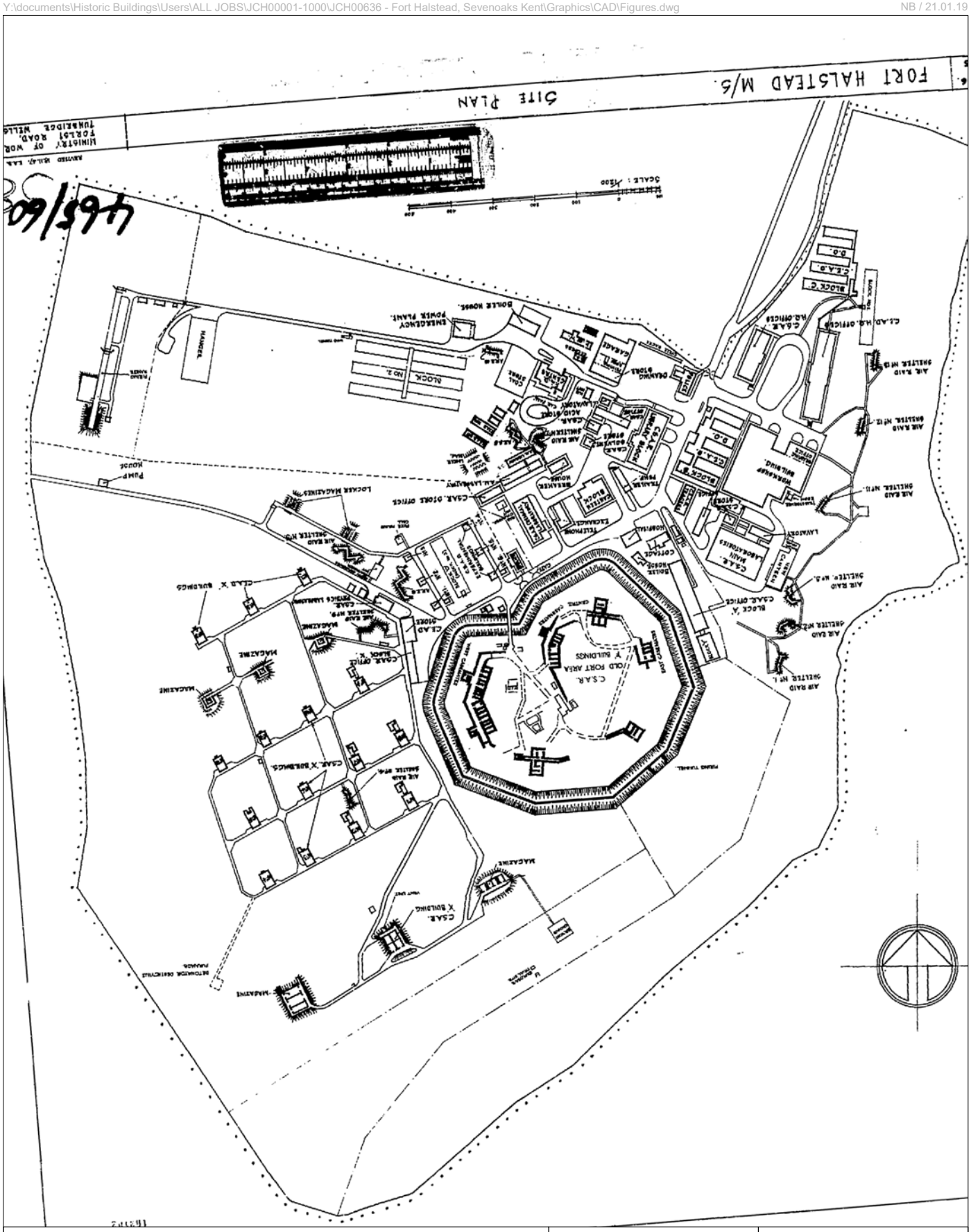

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Figure 5:
Plan of Site in 1947

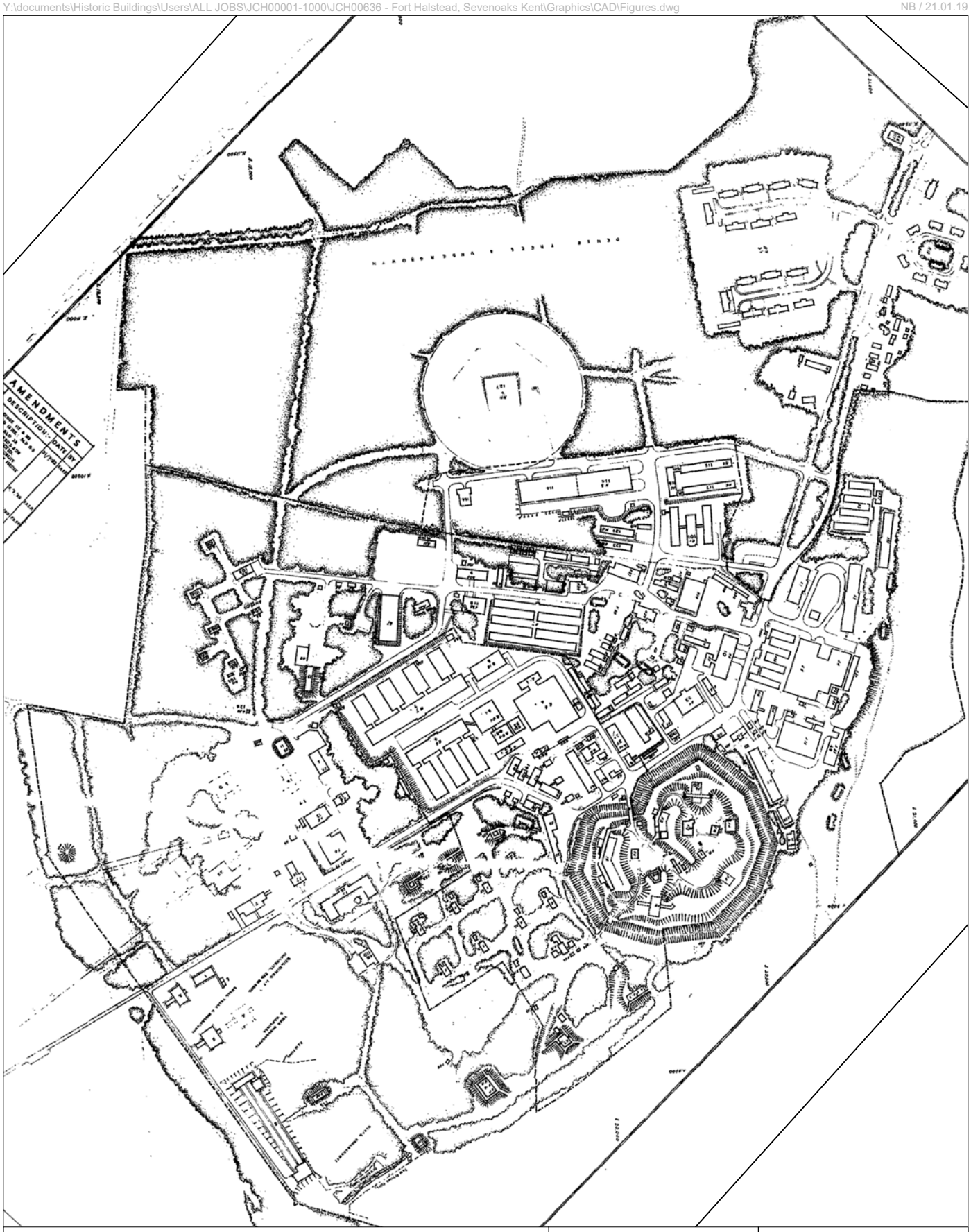

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Figure 6:
Plan of Site in 1952

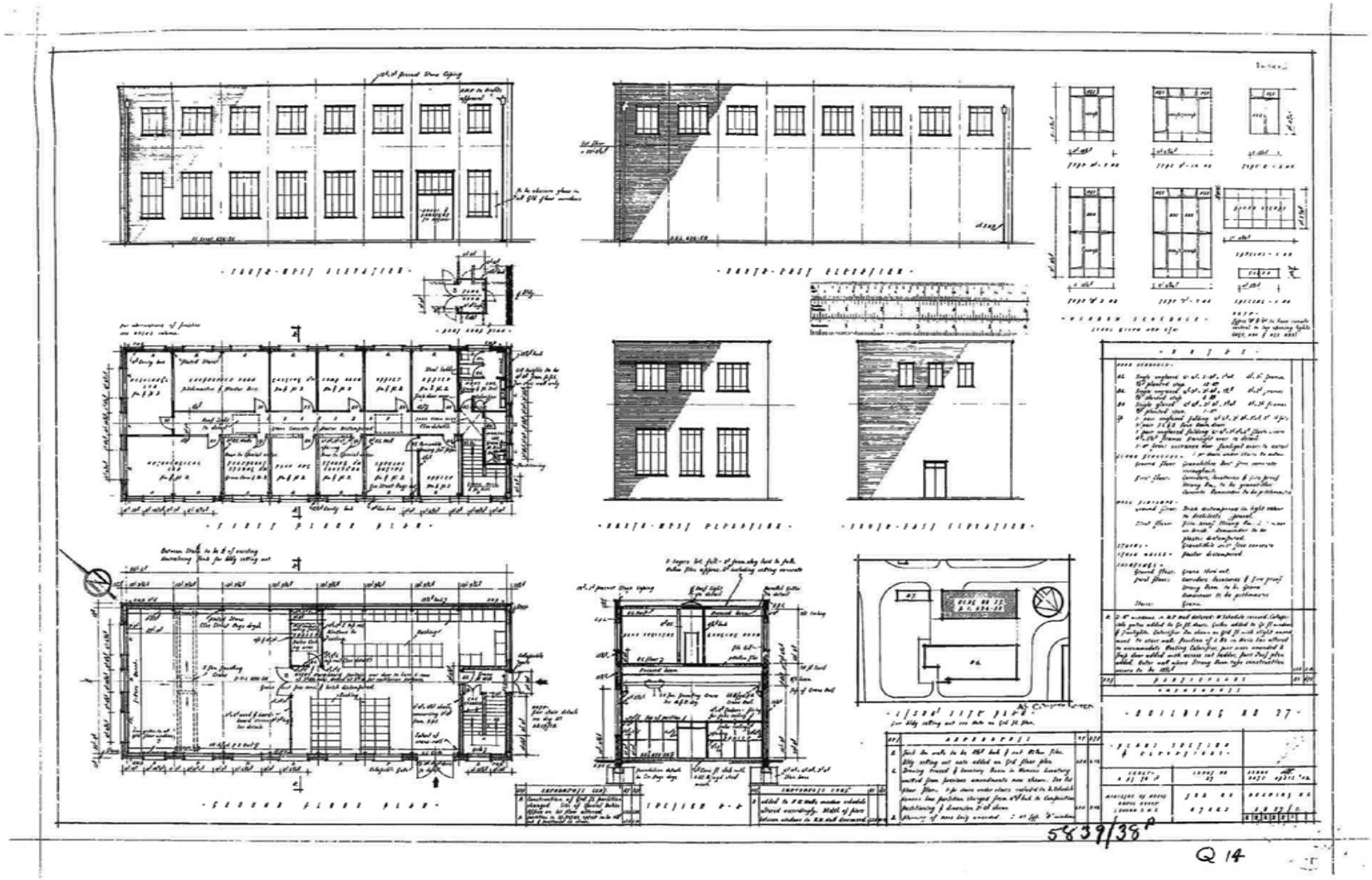

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Figure 7:
1949 plans and elevations of Q14

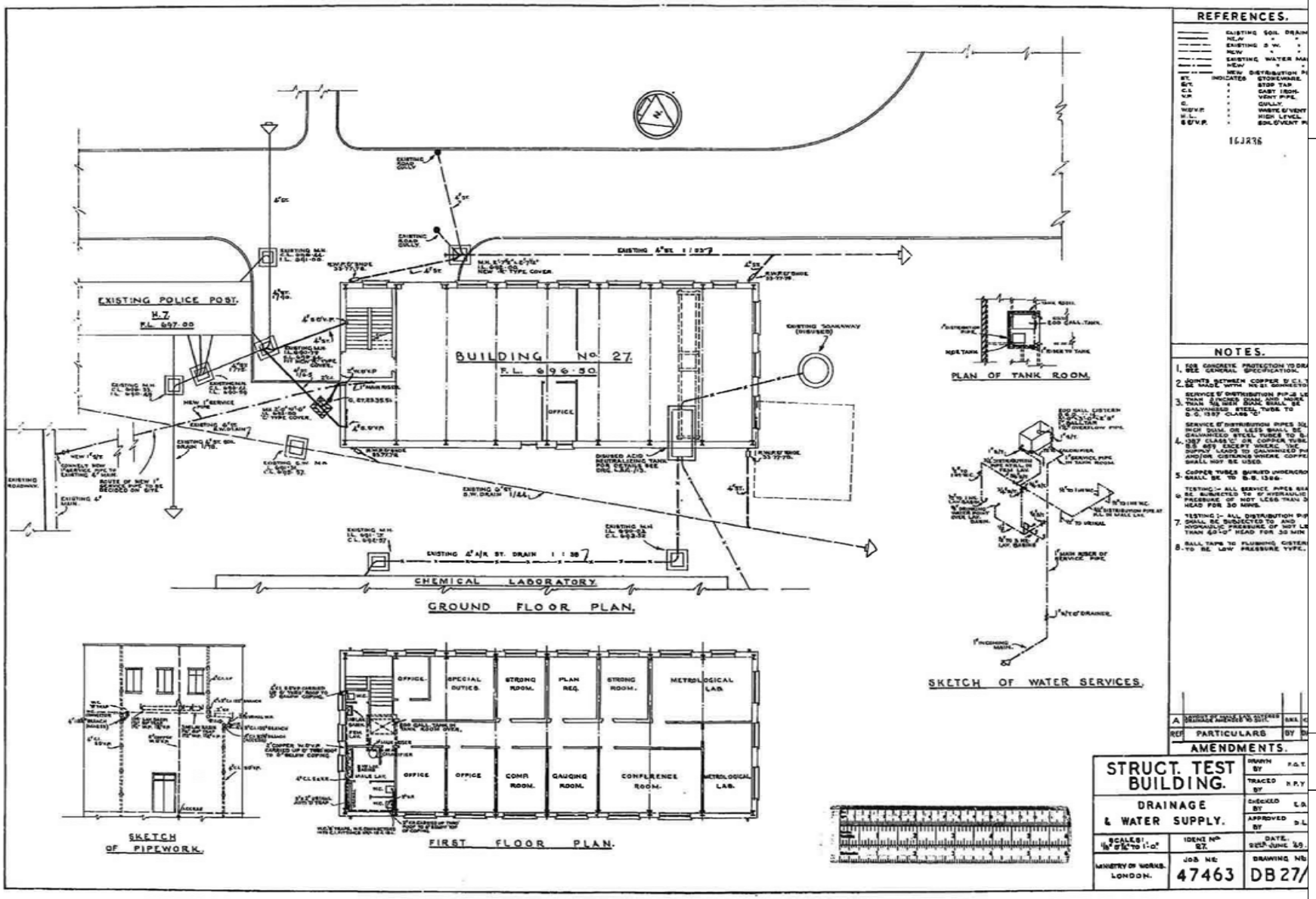

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Figure 8:
1949 drainage and water supply of Q14

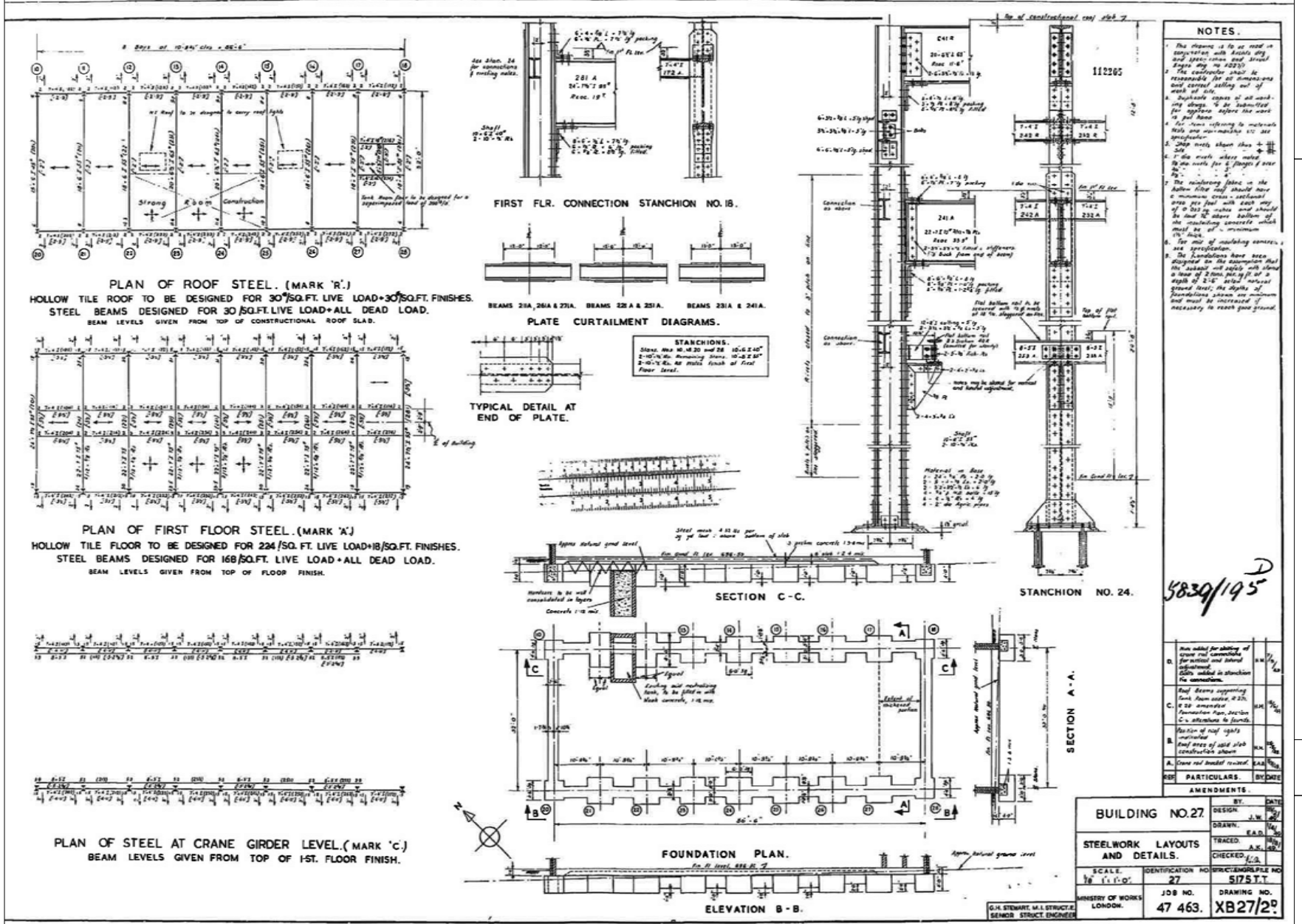

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Figure 9:
1949 steelworks layout and details of Q14

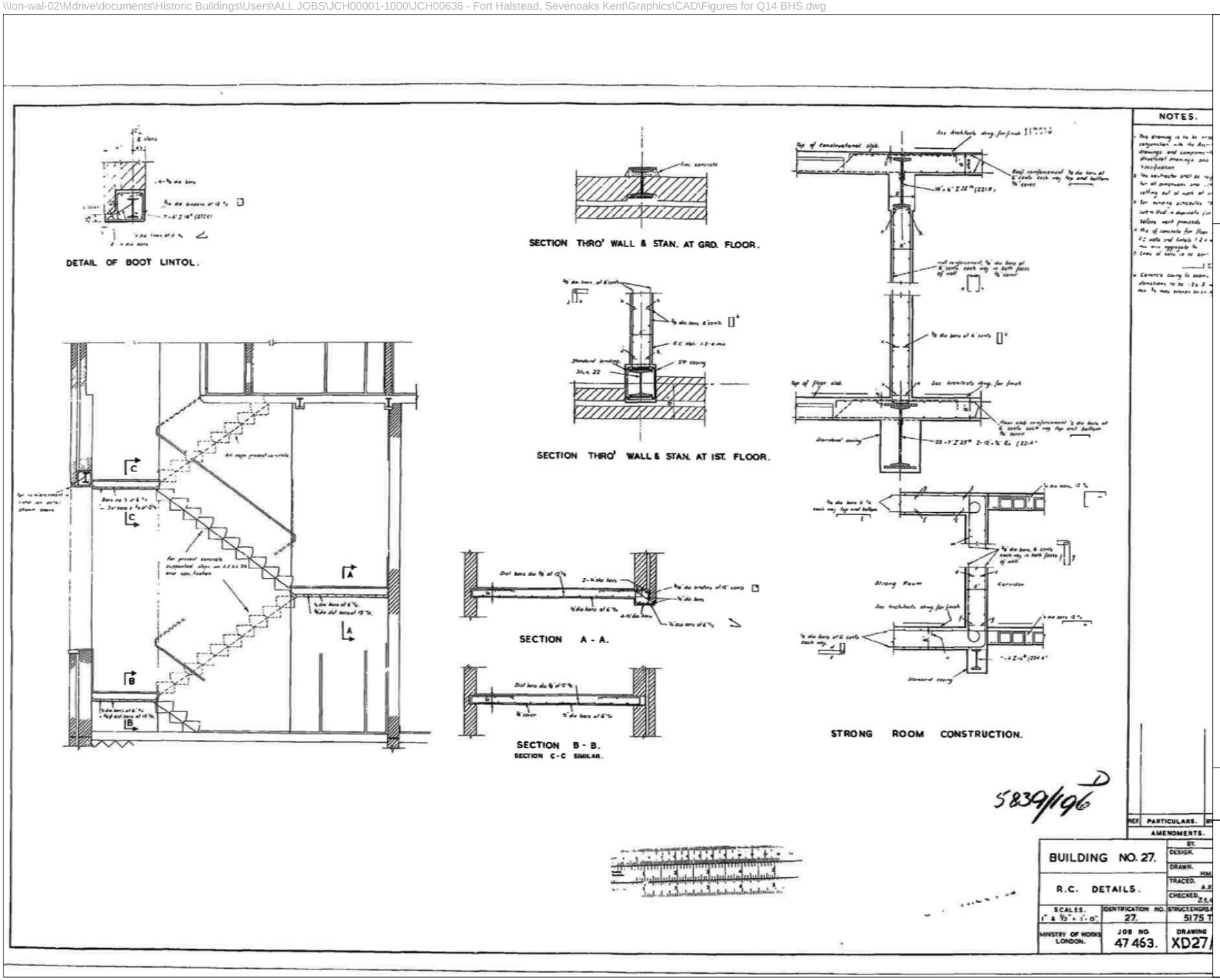

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Figure 10:
1919 Q14 details

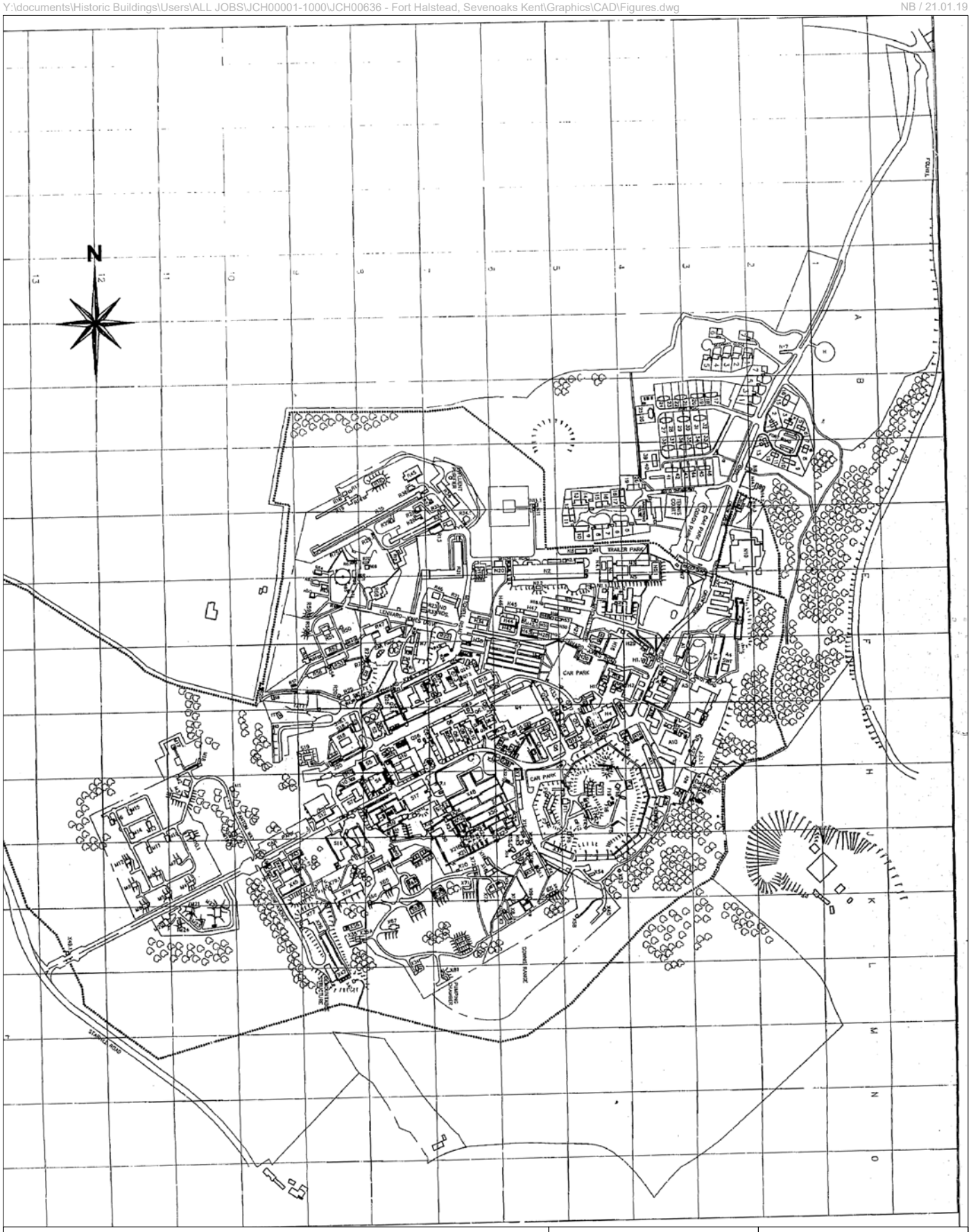

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Figure 11:
Plan of Site in 1993

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