

# 8. Historic Environment

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## **Appendix 8.1**

# **BUILT HERITAGE STATEMENT SITE WIDE**



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**BUILT HERITAGE  
STATEMENT (SITE  
WIDE)**

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Site Address

**Fort Halstead, Kent**

On behalf of

**Merseyside Pension Fund**

Date

**September 2019**

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## **EXECUTIVE SUMMARY**

1. This Built Heritage Statement has been prepared by CgMs Heritage (Part of RPS) on behalf of Merseyside Pension Fund. It relates to the proposed development of the Fort Halstead site in Kent.
2. The site's built heritage significance principally derives from its role in the defence of London in the late nineteenth century and strategic armaments research and development during the twentieth century.
3. In line with the requirements of the National Planning Policy and in accordance with Historic England guidance, this Statement seeks to determine the significance of the potentially affected heritage assets, including the contribution made by their settings, and assess the potential impact of the proposed development upon that significance.
4. The Statement finds a combination of impacts arising from the development ranging from harmful to beneficial. On balance, it is considered that the overall aggregate impact of the development proposals would be beneficial; providing a sustainable future for those elements of the site which make the highest contribution to built heritage significance whilst creating a new settlement which sensitively responds the site's historic context.

## **1.0 INTRODUCTION**

### **The Proposed Development**

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 the hybrid planning application for the demolition of buildings and development of a mixed-use development.

1.2 It is a hybrid planning permission comprising:

In detail:

- Demolition of existing buildings;
- Change of use and works to buildings Q13 and Q14 (including landscaping and public realm);
- Primary and secondary accesses.

In outline:

- Development of business space (use classes B1a/b/c) of up to 27,659 sq m GEA;
- Works within the 'X' enclave relating to energetic testing operations, including fencing, access, car parking;
- Development of up to 750 residential dwellings;
- Development of a mixed-use village centre (use classes A1/A3/A4/A5/B1a/D1/D2);
- Development of a one form entry primary school;
- Change of use of Fort Area and bunkers to Historic Interpretation Centre (use class D1) with workshop space;
- Roads, pedestrian and cycle routes, public transport infrastructure, car parking, utilities infrastructure, drainage;
- Landscaping, landforming and ecological mitigation works.

### **Background**

- 1.3 In 2011 Defence Science and Technology Laboratory (DSTL) announced its intention to relocate from the Site to Porton Down and Portsdown West, with complete vacation anticipated by 2021. QinetiQ will continue to operate at the Site.
- 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 development 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 works associated. This permission has been implemented and is extant. The proposed development involves an updating of the previous masterplan.

### **Purpose of the Built Heritage Statement**

- 1.5 The intention of this report is to identify and assess the significance of built heritage assets that have the potential to be affected by the proposed development and assess the impact of the proposals upon that significance. An additional Built Heritage Statement is also being prepared which will support the Listed Building Consent application for building Q14.

### **Methodology and Sources Consulted**

- 1.6 The conclusions reached in this report are the result of historical research at The National Archives, Historic England Archive and Fort Halstead Archive, a walkover of the Site, a review of existing literature, map studies and the application of professional judgement.
- 1.7 This report makes reference to the relevant legislation contained within the Planning (Listed Buildings and Conservation Areas) Act 1990, Ancient Monuments and Archaeological Areas Act 1979, amended by the National Heritage Act 1983 and 2002 and both national and local planning policy. In addition, relevant Historic England guidance, notably The Setting of Heritage Assets (second edition, 2017) and Conservation Principles (2008) have been consulted. Relevant information from Kent Historic Environment Record (KHER) and Historic England's National Heritage List for England (NHLE) including the



listing citations for the designated heritage assets have also been consulted in preparing this Built Heritage Statement.

- 1.8 In line with Kent County Council Heritage Conservation Group's specification for a site survey and archaeological assessment to be undertaken at the equivalent of RCHME level 2 (Historic England, 2006), in 2009 Waterman Energy, Environment and Design produced an Assessment and Gazetteer of all of the buildings on Site (KENT HER ref: EKE11324). This was then updated by Heritage Collective in 2015. This previous research and the resulting reports have been read and have informed the current Statement. The gazetteer produced by Heritage Collective in 2015 is reproduced in Appendix 1, with Appendix 1a indicating any demolitions that have occurred since its production.

### **Limitations**

- 1.9 The Site is currently occupied by the DSTL and QinetiQ and therefore due to the secure nature of their work, access to all structures has not been possible. 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 during the twentieth century, there is little documentary evidence in the public domain. Given these restrictions, it has not been possible to ascertain absolute construction dates and historic functions of all of the buildings within the site, and therefore our understanding of the significance of many of the buildings is limited and not exhaustive. Where access has not been possible, the report relies on previous accounts of the buildings noted in previous reports, studies and gazetteers.
- 1.10 This Statement considers built heritage only. Waterman Energy, Environment and Design are producing a separate document which considers below ground archaeology and historic landscape.
- 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 3 years from the date of this report. All maps, plans and photographs are for illustrative purposes only.

### **Consultation**

- 1.12 In 2012 and 2013 Peter Kendall, Principal Inspector of Ancient Monuments for Kent, East and West Sussex and Surrey at Historic England met with CBRE to discuss the future of the Site and the principle of its redevelopment. Historic England also advised on the 2015 proposals and supported the application subject to several conditions.
- 1.13 There has been further consultation with Historic England in relation to the current application. CBRE, JTP and CgMs Heritage met with Paul Roberts in December 2018 during which Paul highlighted key viewpoints that he considered useful to produce, in order to illustrate the design narrative and the relationship between the designated heritage assets and the proposed development. These illustrative views have been produced (See Appendix 1) and the feedback received from Paul and more recently Alice Brockway from Historic England has informed the development of the proposals.
- 1.14 A meeting on Site was held on 18<sup>th</sup> 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.

## **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 the exercise of planning functions, to the desirability of preserving or enhancing listed buildings and their setting.

2.4 The meaning and effect of these duties have been considered by the courts in recent cases, including the Court of Appeal's decision in relation to Barnwell Manor Wind Energy Ltd v East Northamptonshire District Council [2014] EWCA Civ 137. The Court agreed within the High Court's judgement that Parliament's intention in enacting section 66(1) was that decision makers should give '*considerable importance and weight*' to the desirability of preserving (i.e. keeping from harm) the setting of listed buildings.

2.5 Further relevant legislation extends from the Ancient Monuments and Archaeological Areas Act 1979, amended by the National Heritage Act 1983 and 2002 and updated April 2014 which provides specific protection for Scheduled Monuments.

2.6 Heritage assets designated under the Ancient Monuments and Archaeological Areas Act (1979) are considered to be of national importance. Any works causing damage to heritage assets designated as Scheduled Monuments are a criminal

offence under the Act. Consent to carry out prescribed works in Scheduled Monuments can be granted by the Secretary of State. Consents, where given, are usually subject to conditions.

### **National Planning Policy**

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

- 2.7 The NPPF is the principal document that sets out the Government's planning policies for England and how these are expected to be applied.
- 2.8 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.
- 2.9 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*'.
- 2.10 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.
- 2.11 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.
- 2.12 Paragraph 194 states that any harm to, or loss of the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting) should require clear and convincing justification.

- 2.13 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.
- 2.14 Paragraph 197 states that where an application will affect the significance of a non-designated heritage asset, a balanced judgement is required, having regard to the scale of harm or loss and the significance of the heritage asset.
- 2.15 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.
- 2.16 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)**

- 2.17 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.
- 2.18 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.

2.19 It further states that *'conservation is an active process of maintenance and managing change. It requires a flexible and thoughtful approach to get the best out of assets [...] In the case of buildings, generally the risks of neglect and decay of heritage assets are best addressed through ensuring that they remain in active use that is consistent with their conservation. Ensuring such heritage assets remain used and valued is likely to require sympathetic changes to be made from time to time.'*

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

2.20 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.

**Overview: Historic Environment Good Practice Advice in Planning**

2.21 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)**

2.22 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.

### **GPA3: The Setting of Heritage Assets (Second Edition; December 2017)**

2.23 This advice note focuses on the management of change within the setting of heritage assets. This document replaces *GPA3: The Setting of Heritage Assets* (March 2015) and *Seeing History in the View* (English Heritage, 2011) in order to aid practitioners with the implementation of national legislation, policies and guidance relating to the setting of heritage assets found in the 1990 Act, the NPPF and PPG. The guidance is largely a continuation of the philosophy and approach of the 2011 and 2015 documents and does not present a divergence in either the definition of setting or the way in which it should be assessed.

2.24 As with the NPPF the document defines setting as '*the surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve*'. Setting is also described as being a separate term to curtilage, character and context. The guidance emphasises that setting is not a heritage asset, nor a heritage designation, and that its importance lies in what it contributes to the significance of the heritage asset, or the ability to

appreciate that significance. It also states that elements of setting may make a positive, negative or neutral contribution to the significance of the heritage asset.

- 2.25 While setting is largely a visual term, with views considered to be an important consideration in any assessment of the contribution that setting makes to the significance of an asset, and thus the way in which an asset is experienced, setting also encompasses other environmental factors including noise, vibration and odour. Historical and cultural associations may also form part of the asset's setting, which can inform or enhance the significance of a heritage asset.
- 2.26 This document provides guidance on practical and proportionate decision making with regards to the management of change within the setting of heritage assets. It is stated that the protection of the setting of a heritage asset need not prevent change and that decisions relating to such issues need to be based on the nature, extent and level of the significance of a heritage asset, further weighing up the potential public benefits associated with the proposals. It is further stated that changes within the setting of a heritage asset may have positive or neutral effects.
- 2.27 The document also states that the contribution made to the significance of heritage assets by their settings will vary depending on the nature of the heritage asset and its setting, and that different heritage assets may have different abilities to accommodate change without harming their significance. Setting should, therefore, be assessed on a case-by-case basis.
- 2.28 Historic England recommends using a series of detailed steps in order to assess the potential effects of a proposed development on significance of a heritage asset. The 5-step process is as follows:
- 1) Identify which heritage assets and their settings are affected;
  - 2) Assess the degree to which these settings and views make a contribution to the significance of a heritage asset(s) or allow significance to be appreciated;
  - 3) Assess the effects of the proposed development, whether beneficial or harmful, on the significance or on the ability to appreciate it;



- 4) Explore ways to maximise enhancement and avoid or minimise harm;  
and
- 5) Make and document the decision and monitor outcomes.

### **Local Planning Policy**

2.29 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 in April 2019 for examination in late 2019 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:

### **The Proposed Submission Version December 2018**

- 2.30 *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;*
- 2.31 *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.*

- 2.32 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**

- 2.33 ***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.*
- 2.34 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**

- 2.35 **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.*
- 2.36 This policy does not allow for the concept of balancing harm to designated heritage assets against the benefits of a proposal. It therefore should not be attributed full weight when considered against current national policy.
- 2.37 **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**

- 2.38 **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.*
- 2.39 **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.*
- 2.40 **HCH3** *The preparation and use of best practice guidance for adapting the historic and cultural environment to climate change will be supported.*

2.41 **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.*

2.42 **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.*

#### **Local List Supplementary Planning Document, September 2017**

2.43 This Supplementary Planning Document is intended to identify and enhance protection of unlisted yet interesting and locally notable historic assets which make up the historic environment of Sevenoaks District. It states that the identification of 'local interest' shall apply to a building that meets one or more of a criteria set by the Council's Conservation team, provided that its historic form and qualities have not been eroded by unsympathetic alteration or extension.

2.44 Currently the list only includes assets within the wards of Sevenoaks town.

#### **Sevenoaks District Historic Environment Review, December 2017**

2.45 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 This section identifies built heritage assets which may be affected by the proposed development. It describes the existing Site and the assets as they stand today, explores their historical development and concludes with an assessment of their significance, including the contribution made by their settings, in accordance with paragraph 189 of the NPPF.
- 3.2 The identification of heritage assets has been informed by Historic England's National Heritage List for England, Kent HER and professional judgement. Historic England's Military Structures Listing Selection Guide (2011) has also been referred to.

#### **Identification of Heritage Assets**

- 3.3 The Site contains the following built heritage assets (shown on Figure 2a) which may be affected by the proposed development:

##### *Designated Heritage Assets*

- Fort Halstead Scheduled Monument including buildings F2, F3, F4, F5, F6, F7, F8, F9 and the Second World War Firewatcher's Post (List Entry Number 1004214)
- Building F11, Grade II Listed (List Entry Number 1412292)
- Building F16, Grade II\* Listed (List Entry Number 1412293)
- Building F17, Grade II\* Listed (List Entry Number 1412293)
- Building Q14, Grade II Listed (List Entry Number 1396578)

##### *Non-Designated Heritage Assets*

- 3.4 F14, F18 and A14 are identified as monuments on the Kent Historic Environment Record (HER) and merit consideration as non-designated heritage assets.<sup>1</sup> In addition to this, A10, A11, A13, A14, F1, F10, F12, F13, F15, Q1, Q3, Q4, Q4-1, Q13, X3, X4, X6, X7, X8, X9, X11, X12 and X13 have been identified by

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<sup>1</sup> A14 is incorrectly identified on the HER as a farm building.

Sevenoaks District Council as non-designated heritage assets (Committee Report Pack 10.09.15).

- 3.5 In addition, X2, X5, X38, X44 and X45 have been identified by both Heritage Collective (2015) and CgMs Heritage to warrant consideration as non-designated heritage assets.
- 3.6 The remainder of the buildings on Site have limited to no historic or architectural interest, when considered individually. Whilst some of these buildings were built during key episodes of the Site's history, due to their standard design and construction (which were the result of a focus on function, cost and speed of construction, as is the case with many military or Government developments of this era), standard function and/or the lack of available sources alluding to their specific uses or associations, they are not deemed to merit consideration as heritage assets on an individual basis.
- 3.7 However, it is acknowledged that collectively these buildings along with surviving air raid shelters, infrastructure and memorabilia displayed around the Site contribute to the historic interest of the overall Site and the functional setting of above heritage assets.

*Heritage Assets beyond the Site boundary*

- 3.8 Figure 2b. identifies designated built heritage assets within a 1km search radius of the Site. However, due to intervening distance, vegetation and built form, no heritage assets beyond the Site boundary were identified during the Site walkover survey and research as sharing a visual, functional or legible historic association with the Site which today contributes to their significance. The lack of visual connection with the surrounding heritage assets is confirmed by the Landscape and Visual Impact Assessment prepared by LDA Design. It is considered that the proposed development will have no impact upon the significance of any built heritage assets beyond those contained within the Site, as detailed above.

### **Site Description**

- 3.9 The current ownership boundary extends to 68.2 hectares (ha) and is shown in blue on Figure 1. The application boundary extends to 62.7 ha, is shown in red on Figure 1. and is centred on National Grid Reference (NGR) 549741, 159317.
- 3.10 Fort Halstead is currently a research site occupied by DSTL, an executive agency of the UK Ministry of Defence, and QinetiQ who undertake scientific research for the Ministry of Defence.
- 3.11 The Site is located *circa* four miles to the north east of Sevenoaks, upon the crest of a steep chalk escarpment of the North Downs. The Darent Valley runs to its east and south.
- 3.12 The Site contained *circa* 300 buildings at its peak occupation. Since then, DSTL has been undertaking selective demolition works and accordingly it is estimated that *circa* 276 buildings remain on Site with associated infrastructure including roads, areas of hardstanding and parking. The Site is divided into nine areas, namely A, F, H, M, N, Q, R, S and X. Each building is identified by the area they are located within and a sequential number, for example A1.
- 3.13 The Site contains areas of landscaping, many mature trees, grassland and several wooded areas. Given its treed nature, the majority of the Site is visually contained and discreet, however some long-distance views are granted from the south-west areas and parts of the southern boundary of the Site.
- 3.14 The Site is located within the Green Belt and falls within the Kent Downs Area of Outstanding Natural Beauty (AONB). It is also designated in SDC's adopted Core Strategy and Allocations and Development Management Policies as a Major Developed Site within Policy EMP3 and with the emerging Policy ST2 identifying a further capacity of 300 units in addition to the 450 units already allocated and permitted.

### **Historic Development**

3.15 A Historic Development Plan has been included as Figure 3.

#### **Nineteenth Century - The Mobilisation Centre**

3.16 The 1844 Tithe map (Fig 4.) and apportionment show the Fort Halstead site as undeveloped woodland, owned by Charles Polhill.

3.17 On 11<sup>th</sup> 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 (Fig.5) which were to be linked by trenching and intended to be used as an armament and tool store, which in the event of invasion could be used to equip local volunteer forces. Most of the centres were fortified and some, such as Fort Halstead would have been able to take an active part in defence by virtue of its location and the ability to mount field artillery or machine guns (as exemplified by the inclusion of gun emplacements at Fort Halstead).

3.18 The War Office bought 9 and  $\frac{3}{4}$  acres of land at Halstead between 1890 and 1891, plans for the Fort were drawn up in 1894 (Fig. 6) and it is likely that the Fort was constructed between 1895 and 1897 (Griffiths 1984, 4). Fig. 8 is an illustration showing the Fort as it may have appeared on completion.

3.19 The Fort is not shown on the 1896 Ordnance Survey map (Fig. 7) 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.



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

### **Early Twentieth Century**

3.21 Part of the London Defence Positions Scheme was resurrected during the First World War, when Fort Halstead was used as a defensible ammunition store forming part of the London anti-invasion stop line. In 1915 an ammunition laboratory, (the extant F14) was built inside the Fort.

3.22 In 1921 the Fort was sold by auction to Lt. Colonel Bradshaw (a retired army colonel) and Dr Allpart (a Harley Street specialist). Fig. 10 shows the 1921 auction map associated with the sale. Bradshaw lived in the laboratory (F14), the cottages (A14) were converted in 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)**

3.23 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 Alwyn 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.

3.24 The 1936 Ordnance Survey (Fig.11) 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 and footpaths.

3.25 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. Fig. 12 shows the Fort in 1937 along with proposed alterations including the conversion of casemates, repair of A13, A14 and F14 and the construction of A12.

3.26 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 (Fig.16). The pioneering work undertaken by Sir Alwyn Crow at the Fort led to the development explosive and armament technologies, such as Unrotated Projectiles which were widely used in the D-Day operations.

- 3.27 Additional land around the Fort was purchased in 1939. The plan which accompanied the sale (Fig.13) shows the surrounding land in greater detail than previous maps, and indicates that a parcel of land immediately surrounding the Fort, was sparsely planted with trees, when compared to the wider surroundings which are heavily wooded, and that there still remains a relatively small gap in the tree coverage to the south, affording long distance views across the landscape.
- 3.28 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).
- 3.29 By the end of the war *circa* eighty buildings including explosives filling sheds, a large laboratory (now known as A10), 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-watcher's post, road and drain networks and a housing estate to the north for the War Department Police (Cocroft 2010) (Figs.14 and 15). A11 is understood to have been built between 1936 and 1944 by German prisoners of war. Fig. 17 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)**

- 3.30 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).

- 3.31 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), 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. 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.20). 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, Ordford Ness range and RAF Woodbridge (Cocroft and Fiorato, 2012).
- 3.32 There was close co-operation between HER and Royal Air Force (RAF) personnel. Squadron Leader John Rowlands was in charge of a 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 its 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, a émigré German scientist also contributed to the work at Fort Halstead, but was subsequently discovered to be a Soviet spy (Cocroft and Fiorato, 2012).
- 3.33 Plans and aerial photographs of the site between 1949 and 1952 show the additional development that occurred during this period (Figs. 18 to 19).

3.34 In addition to the work of the HER, following WWII research was undertaken into captured German technology, an example being the high-speed wind tunnel that was brought to Fort Halstead but has since been removed.

3.35 On 3<sup>rd</sup> October 1952 Britain exploded her first atomic bomb on the Mont Bello Islands, Australia.

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

### **Mid - late Twentieth century**

3.37 Following the departure of the HER, armaments research continued at a reduced level whilst the site continued to expand in response to the threats of the Cold War (1946-89). Much of the research conducted during this period is still subject to the Official Secrets Act. The 1950s saw the growth of the site to the north into the 'N' 'H' and 'R' areas. Additional test ranges, including X44 and X45 and a predecessor to the extant X47 were constructed to the west of the site. (Figs. 19-20)

3.38 In 1954 the Site became the first government research establishment to acquire a digital computer. This led to the invention of Mirfac computer language (Waterman 2009).

3.39 The ADD and ARD were amalgamated in 1955 to form the Armament Research and Development Establishment (ARDE). It later became the Royal Armament Research and Development Establishment (RARDE).

3.40 During the 1970s the RARDE was charged with the provision of help for the Home Office on the hazards of explosives, dangerous chemicals and forensics; this nationally significant work continues at the Site today.

3.41 The Site has continued to expand and become more densely populated with infill developments (Figs. 21-24). The 1980s saw the expansion and development of the X area to become the largest component of the site and the addition of the M area magazines. In 1981-1982 a reception building (N7) was built and the main entrance gates moved. Between 1982 -1984 the western site entrance was moved to the Crow Road and Star Hill junction, in order to allow for the new magazine facility in the 'M' area.

### **Assessment of Significance**

3.42 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.

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

#### *Introduction to the Significance of the Site overall*

3.44 In an attempt to avoid unnecessary repetition, the below are general points of significance which will apply to the vast majority of heritage assets within the Site:

- Fort Halstead's significance is principally derived from its role in the defence of London in the late nineteenth century and its contribution to strategic armaments research and development during the twentieth century. Fort Halstead has considerable historic interest through its association with key phases in the nation's military history and significant world events.
- The Site has shared group value with the other twelve mobilisation centres built as part of the London Defence Scheme and with the other military establishments involved with the production of the atomic bomb, which are outlined in paragraph 3.29.
- Rather than following a designed masterplan, the relatively scattered layout of the Site developed over time in response to the specific requirements of the military at different periods with development initially concentrated within and around the Fort and gradually radiating outwards. Buildings are predominantly utilitarian and functional, and whilst architectural value is derived from how some of their architecture reflects technological developments and functions, the Site has very limited, if any artistic interest.
- The majority of the buildings on Site have modest archaeological value given their twentieth century date and standard military design and construction, and

it being unlikely that further examination of fabric will reveal additional information regarding twentieth century military building techniques or practices not already apparent and understood. That said, the limited amount of documentary evidence relating to the majority of the buildings on Site increases the built heritage archaeological potential, to aid our understanding of the specific military practices undertaken at the Site. Below ground archaeological potential is considered within the Desk Based Assessment provided by Waterman Energy, Environment and Design.

- The remote and contained nature of the Site, largely discreet amongst surrounding woodland, contributed to the choice of the Site for the top-secret work of the PDE and HER teams, as well as the ARD and ADD's relocation during WWII. Crow Road is the principal access route through the Site which has been apparent on cartographic material since before the Fort's inception.
- Many mature trees survive within the Site and are remnants of an early planting scheme devised out of concern for the working environment. Similar planting schemes were employed on many contemporary airfields (Cocroft, 2010). Historic landscape is considered in more detail within Waterman Energy, Environment and Design's Desk Based Assessment.

### **Designated Heritage Assets**

#### Fort Halstead Scheduled Monument

##### Description

- 3.45 The Fort is polygonal in plan form, surrounded by an earth rampart and a deep external ditch with a sloping earth counterscarp and concrete revetment. The ditch is extant for much of the circuit except at the north-west and west of the Fort where it has been infilled. The rampart is a large earthwork, with a parapet, banquette (infantry fire-step) and terreplein (a platform or level surface on which heavy guns are mounted). Traces of brick-revetted emplacements for machine guns some with expense magazines set into the rampart survive. At the north-east corner of the Fort is an additional structure of WWII date thought to be a fire watchers post. It is built of brick and concrete.
- 3.46 The interior parade is entered via the original entrance to the north-west, formed within two inward pointing angles of the polygonal Fort. It is entered via a north-

south causeway over the ditch, lined by concrete walls topped with original metal fence posts and a modern wire mesh fence. A secondary entrance to the Fort is located to the south-west; this entrance was inserted between 1946 and 1952 in order to link the Fort interior with the area beyond the Fort to the south-west, where other additional buildings had been constructed.

- 3.47 The interior parade of the Fort is dissected by a large, central linear traverse which runs on a roughly north-south axis and contains a block of nine casemates and two wagon sheds with a covered access corridor to the west (collectively F2). A further block of casemates (F4) is located close to the eastern rampart and another block (F8) containing seventeen is located close to the western rampart which was originally earth.
- 3.48 Three widely spaced magazines, with shell and cartridge stores within them are cut into traverses to the north east, south east and south (F3, F5 and F6). These are concrete chambers providing storage of ammunition and were all provided with safety lamp recesses with glazed and metal grill covers. The magazines' earth covered, reinforced, concrete roofs have an added layer of flint designed as a bursting layer intended to detonate incoming shells before reaching the interiors. Details and paraphernalia such as a nineteenth century fire hydrant and metal ventilation grilles survive.

#### Historical Development

- 3.49 Built circa 1895-1897 as a mobilisation centre, the Fort was modified from the late 1930s for rocketry research, and again in the late 1940s for the top-secret development of Britain's first atomic bomb. The Fort's history has been provided in detail within the Historical Development section of this report, from paragraph 3.14.

#### Setting

- 3.50 The Fort is located on the crest of the North Downs where it intersects the Darent Valley. The London Defence Positions line turned northwards at this point and followed the western flank of the valley to join the mobilisation centre at Faringham. This strategic location and the Fort's relationship with the other mobilisation centres, which collectively formed a defensive line to the south and east of London, contributes to its wider setting and our understanding of its significance. It is reasonable to assume that strategic views of the surrounding

landscape were integral to the Fort's design and the choice of location, however the precise extent and location of such long-distance views are currently unclear. On maps from the nineteenth century the Fort and the immediately surrounding area are shown as blank, but surrounded by dense woodland to all sides, with the exception of a small gap to the south, which would have provided long distance views to the south and south-west. The 1939 plan (Fig.13) provides greater detail than previous maps and indicates that the parcel of land immediately surrounding the Fort on all sides was sparsely planted with trees, when compared to the wider surroundings which are again shown as heavily wooded with the exception of the small areas to the south. This immediate area was presumably kept sparsely planted to allow close range defence of the centre; several gun emplacements were set into the rampart suitable for small calibre, quick firing guns and machine guns. Gun emplacements were positioned to defend the entrance and the main defence positions to each side of the Fort (Beanse and Gill, 2000). Given the level of tree planting found today both on the Fort itself and on the adjacent land to the south, any long-distance views once gained from the top of the Fort rampart have been lost (see Plates 1-5).

- 3.51 Originally the whole Fort would have been enclosed within a high steel fence with gates hung on steel girders at the entrance (traces of which survive).
- 3.52 Today, the Fort is located to the south-east of the Site and is surrounded to the north, east and west by the other buildings and infrastructure relating to the later military research establishment. The surrounding buildings range from subterranean to three storeys in height, with the tallest building reaching twenty-two metres above ground level (Pegasus). Overall this collection of buildings contributes to the Fort's functional context. The Fort shares particular group value with all of the buildings contained within it and the contemporaneous A13 and A14, which contribute to its significance. It is considered that due to their visually prominent positions close to the heart of the Site, their close proximity to the Fort and their related historic values A10, A11, Q1, Q13, Q14, X2, X3 and X38 form the asset's immediate visual and historical setting, and as such make a contribution to how we understand and experience the asset's significance when outside its confines (see sections following paragraphs 3.71, 3.96, 3.89, 3.113, 3.119, 3.125 and 3.136 for further information on these individual buildings).



- 3.53 The Fort was originally approached via the road/trackway now known as Crow Road. This road survives in the original alignment, comprising the sequential experience of the historic approach to the Fort, and contributing to its significance.
- 3.54 Whilst many other buildings lie in close proximity, due to the designed, enclosed nature of the Fort, intervisibility with other structures and the surrounding landscape is limited when inside the Fort area. The overgrown nature of the Fort earthworks mean that it is visually discreet from within the Site. Originally the Fort's earthworks would have been devoid of such vegetation, which appears to have developed organically over time rather than as a result of a strategic planting scheme, but which may nevertheless have provided valued screening and privacy for the later secretive PDE and HER work. The overgrown nature of the earthworks is deemed detrimental to its legibility and our ability to appreciate its form and significance.

Significance

- 3.55 As a Scheduled Monument, the Fort is a heritage asset of the highest, national significance.
- 3.56 The Fort has historical interest as one of thirteen purpose-built mobilisation centres devised as part of a scheme known as the London Defence Positions, which was designed to protect the southern and eastern approaches to London, which survives largely intact, though with some later alterations. Historic interest is also derived from its use during the mid-late twentieth century rocketry and atomic bomb research and development. The Fort's largely intact form and relative rarity increases the evidential potential of the asset to enhance our understanding of the development and operation of the late nineteenth century mobilisation centres constructed to defend London, and also the nationally significant armaments research and development undertaken here. Significance is derived from the asset's physical fabric and construction, its association with key phases and personnel in the nation's military history as well as notable world events.
- 3.57 Fort Halstead was the largest and most expensive of the mobilisation centres (Beanse and Gill, 2000) and is one of four designed for artillery deployment. The Fort's architectural interest is derived from how its form, construction and materials relate to its specific military functions.

- 3.58 In summary, the asset derives significance from its built fabric which has architectural and historic value, the group value it shares with the buildings contained within it as well as A13 and A14, the immediately surrounding buildings with which it shares both a historic and visual association and its wider strategic setting.

*Buildings F16 and F17, Grade II\*, List UID 1412293*

*Description*

- 3.59 F16 is a rectangular, flat roofed Bomb Chamber built of reinforced concrete. A corrugated iron clad entrance corridor leads to an E-shaped single armoured inner chamber where explosive devices would be detonated. There is an external metal staircase providing access to the roof which has metal railings to the north-east, south-east and north-west elevations. The rear elevation has electrical inlet and outlet points and there are three rows of square, centrally bolted metal plates to the rear and side elevations which are presumed to be fixings for explosion monitoring equipment. F17 is a detonation chamber constructed of concrete and red brickwork laid in English bond with metal framed casement windows with concrete heads. The single storey flat roofed section of the building has a 'T' shaped funnel protruding from the top. This section houses a bursting chamber with armoured glass observation windows, surrounded by high speed camera rooms from which the explosions were recorded. The two-storey section of the building at the northern end housed a photographic dark room on the ground floor and a control room above from which the trials were overseen (Historic England, List Description 2013).

*Historic Development*

- 3.60 F16 was designed in July 1947 with F17 designed in August that year, just two to three months after the creation of the High Explosive Research Establishment. The speed at which they were designed reflects the importance of and particular requirement for these structures in relation to the body's research and development. The buildings have undergone little alteration since their construction.

*Setting*

3.61 Both buildings are situated within the Fort to the eastern side of the roughly central traverse. Along with F18, F16 and F17 sit within and form a key group of buildings relating to atomic bomb research and development. The confines of the Fort provide a strong visual and functional immediate setting to the buildings. The enclosed nature of the Fort and the restrained use of fenestration on the buildings coupled with intervening vegetation means that the buildings have no intervisibility with the wider surrounding landscape and buildings beyond the Fort's earthworks.

Significance

3.62 F16 and F17 are Grade II\* listed and particularly important buildings of more than special interest. Both designed in 1947, shortly after the High Explosives Research Establishment was set up at Fort Halstead, the buildings hold considerable historic value and make a vital contribution to our understanding of the nation's atomic bomb research and development which contributed to one of Britain's major scientific breakthroughs in the field of military armament. The lack of known associated records, rarity and relatively intact nature of the buildings increases the value of the buildings.

3.63 Whilst lacking in architectural ornamentation, the buildings hold architectural interest in the way their original functions remain legible through their specialised form, design and materiality, which remain little altered from their original design.

3.64 In summary, the buildings' significance is primarily derived from their built fabric which displays architectural and historic values, and from their immediate setting within the Fort.

Building F11, Grade II, List UID 1412292

Description

3.65 F11 is a two storey, L-shaped building with a sloping reinforced concrete roof. It has a concrete frame encased in brick laid in English bond. The principal east facing elevation has a metal staircase providing access to a first-floor covered walkway. Four, full height brick bays with pipework to the rear occupy the southern half of the building and were designed to accommodate filling of vertical rocket casings. The building has metal framed casement windows to all

elevations except the blind north elevation. The principal elevation has two pairs of glazed double doors to the ground floor level and two single doors to the first-floor level. The western elevation had four external doors, two to the ground floor and two to the upper floor (since blocked) which likely provided emergency exits. Over-head cable gantries extend north from the building.

#### Historical Development

- 3.66 F11 was designed and built in 1938 as an experimental filling shed to allow the filling of cordite rocket motors. It was later called 'Poole's Folly' as there is a question as to whether or to what extent it was ever used for this function.

#### Setting

- 3.67 F11 lies within the western half of the Fort, towards the northern entrance. The confines of the Fort provide a strong visual and functional immediate setting to the building. The enclosed nature of the Fort and the restrained use of fenestration on the building's northern elevation coupled with intervening vegetation means that the building has limited intervisibility with the wider surrounding landscape and buildings beyond the Fort's earthworks. Despite the limited visual connection, the surrounding buildings and particularly those which are contemporary with the PDE provide an historic and functional setting to the buildings.

#### Significance

- 3.68 F11 is Grade II listed and is considered of special interest. This modest building represents the earliest surviving purpose-built rocket related building in England and Britain's first steps to manufacture modern missiles. It is directly associated with the pioneering work by Sir Alwyn Crow that led to Unrotated Projectiles which were widely used in the D-Day operations. F11 has historical value as the earliest surviving purpose-built building associated with rocketry research and development, nationally. Most buildings associated with this era of research date to post rather than pre-war, and therefore F11 has considerable illustrative, associative and rarity values.
- 3.69 The architectural value of the building is derived from how its innovative form and design which reflect the specialised function of the building. This value is

manifest within the building's internal layout, form, design, materiality, construction and associated plant and fittings.

- 3.70 In conclusion, the asset's significance is principally derived from the historic and architectural values manifest within its fabric and its association with figures and events central to military research and development in the inter-war period, as well as its immediate and strongly defined setting within the Fort.

*Building Q14, Grade II Listed (List Entry Number 1396578)*

*Description*

- 3.71 The building 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. 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 former roller shutter door, now partly obscured by a later plant room. The form of the original fenestration to west and north elevations remains legible as double-height windows to the ground floor to light the 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.
- 3.72 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. 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 a built of solid painted brick some with later

boxing out in front. Two door architraves have evidence of former strong room type doors surrounds.

#### Historical Development

- 3.73 Q14 was designed in 1949 and had been built by 1952. It was originally known as Building 27 and was used to assemble the atomic bomb prototype. 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.

#### Setting

- 3.74 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. 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 range from making a neutral to detrimental contribution 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 of the asset.

#### Significance

- 3.75 Q14 is Grade II listed and is considered of special interest. It is of national historic value through its association with William Penney Chief Superintendent of Armaments Research, who led Britain's atomic bomb development programme. The association is celebrated by a memorial plaque and the building

is colloquially referred to as the 'Penney Building'. It also holds historic value 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.

- 3.76 The building's unique architectural value 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 travelling crane, as well as evidence of former strong rooms on the first floor. 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 originally 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. 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.
- 3.77 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.
- 3.78 In conclusion, the asset's significance is derived from the historic and architectural values manifest within its fabric and its association with figures and events central to the development of Britain's first atomic bomb. Other buildings with which the asset shares both a visual and historical association make a positive contribution to the setting of the asset.

### **Significance of Non-Designated Heritage Assets identified on Kent HER**

#### **F14**

- 3.79 Whilst F14 is contained within the Scheduled Monument it is not included within the designation and is not individually listed. It is, however, identified as a monument on the Kent HER and merits consideration as a non-designated heritage asset.
- 3.80 The building illustrates the re-use of the Fort during the First World War, built as a laboratory possibly for the inspection of ammunition. In 1922, when the Fort was sold to Lt. Colonel Bradshaw, it was converted into a house for him. This conversion has likely reduced the historic integrity of the building, which has a modest and functional design, and has undergone alterations including a replacement roof covering.
- 3.81 The building is located within the eastern half of the Fort, adjacent to the central traverse. The confines of the Fort provide a strong visual and functional, immediate setting to the building. The enclosed nature of the Fort coupled with intervening vegetation means that the building has limited intervisibility with the wider surrounding landscape and buildings beyond the Fort's earthworks.
- 3.82 The building's significance is derived from its contribution to the Fort's history during the early twentieth century.

#### **F18**

- 3.83 Whilst F18 is contained within the Scheduled Monument it is not included within the designation and is not individually listed. It is however identified as a monument on the Kent HER and merits consideration as a non-designated heritage asset.
- 3.84 F18 was built in 1948, near to F16 and F17 which had been built the previous year. These three buildings form a group of key structures within the Fort relating to the atomic bomb research and development. The modest building was a rectangular recording laboratory; however, this function is not expressed through its fabric, unlike F16 and F17.
- 3.85 The confines of the Fort provide a strong visual and functional, immediate setting to the building. The enclosed nature of the Fort coupled with intervening



vegetation means that the building has no intervisibility with the wider surrounding landscape and buildings beyond the Fort's earthworks. The building's significance is derived from its historic association with the work of the HER and its group value with contemporary structures within the Fort.

#### A14

- 3.86 A14 is identified as a monument on the Kent HER and merits consideration as a non-designated heritage asset. A14 was built as a pair of semi-detached caretakers' cottages between 1894 and 1896, the latter being when it was first depicted on the Ordnance Survey located outside of the Fort ditch to the north-east. The cottages provided accommodation for the on-site caretakers who were responsible for the upkeep and security of the Fort, which in common with many of the other mobilisation centres was otherwise left unoccupied. It has since been combined to form a single unit, has been used as the main surgery, offices and now houses a growing collection of site artefacts. The single-storey brick building has a pitched slate roof with a projecting parapet wall with blocked chimney. A larger, corbel topped chimney is located at the eastern gable end. The building retains its original entrance wooden doors with overhead fanlights, detailed ventilation grilles and sash windows with stone cills and brick lintels. To the rear is a small flat roof toilet block.
- 3.87 The building is positioned adjacent to the contemporaneous Fort and tool store A13, which have a group value and form the asset's immediate, historic and functional setting. The building is surrounded by other buildings and infrastructure relating to the later military research establishment, notably those contained in Area A, which it forms part of.
- 3.88 The building's significance is derived from its surviving nineteenth century fabric and detailing, as well as its historic, functional relationship with the Fort and Tool Store A13.

#### **Other non-designated heritage assets**

#### A13

- 3.89 A13 was built between 1896 and 1906 and was used as a tool store to serve the mobilisation centre. Such tool stores were a common feature found at many of the centres and were built subsequent to the initial construction phase following

the re-equipment of the units with 15PR and 47-inch Breech Loaders (Beanse and Gill, 2000). The building was renovated following the arrival of the ARD in 1937 though it remained in use as a store. It is a single storey, rectangular brick building with a pitched, slate roof. It has glazed double doors, PVCu windows in historic openings and a number of infilled openings. A brick built, flat roofed addition to the western end of the building once housed an extractor dating to the later employment of the structure as a winding workshop.

- 3.90 The building is positioned adjacent to the contemporary Fort and caretaker's cottages (A14), which have a group value and form the asset's immediate, historic and functional setting. The building is surrounded by other buildings and infrastructure relating to the later military research establishment, notably those contained in Area A, which it forms part of.
- 3.91 The building's significance is principally derived from its surviving nineteenth century fabric and its historic association and shared group value with the nineteenth century mobilisation centre and nearby A14.

#### A10

- 3.92 The brick building has a three-storey main range with a hipped corrugated sheet roof, flanked by three single ranges to the west, and one to the east with pitched roofs. The upper floor of the central range retains multi-light windows set within rebated openings in the brickwork, however elsewhere modern casements have been installed. Three large metal vents exit the main structure and easternmost range and several other bricked-up apertures are indicative of previous equipment and machinery. The metal roof trusses and steel beams are exposed internally within a large loft room. The interior of the building is little altered and consists of a network of corridors providing access to workshops and offices. It exhibits modest attention to detail such as the use of concrete banding, recessed windows, soldier course lintels and internal banding at dado height.
- 3.93 A10 was built between 1936 and 1944 likely to accommodate the work of the newly arriving ARD and ADD staff. In 1947 it was labelled as 'CSAR Main Laboratories' and 'Met.Phys.Chem.Lab. CSAR (Tube process building)' in 1949.
- 3.94 The building is surrounded by other buildings and infrastructure relating to the military research establishment, notably those contained in Area A and the nearby Fort, which forms the asset's visual and functional setting.

3.95 The building's significance is derived from its historic association with work of the ARD and ADD during WWII, as well as the atomic bomb development programme run by William Penney Chief Superintendent of Armaments Research. The building's architectural form which is little altered is of interest in how it expresses its former uses.

#### A11

3.96 A11 is a single-storey, long and rectangular brick building with a flat, felt covered roof, replacement double glazed windows and internal breeze block partitions. A recessed entrance lobby is located centrally on the north-eastern elevation with a projecting block above which likely holds a water tank.

3.97 A11 is understood to have been built between 1936 and 1944 by German prisoners of war. In 1947 the building was labelled 'Block A CSAR Office'.

3.98 The building is surrounded by other buildings and infrastructure relating to the military research establishment, notably those contained in Area A and the adjacent Fort, which form the asset's visual and functional setting.

3.99 The building's principle significance is derived from its historical associations with the ARD, ADD and CSAR and as the only known building to have been constructed by prisoners of war on the Site.

#### F1 and F10

3.100 Both of these buildings are small, brick structures, F1 with a low pitched felt roof and F10 with a sloping corrugated metal roof. Located on either side of the Fort's causeway, both are modest buildings, with windows overlooking the Fort entrance.

3.101 Both were built as entrance lodges between 1946 and 1947 suggesting that they were erected to provide a secure entrance into the Fort, in order to protect the secretive work going on inside as part of the HER.

3.102 Whilst the Fort provides a strong immediate setting, in contrast to other building's contained within the Fort these structures were intended to have a visual relationship with the northern entrance of the Fort. These building share group value with the Fort and the building's within in, particularly those which are contemporary.

3.103 The buildings' significance is principally derived from historic value, as illustrative of the highly secretive nature of work being carried out within the Fort during the HER period.

F12

3.104 F12 is a rectangular, brick structure built into the inner side of the Fort's earthwork towards the south-western end and set behind a brick revetted earth mound. It has a flat roof and a single door at each side. The building was built between 1938 and 1939 which would suggest it was built to accommodate the PDE's rocketry research and development, though its exact function is unknown. It was labelled as a charge store in 1949. It has had a large amount of its fabric replaced with brickwork containing single-vent tiles. This coupled with the building's connection to an external extraction system suggest a relatively recent change in function, possible as a firing shed.

3.105 The confines of the Fort provide a strong visual and functional, immediate setting to the building. The enclosed nature of the Fort coupled with intervening vegetation and lack of fenestration means that the building has limited intervisibility with the wider surrounding landscape and buildings beyond the Fort's earthworks. The building shares a group value with the other buildings contained within the Fort, particularly those which are contemporary such as F11.

3.106 The building has historic interest derived from its associations with and use by the PDE and probably Penney's HER team, and its group value with other contemporary structures within the Fort.

F13

3.107 F13 is a small brick magazine with a sloped corrugated metal roof. It is surrounded on three sides by a separate brick blast wall. F13's build date between 1938 and 1939 suggests that it was built to accommodate the PDE's research and development into rocketry.

3.108 The confines of the Fort provide a strong visual and functional, immediate setting to the building. The enclosed nature of the Fort coupled with intervening vegetation and lack of fenestration means that the building has no intervisibility with the wider surrounding landscape and buildings beyond the Fort's

earthworks. The building shares a group value with the other buildings contained with the Fort, particularly those which are contemporary such as F11.

- 3.109 The building has historic interest derived from its associations with and use by the PDE and probably Penney's HER team, and its group value with other contemporary structures within the Fort.

F15

- 3.110 F15 is a single storey, flat roofed, brick built, toilet block. It has casement windows and a secondary suspended ceiling. Built between 1936 and 1946 to provide WC facilities for the PDE and later used by the HER team.

- 3.111 The confines of the Fort provide a strong visual and functional, immediate setting to the building. The enclosed nature of the Fort coupled with intervening vegetation and lack of fenestration means that the building has limited intervisibility with the wider surrounding landscape and buildings beyond the Fort's earthworks. The building shares a group value with the other buildings contained with the Fort, particularly those which are contemporary such as F11.

- 3.112 The provision of this building is indicative of the change of use within the Fort during the twentieth century to a research establishment. It therefore has historic value through its association with the PDE and HER teams as well as group value with other contemporary structures within the Fort.

Q1

- 3.113 Q1 is a single-storey brick building with a flat felt roof with raised central entrance block. It retains several of its original casement windows and has a recessed main entrance which addresses Crow Road. The flank elevations are dominated by large window openings (many of which have been infilled with brick) suggesting provision of daylight was important to the work being carried out inside.

- 3.114 Historic architectural plans (not reproduced) show that the building was designed in 1939 and housed an environmental test laboratory, offices and a dark room. The building is labelled on a plan of 1947 as 'Block O' lying in the middle of six associated CEAD 'experimental buildings'. In 1949 the building is noted as 'Block D' (CSAR) and was by this time contained within the secure HER enclave.

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. The building's main entrance addressed Crow Road which 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. 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 neutral-detrimental contribution to the asset's setting. Other buildings in the Q area which share a visual and historical association such as Q3, Q4, Q4-1, Q13 and Q14 along with the adjacent Fort make a positive contribution to the setting of the asset.

- 3.115 The building has historic associative value derived from its association with the armaments research during WWII and later as part of the secure enclave of buildings within which the atomic bomb research and development was undertaken.

### Q3

- 3.116 Q03 consists of a double height, brick workshop with a flat roof and three sets of six light casement windows to each end between brick pilasters. To the south of this and connected via a small flat roofed entrance lobby is a single storey administration block with a pitched roof with projecting gable ends. Q03 was purpose - built between 1947 and 1949 to serve HER team and their research into the detonators of the atomic bomb, although its precise function is unknown.
- 3.117 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 formed part of the secure inner HER enclave. 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 there are nearby grassed areas planted with mature trees. Intervisibility with the wider surroundings is restricted by the density of surrounding built form, including more recent buildings such as Q8 and Q11 which make a neutral-detrimental contribution to the asset's setting, particularly Q8 which hides the building in views from Crow Road.

- 3.118 The building formed part of the secure enclave of buildings within which the atomic bomb research and development was undertaken and as such has historic value.

Q4 and Q4-1

- 3.119 Q04 is a large workshop located to the north of the Q area, and consisting of four bays aligned on a north-west axis. The building has a steel frame structure covered in a brick skin. Each bay has a standing seam metal roof, between which are lower areas of flat, felt roofs, which the taller bays overlook. The building was extended in the 1960s to the west and in the early 1970s to the east. Q04-1 is a single storey brick building annexed to Q4, consisting of a central range with a pitched, corrugated metal roof flanked by two lower, flat, felt roofed ranges. The main, north-western elevation retains its original fifteen light casement windows.
- 3.120 Q4 and Q4-1 were purpose - built between 1946 and 1949 to serve the HER team and their development of the atomic bomb. Q04 is thought to have been a large store which accommodated bomb casings prior to assembly of mock-ups in Q14.
- 3.121 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 formed part of

the secure inner HER enclave. 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 there are nearby grassed areas planted with mature trees. Intervisibility with the wider surroundings is restricted by the density of surrounding built form.

- 3.122 The buildings formed part of the secure HER enclave within which the atomic bomb research and development was undertaken and as such has historic value.

Q13

- 3.123 Q13 was built circa 1939 and was originally designed as a chemical laboratory, serving the original phase of the ARD and was later used as the headquarters stores (Clive 1997). It is a two-storey building with 1930s detailing and horizontal glazing bands. The building has additional massing to the southernmost bay which contains an impressive stairwell and is lit by a full height window. The building is entered from this southern bay via a porch and well finished oak doors, above these the first-floor window surround is emphasised by horizontally projecting bricks. Behind this massing the main body of the building has a flat roof with metal railings around it, giving the impression of a ship's deck.
- 3.124 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. Intervisibility with the wider surroundings is restricted by the density of surrounding built form.
- 3.125 Q13 is a prominent building within the Q area, and has architectural value derived from its 1930s design and detailing, though this has been slightly reduced due to the recent replacement of the original Critall style windows with PVCu. The building holds historic value as a relatively well-preserved example of



the buildings constructed for the ARD and its association with the work they undertook into the research and development of armaments. Intervisibility with the wider surroundings is limited 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 neutral-detrimental contribution to the asset's setting. Other buildings in the Q area which share a visual and historical association such as Q1, Q3, Q4, Q4-1 and Q14 along with the adjacent Fort make a positive contribution to the setting of the asset.

X2 and X3

- 3.126 X2 and X3 is a single storey brick building with a tiled and hipped roof, located on the western side of the Fort's infilled section of ditch. X2 is located at the northern end and projects eastwards of the narrower X3 range which runs to the south. Two bays of the X3 range have a raised section of roof which projects eastwards. This change in roofscape coupled with evidence of a former opening in the brickwork below, suggests that these may have once formed entrance bays. The building retains its metal windows with brick lintels and cills, and has a covered walkway constructed on corrugated plastic on metal posts, which runs along the length of the western elevation.
- 3.127 X2 and X3 were constructed between 1939 and 1944. The buildings are first shown on a plan of the immediate area of the Fort in 1944, and is noted at this time as a CEAD Store. By 1947 the building has been divided into two, with X2 forming CSAR Office Block X and X3 remaining in use as a store.
- 3.128 The building is located adjacent to the western side of The Fort and addressing Crow Road which runs to its north and east. It is positioned on the north-eastern edge of the X area which is formed of numerous buildings ranging in date from the 1930s to late twentieth century, and which was connected via a secondary entrance to the Fort between 1946 and 1952.
- 3.129 X2 and X3's significance is derived through their historic association with the ARD and ADD and the nationally important research that they undertook into armaments during WWII, as well as the later HER work into the atomic bomb. The buildings have an interesting form and retain some original detailing, such as the windows which contributes to architectural interest, albeit limited.

X4, X5 X6, X7 and X11, X12, X13

- 3.130 X4, X5, X6 and X7 are small magazines probably constructed of reinforced concrete which are concealed by mounds of earth on their northern elevations. Photographs and plans show that the magazines are positioned in a row running north-east to south-west, each with a set of reinforced steel, double doors which open onto an access corridor to the south. X11, X12 and X13 form a further group of below ground magazines chambers which are surrounded by an external corridor with a concrete revetment to retain the surrounding earth. The structure is largely constructed of reinforced concrete and has a turfed roof.
- 3.131 The building are is located to the south western side of The Fort along the southern edge of the X area, which forms their immediate setting. The X area is formed of numerous buildings ranging in date from the 1930s to late twentieth century which was connected via a secondary entrance to the Fort between 1946 and 1952.
- 3.132 Cartographic evidence shows that these buildings were constructed between 1936 and 1947, beyond the Fort boundary to the south-west of the Site. They are amongst the earlier buildings to survive in area X and were purpose built to store explosives as part of the wider armaments research and development work undertaken at Fort Halstead during World War II. As a result, the buildings have historic value. Their functional and utilitarian architecture is also of interest, exemplifying mid-twentieth century magazine construction and design.

X8 and X9

- 3.133 X8 and X9 are explosive testing chambers with associated control rooms, located within a rectangular structure. The testing chambers are lined in steel plate and have steel shuttered apertures through which the tests can be monitored and recorded from within the control rooms which are separated by a substantial brick lined concrete partition wall. The building is constructed of reinforced concrete over a steel frame structure, and surrounded by external corridors with high concrete revetment walls retaining the mounded earth behind.
- 3.134 Cartographic evidence shows that the structures were constructed between 1936 and 1947, beyond the Fort boundary to the south-west of the Site.

- 3.135 X8 and X9 are located to the south western side of The Fort along the southern edge of the X area, which forms their immediate setting. The X area is formed of numerous buildings ranging in date from the 1930s to late twentieth century which was connected via a secondary entrance to the Fort between 1946 and 1952.
- 3.136 They are amongst the earlier buildings to survive in area X and were purpose built to facilitate testing of explosives by the research and development teams during WWII. The structures are indicated as 'CSAR X Building' on a site plan from 1947, indicating that by this time they were in use by Penney's HER team as part of the work on the atomic bomb. X8 and X9 significance is derived from their historic association with the work of the PDE and HER teams, how their architectural form and construction relate to their specific function.

#### X38

- 3.137 X38 is a single storey brick building with a pitched slate roof with raised parapets at each gable end, and replacement double glazed windows. The arrangement of doors and windows suggests that it contains two laboratories inside. A brick extension with a flat corrugated metal roof joins the building at its south-eastern end.
- 3.138 The building is located adjacent to the north western side of the Fort and addressing Crow Road which runs to its north. It is positioned on the north-eastern edge of the X area which is formed of numerous buildings ranging in date from the 1930s to late twentieth century, and which was connected via a secondary entrance to the Fort between 1946 and 1952.
- 3.139 X38 was built between 1936 and 1944 and was labelled as a CSAR Physics Laboratory in 1947. It later formed part of the secure HER enclave.
- 3.140 The building lies roughly parallel with Crow Road, next to contemporary buildings X2 and X3 with which it shares group value.
- 3.141 The building derives significance through its historic association with the research and development into explosives and armaments undertaken at Fort Halstead during WWII, and later atomic bomb research. The use of brick cill, lintels, and coping stones shows an added degree of architectural consideration

which is not evident on the majority of building on site, illustrative of the period in which it was constructed.

X44 and X45

- 3.142 X44 and X45 form a complex of brick buildings with flat roofs, built around a large concrete test range. X44 consists of two sections, with the eastern one projecting above the western; at its western end external access is provided by a roller shutter supported by a buttressed steel frame. The eastern section is flanked by two further blocks with casements windows to their east elevations. The southernmost block has two external doors, one with a porch. X45 consists of a central range surrounded by lower ranges each with casement windows and external doors. Both have integrated, covered vehicle loading and parking areas.
- 3.143 These contemporary structures built between 1949 -1957 provided testing facilities with accompanying workshops and laboratories to support the conventional research into armaments which continued at the Site following the conclusion of WWII and the beginning of the Cold War.
- 3.144 The buildings are located within north western corner of the X Area between Crow Road and Crow Avenue, which is formed of numerous buildings ranging in date from the 1930s to late twentieth century. The two buildings are related and have a shared group value.
- 3.145 Constructed during a period of rapid growth at the Site following the end of WWII, the buildings are illustrative of the work, which in addition to that of the HER, continued to be undertaken into conventional armaments as well as captured German technology. Whilst few fixtures and fittings remain, the buildings' functions remain legible through their composition and built form.

## **4.0 PROPOSALS AND IMPACT ASSESSMENT**

### **Introduction**

4.1 This section assesses the effects of the proposed development, whether beneficial or harmful, on the significance of each of the affected built heritage assets.

### **Development of the Proposals in line with Built Heritage Parameters**

4.2 Given DSTL's planned departure a new sustainable future for the site is required in order to safeguard its heritage significance. QinetiQ will be retained and remain active within the X area which will be enclosed by a security fence. The NPPF states the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation.

4.3 CgMs Heritage, as built heritage consultants, has advised on the evolution of the proposals, seeking to provide enhancement to the significance of heritage assets and where unavoidable suggestions on ways to mitigate and minimise harm.

4.4 The following built heritage principles have shaped the development proposals:

- Retention of all designated heritage assets with proposed new uses which are consistent with their conservation and will sustain or better reveal heritage significance;
- As far as possible, retention of non-designated heritage assets within and in close proximity to the Fort, and which are illustrative of key phases in the Site's evolution;
- Retention of the majority of the historic road network and road alignments and many mature trees to retain elements of the historic layout of the site and wider context to the heritage assets;
- Avoiding additional development to the south of the Fort, or development beyond the existing footprint, in order to preserve the important aspects of the assets' wider settings;
- New development which responds to the Site's unique history and character; and,

- Wherever possible exploit opportunities for enhancement of heritage assets and their settings, which are considered to be of public benefit in NPPF terms.

### **Proposals and Impact Assessment**

#### **Heritage Interpretation Centre and Heritage Trail**

- 4.5 The Fort Scheduled Monument and all the buildings and structures within it including the grade II\* listed F16 & F17 and the grade II listed F11, would be retained and would form an historic interpretation and visitors centre. The visitors centre, which would be open to the public, would present the Site's history through the presentation of the buildings, artefacts and display material. In addition, some of the spaces would provide low-rent workshops for local craftspeople.
- 4.6 Given the forthcoming departure of the current users, it is essential to find a viable and sustainable new use for the Scheduled Monument to safeguard its future. The use of the Fort for musicological and heritage purposes was first suggested by Saunders and Smith (2001). As per the 2015 application and S106 requirement, a Heritage Management Plan (HMP) will be produced through consultation with all relevant consultees and stakeholders, including the nascent 'Fort Halstead Trust'. The objective of the HMP will be to guide the creation, future use, funding, management and maintenance of the Heritage Interpretation Centre (HIC) and Heritage Trail.
- 4.7 It is considered that the principle of using the Fort in this way would require relatively minimum impact to fabric and would **preserve and sustain its heritage significance** and, therefore, is to be encouraged. The proposals would allow public access and therefore greater appreciation of heritage assets of national significance as well as the wider site's history. This would be **highly beneficial**.
- 4.8 Alongside the Fort and all of the building contained within it, the other retained buildings within the wider Site (excluding those contained within the secure QinetiQ area) would form part of a heritage trail, with information panels displayed to communicate the history and significance of the buildings. The indicative route of the heritage trail would include the significant buildings and historic views such as those gained to the south of the Fort overlooking the

Darent Valley. The presentation of these buildings and views within a public heritage trail would be **moderately beneficial**.

### **Tree and vegetation removal from the Fort**

- 4.9 It proposed to undertake a programme of selective tree and shrub removal from the Fort's earthworks and the immediately surrounding area. Originally the Fort's earthworks would have been devoid of such vegetation, which appears to have developed organically over time rather than as a result of a strategic planting scheme, but which may nevertheless have provided valued screening and privacy for the later secretive PDE and HER work. The objectives and benefit would be twofold; a programme of selective tree and shrub removal from the Fort's earthworks, particularly the area fronting Crow Drive would help to reveal the original form and design of the Fort, improve its legibility within the wider site and the spatial relationship and group value between the heritage assets both inside the Fort and in close proximity to it; and selective clearance to the southern ramparts and the area immediately beyond is likely to reveal long distance sightlines across the wider landscape allowing better appreciation of the asset's original military function and strategic setting. In terms of built heritage, the proposal is deemed **highly beneficial** both to the Scheduled Monument itself and **modestly beneficial** to surrounding heritage assets whose settings include the Fort. Below ground impacts caused by removal of vegetation have not been considered by CgMs Heritage but are covered by Waterman who are considering below ground archaeology. The precise extent and location of tree and vegetation clearance would be determined as part of a SMC application in consultation with Historic England, who are supportive of the proposals in principle.

### **Proposals for existing buildings**

- 4.10 Historic England commented in their 2015 consultation response that '*the low-rise, scattered and utilitarian character at Fort Halstead does have historic value because of the story it tells of the military research in relation to twentieth century conflict, however we also think that the value of this character does not rise above the threshold that would justify its full conservation and that the conservation of so many buildings is unlikely to be feasible*'. The extant 2015 permission has firmly established the principle of demolishing the majority of the

built structures on Site. The Site's allocation within the Local Plan has also firmly established the principle of its redevelopment.

- 4.11 An understanding of the relative significance of the heritage assets contained within the Site, including the contribution made by their settings has provided parameters in which the proposals have been developed and guided the identification of buildings to be retained. As such the focal point and community heart of the settlement, the Village Centre, has been positioned in a location which incorporates the Grade II listed building Q14 and lies adjacent to the retained Scheduled Monument, which would become a publicly accessible Heritage Interpretation and Visitor's Centre presenting the history of the Site as discussed above. The retention of all designated heritage assets with proposed new uses which are consistent with their conservation is considered to be **highly beneficial** to their long-term survival and thus our ability to appreciate their significance.
- 4.12 As far as possible heritage assets which are prominent, lie in close proximity to the Fort and contribute to its visual and historical setting (as identified in paragraph 3.52) would be retained in order to preserve a sense of context and place at the centre of the new settlement, and to an extent provide a visual buffer between the Fort and the surrounding new development. As such in addition to the Fort (including all of the buildings contained therein) A10, A11, A13, A14, Q13, Q14, X2, X3 and X38 would be retained. These buildings along with X4, X5, X6, X7, X8, X9, X11, X12, X13, X44, X45 (identified as non-designated heritage assets), the majority buildings in the X area, M4, M5, M6, M20, M21, M22, M23, M24, A1 and A3 would also be retained and several would form part of the Heritage Trail (discussed above). It is considered that the collection of retained buildings offer a diverse selection which is illustrative of different building typologies and key phases of the Site's history and development including the nineteenth century mobilisation centre phase, early twentieth century phase, 1930s PDE phase, HER phase and the mid-late twentieth century phase.
- 4.13 The proposed demolitions will result in the loss of the non-designated heritage assets Q1, Q3, Q4, Q4-1 and a large number of the surrounding buildings and structures. This would result in the highest level of **harm** to the non-designated heritage assets which would be demolished, and complete loss of their significance. It would also result in **harm** to retained non-designated heritage



assets and **high, less than substantial harm** to the nearby designated heritage assets, as a result of changes to their setting and the loss of historic context. Whilst the large-scale demolition will demonstrably alter the retained heritage assets' setting as a result of the loss of functional context, the masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets and for this reason the resultant harm to the significance of designated heritage assets is considered to fall within the less than substantial spectrum.

- 4.14 In order to partly mitigate the loss of context it is proposed to retain the majority of the existing road network, including Crow Road, an access route which has been shown on cartographic material since the Fort's inception and has therefore always provided the same approach and kinetic experience of the Fort. The route of Crow Road is required to be locally diverted in some areas, in order to comply with highways requirements, however the overall alignment of the route is preserved as is the portion of route directly adjacent to the Fort, which would be downgraded to a cycle/footway. The local divergences in the road will have no impact on the significance of the heritage assets, as the linear approach and kinetic experience of them will be retained.
- 4.15 Although changing the functional context of the site, the loss of some of the existing buildings is considered on balance to be beneficial. The removal of Q12 would allow a public square to be created between the Fort, listed Q14 and Q13 leading to greater public appreciation of the assets and improved views between them, enhancing their settings and the ability to appreciate their historic association and architectural interest. X54 was constructed within the Fort's ditch and is considered to distract and confuse the legibility of the Fort's boundary; its removal is considered to be **moderately beneficial** to the Fort. The removal of X37 will likely improve views of the Fort's strategic setting to the south and is therefore also considered **moderately beneficial** to the asset.
- 4.16 Compared to the extant permission, the current proposals will see the additional loss of building M2, Q12 and the non-designated heritage asset Q1, but sees the retention of several additional buildings in the 'M', 'X' and 'R' areas, including the non-designated heritage assets X44 and X45. The overall reduction in the amount of building demolition and loss of heritage assets will help to preserve

more of the retained assets' functional context and is therefore a positive step, when compared to the extant permission.

- 4.17 In line with the extant permission, a programme of historic building recording, analysis and creation of documentary archives is proposed to partly mitigate the harm caused by the demolition of the buildings.

### **The Village Centre**

- 4.18 As discussed above, the retained designated heritage assets have been chosen to form the centre and focal point of the development; the village centre would be located partly within the Q area and would include a public square between building Q13, Q14 and the Fort and a large village green to the east. The creation of this public realm area has been designed to allow greater appreciation of the retained heritage assets (See illustrative views provided in Appendix 1) and is considered to be **highly beneficial** to the Scheduled Monument, **highly beneficial** to the grade II listed Q14 and **highly beneficial** to the non-designated Q13.
- 4.19 The area to the north of the Fort, encompassing the Village Centre would form a mixed-use area with built form up to four storeys in height. A Design Guidance document has been prepared which sets out mandatory design principles for the buildings within this area, stipulating overall layout and distances between new and retained buildings, heights (with the majority at three storey, some with set-back fourth floors) and modern, high quality architectural style taking inspiration in terms of form and materiality from the surrounding military heritage. The illustrative views provided by JTP (Appendix 1) demonstrate the high quality of the proposed new buildings which have been designed to be legible as modern additions, yet take stylistic cues from the extant buildings and sit harmoniously within the surrounding context. Providing that the new development in this area follows this guidance, it is considered that the new development would have a **neutral impact** on surrounding heritage assets, which are already surrounded by built form and experienced as part of a collection of buildings of different ages and styles.
- 4.20 A series of beneficial alterations are proposed to the listed Q14, including replacing the current PVCu windows with Crittal style windows based on the original designs, removal of the suspended ceiling to re-instate the original double height ground floor space, addition of heritage interpretation boards and

removal/infill of later detrimental additions and openings. Those elements of the proposals outlined range from **moderately to highly beneficial and** would **enhance** the significance of the listed Q14 building. A small amount of historic fabric would be lost in order to create entrance doors, window openings and a lift entrance however these interventions are minimal and would cause a range of impacts ranging from a **negligible to low level of less than substantial harm**. This harm is considered to be justified and outweighed by the heritage benefits of the proposal, including importantly finding a new viable use for the building. (The proposals for Q14 are considered in more detail in the separate Q14 Built Heritage Statement which has been provided to support the Listed Building Consent Application).

- 4.21 It is also proposed to replace the current PVCu windows in the non-designated Q13 with Crittal style windows based on the original designs (original building plans have not been reproduced here). This would be **highly beneficial** to the significance of the asset. Removal of later detrimental additions such as the ramp to the rear of the building would be **moderately beneficial**. A low level of alteration to the floor plan and loss of the southern single storey range would cause a **moderate level of harm** as a result of loss of historic fabric, however it is considered that this is outweighed by the heritage benefits of the proposal including importantly finding a viable new use for the asset.
- 4.22 The proposed glazed link between Q13 and Q14 has been designed to sit lower than both of the heritage assets in order to read as subservient. The choice of material allows it to be read as a modern insertion thus retaining the legibility of Q13 and Q14 as once separate buildings. It is considered that the glazed link, would have a **neutral impact** upon both assets' significance.
- 4.23 The downgrading of the portion of Crow Road between the Fort and Village Centre from a vehicular to a cycle and pedestrian route, will divert traffic away from the designated heritage assets, thus creating a more user-friendly civic space and greater interconnectivity between the Fort and the development while still facilitating public access. This is considered **moderately beneficial** to the setting and significance of the Fort (and all buildings within it), the Grade II listed Q14, and non-designated Q13, X2, X3 and X38.

### **Wider development masterplan**

- 4.24 The proposed masterplan has developed around the retention of Crow Road and the existing road network which will help preserve the historic morphology of the Site. In comparison to the extant permission, additional development has been created through increasing density, modestly raising build heights in some locations and the addition of hamlets to the north east and south west of the site; it has avoided any additional development to the south of the Fort in order to preserve this important element of the Scheduled Monument's strategic setting. It has also avoided expanding the footprint of the extant developed area and encroaching upon the surrounding woodlands, which contribute to the remote, contained and discreet nature of the military establishment. This element of the Site's setting contributed to the choice of the site for the top-secret work of the PDE and HER teams, as well as the ARD and ADD's relocation during WWII and, therefore, contributes to many elements of the heritage assets' significance.
- 4.25 Rather than following a designed masterplan, the scattered layout developed over time in response to the specific requirements of the military at different periods, with development initially concentrated within and around the Fort and gradually radiating outwards. Current buildings range from subterranean to three storeys in height, with the tallest building reaching 22 metres above ground level (Pegasus). The majority of historic buildings are low rise. The masterplan seeks to replicate this character, by positioning the higher density and tallest buildings at the heart of the site, decreasing in height as it radiates outwards. The retained heritage assets have historically been surrounded by built form, and experienced in this way, therefore it is considered that the proposed density and locations of development parcels would have a **neutral impact** on the significance of the designated heritage assets.
- 4.26 The build heights of the proposed development range from up to two storeys within the hamlets at the northern and south-western peripheries of the Site; up to three storeys in the majority of the residential areas; up to four storeys in the village centre and its vicinity to the north of the Fort; and up to three storeys in employment areas to the east and west of the Fort.
- 4.27 The A area to the east of the Fort would form an employment zone with built form up to three storeys in height, which is consistent with the extant outline permission and in line with existing buildings in this area, which range from one

to three storeys in height. The area between the retained A1, A3 and A10 has been identified as the potential area for a primary school which, should it be required, would also be restricted to three storeys maximum. The retained A10, A11, A13 and A14, which lie closest to the Scheduled Monument, would act as a visual and contextual buffer to the Fort. Buildings A1 and A3 would also be retained to the north of this plot, helping to retain a sense of historic character and appearance. Given this, it is considered that the principle of development up to three storeys in height within this area would have a **neutral** impact on the significance of the heritage assets that are proposed to be retained.

- 4.28 The X area to the west of the Fort, will remain in use by QinetiQ with the majority of the existing buildings retained. QinetiQ's area would be enclosed with a secure 1-3m fence. Subject to the precise route and design, the erection of the fence would **not be considered harmful** in principle, given that the existing buildings are all currently experienced within a secure boundary and security and secrecy form part of their historic setting and how we experience their significance today.
- 4.29 The proposed built heights of the other development areas range from up to two storeys to up to three storeys. Built form at these heights will have no impact upon any views that have been found to contribute to the significance of heritage assets. Given that many of the existing buildings on Site fall within this height range, the proposed development heights are considered appropriate and will have a **neutral impact** on the significance of heritage assets on the Site, which are already experienced within a context of development and built form.

### Table of Impacts

Name of Asset	Type of Asset	Beneficial Impact	Adverse Impact	Mitigation
Fort Halstead	Scheduled Monument	<p>New, sustainable use consistent with conservation, allowing greater public appreciation. <b>Highly Beneficial</b></p> <p>Improvement to our ability to appreciate the asset's form and setting through selective shrub and tree clearance. <b>Moderately Beneficial</b></p> <p>Enhanced setting of asset with public square allowing greater intervisibility between asset, Q14 and Q13. <b>Highly beneficial.</b></p> <p>Improvement to our ability to appreciate the asset's extent and setting through the demolition of X37. <b>Moderately Beneficial</b></p> <p>Improvement to our ability to appreciate the asset's setting through the demolition of X54. <b>Moderately Beneficial</b></p> <p>Improvement to the asset's setting through the downgrading of of Crow Road between the Fort and Village Centre from a vehicular to a cycle and pedestrian route. <b>Moderately Beneficial</b></p>	<p>Collective loss of surrounding buildings which form part of the asset's functional setting and context. <b>High harm within Less than Substantial spectrum.</b></p>	<p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the Fort, see paragraphs 4.12 and 4.14 and 4.24.</p> <p>Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.</p>
F16	Grade II* listed building	<p>New, sustainable use consistent with conservation, allowing greater public appreciation. <b>Highly Beneficial</b></p> <p>Improvement to setting through selective shrub and tree clearance. <b>Modestly Beneficial</b></p>	<p>Collective loss of surrounding buildings which form part of the asset's functional setting and context. The lack of intervisibility between the asset and the wider setting limits the impact. <b>Moderate harm within Less than Substantial spectrum.</b></p>	<p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p> <p>Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.</p>

F17	Grade II* listed building	<p>New, sustainable use consistent with conservation, allowing greater public appreciation. <b>Highly Beneficial</b></p> <p>Improvement to setting through selective shrub and tree clearance of Fort. <b>Modestly Beneficial</b></p>	<p>Collective loss of surrounding buildings which form part of the asset's functional setting and context. The lack of intervisibility between the asset and the wider setting limits the impact. <b>Moderate harm within Less than Substantial spectrum.</b></p>	<p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p> <p>Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.</p>
F11	Grade II listed building	<p>New, sustainable use consistent with conservation, allowing greater public appreciation. <b>Highly Beneficial</b></p> <p>Improvement to setting through selective shrub and tree clearance of Fort. <b>Modestly Beneficial</b></p>	<p>Collective loss of surrounding buildings which form part of the asset's functional setting and context. The lack of intervisibility between the asset and the wider setting limits the impact. <b>Moderate harm within Less than Substantial spectrum.</b></p>	<p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p> <p>Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.</p>
Q14	Grade II listed building	<p>New, sustainable use consistent with conservation, allowing greater public appreciation. <b>Highly Beneficial</b></p> <p>Improvement to setting through selective shrub and tree clearance of Fort. <b>Modestly Beneficial</b></p> <p>Inclusion in part of a heritage trail, illustrating history of the building and site in general, allowing greater public appreciation of significance. <b>Moderately beneficial.</b></p> <p>Enhanced setting of asset within public square allowing greater intervisibility between asset and Fort. <b>Highly beneficial.</b></p> <p>Improvement to the asset's setting through the downgrading of Crow Road between the Fort and Village Centre</p>	<p>Collective loss of surrounding buildings which form part of the asset's functional setting and context. <b>High harm within Less than Substantial spectrum.</b></p> <p>Alterations to Q14 related to its conversion. <b>Negligible -low level of harm within the Less than Substantial spectrum.</b></p>	<p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p> <p>Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.</p>

		<p>from a vehicular to a cycle and pedestrian route. <b>Moderately Beneficial</b></p> <p>Alterations to Q14 including replacement Crittal style windows based on original designs, re-instatement of double height workshop space, removal of detrimental additions. <b>Moderate to Highly beneficial.</b></p>		
F14	Non-designated	<p>New, sustainable use consistent with conservation, allowing greater public appreciation. <b>Highly Beneficial</b></p> <p>Improvement to setting through selective shrub and tree clearance of Fort. <b>Modestly Beneficial</b></p>	<p>Collective loss of surrounding buildings which form part of the asset's functional setting and context. The lack of intervisibility between the asset and the wider setting limits the impact. <b>Moderate Harm.</b></p>	<p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p> <p>Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.</p>
F18	Non-designated	<p>New, sustainable use consistent with conservation, allowing greater public appreciation. <b>Highly Beneficial</b></p> <p>Improvement to setting through selective shrub and tree clearance of Fort. <b>Modestly Beneficial</b></p>	<p>Collective loss of surrounding buildings which form part of the asset's functional setting and context. The lack of intervisibility between the asset and the wider setting limits the impact. <b>Moderate Harm.</b></p>	<p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p> <p>Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.</p>
F1	Non-designated	<p>New, sustainable use consistent with conservation, allowing greater public appreciation. <b>Highly Beneficial</b></p> <p>Improvement to setting through selective shrub and tree clearance of Fort. <b>Modestly Beneficial</b></p>	<p>Collective loss of surrounding buildings which form part of the asset's functional setting and context. The lack of intervisibility between the asset and the wider setting limits the impact. <b>Moderate Harm.</b></p>	<p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p> <p>Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.</p>
F10	Non-designated	<p>New, sustainable use consistent with</p>	<p>Collective loss of surrounding buildings</p>	<p>The masterplan has been</p>



		<p>conservation, allowing greater public appreciation. <b>Highly Beneficial</b></p> <p>Improvement to setting through selective shrub and tree clearance of Fort. <b>Modestly Beneficial</b></p>	<p>which form part of the asset's functional setting and context. The lack of intervisibility between the asset and the wider setting limits the impact. <b>Moderate Harm.</b></p>	<p>developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p> <p>Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.</p>
F12	Non-designated	<p>New, sustainable use consistent with conservation, allowing greater public appreciation. <b>Highly Beneficial</b></p> <p>Improvement to setting through selective shrub and tree clearance of Fort. <b>Modestly Beneficial</b></p>	<p>Collective loss of surrounding buildings which form part of the asset's functional setting and context. The lack of intervisibility between the asset and the wider setting limits the impact. <b>Moderate Harm.</b></p>	<p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p> <p>Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.</p>
F13	Non-designated	<p>New, sustainable use consistent with conservation, allowing greater public appreciation. <b>Highly Beneficial</b></p> <p>Improvement to setting through selective shrub and tree clearance of Fort. <b>Modestly Beneficial</b></p>	<p>Collective loss of surrounding buildings which form part of the asset's functional setting and context. The lack of intervisibility between the asset and the wider setting limits the impact. <b>Moderate Harm.</b></p>	<p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p> <p>Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.</p>
F15	Non-designated	<p>New, sustainable use consistent with conservation, allowing greater public appreciation. <b>Highly Beneficial</b></p> <p>Improvement to setting through selective shrub and tree clearance of Fort. <b>Modestly Beneficial</b></p>	<p>Collective loss of surrounding buildings which form part of the asset's functional setting and context. The lack of intervisibility between the asset and the wider setting limits the impact. <b>Moderate Harm.</b></p>	<p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p> <p>Recording, disseminating and archiving archaeological and historical interest of the important elements of the</p>

A10	Non-designated	<p>Improvement to setting through selective shrub and tree clearance of Fort. <b>Modestly Beneficial</b></p> <p>Inclusion in part of a heritage trail, illustrating history of the building and site in general, allowing greater public appreciation of significance. <b>Moderately beneficial.</b></p>	<p>Collective loss of surrounding buildings which form part of the asset's functional setting and context. <b>Moderate Harm.</b></p>	<p>heritage assets affected.</p> <p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p> <p>Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.</p>
A11	Non-designated	<p>Improvement to setting through selective shrub and tree clearance of Fort. <b>Modestly Beneficial</b></p> <p>Inclusion in part of a heritage trail, illustrating history of the building and site in general, allowing greater public appreciation of significance. <b>Moderately beneficial.</b></p>	<p>Collective loss of surrounding buildings which form part of the asset's functional setting and context. <b>Moderate Harm.</b></p>	<p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p> <p>Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.</p>
A13	Non-designated	<p>Improvement to setting through selective shrub and tree clearance of Fort. <b>Modestly Beneficial</b></p> <p>Inclusion in part of a heritage trail, illustrating history of the building and site in general, allowing greater public appreciation of significance. <b>Moderately beneficial.</b></p> <p>Enhanced setting of asset with public amenity space allowing greater public appreciation. <b>Moderately beneficial.</b></p>	<p>Collective loss of surrounding buildings which form part of the asset's functional setting and context. <b>Moderate Harm.</b></p>	<p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p> <p>Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.</p>
A14	Non-designated	<p>Improvement to setting through selective shrub and tree clearance of Fort. <b>Modestly Beneficial</b></p> <p>Inclusion in part of a heritage trail, illustrating history of the building and site in general, allowing greater public</p>	<p>Collective loss of surrounding buildings which form part of the asset's functional setting and context. <b>Moderate Harm.</b></p>	<p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p>

		<p>appreciation of significance. <b>Moderately beneficial.</b></p> <p>Enhanced setting of asset with public amenity space allowing greater public appreciation. <b>Moderately beneficial.</b></p>		Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.
Q1	Non-designated	-	<b>Loss of Heritage Asset.</b>	Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.
Q3	Non-designated	-	<b>Loss of Heritage Asset.</b>	Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.
Q4	Non-designated	-	<b>Loss of Heritage Asset.</b>	Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.
Q4-1	Non-designated	-	<b>Loss of Heritage Asset.</b>	Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.
Q13	Non-designated	<p>Improvement to setting through selective shrub and tree clearance of Fort. <b>Modestly Beneficial</b></p> <p>Inclusion in part of a heritage trail, illustrating history of the building and site in general, allowing greater public appreciation of significance. <b>Moderately beneficial.</b></p> <p>Enhanced setting of asset with public square allowing greater intervisibility between asset, Q14 and the Fort. <b>Highly beneficial.</b></p> <p>Improvement to the asset's setting through the downgrading of of Crow Road between the Fort and Village Centre from a vehicular to a cycle and</p>	<p>Collective loss of surrounding buildings which form part of the asset's functional setting and context. <b>High Harm.</b></p> <p>Alterations related to conversion of buildings. <b>Moderate Harm</b></p>	<p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p> <p>Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.</p>

		<p>pedestrian route. <b>Moderately Beneficial</b></p> <p>Replacement Crittal windows designed to match originals. <b>Highly beneficial.</b></p> <p>Removal of ramp. <b>Moderately beneficial.</b></p>		
X2-X3	Non-designated	<p>Improvement to setting through selective shrub and tree clearance of Fort. <b>Modestly Beneficial</b></p> <p>Inclusion in part of a heritage trail, illustrating history of the building and site in general, allowing greater public appreciation of significance. <b>Moderately beneficial.</b></p> <p>Improvement to the asset's setting through the downgrading of of Crow Road between the Fort and Village Centre from a vehicular to a cycle and pedestrian route. <b>Moderately Beneficial</b></p>	<p>Collective loss of surrounding buildings which form part of the asset's functional setting and context. The majority of buildings within the X enclave are to be retained, which limits the impact. <b>Moderate Harm.</b></p>	<p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p> <p>Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.</p>
X4	Non-designated	-	<p>Collective loss of surrounding buildings which form part of the asset's functional setting and context. The majority of buildings within the X enclave are to be retained, which limits the impact. <b>Moderate Harm.</b></p>	<p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p> <p>Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.</p>
X5	Non-designated	-	<p>Collective loss of surrounding buildings which form part of the asset's functional setting and context. The majority of buildings within the X enclave are to be retained, which limits the impact. <b>Moderate Harm.</b></p>	<p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p> <p>Recording, disseminating and archiving archaeological and historical interest of the</p>

				important elements of the heritage assets affected.
X6	Non-designated	-	Collective loss of surrounding buildings which form part of the asset's functional setting and context. The majority of buildings within the X enclave are to be retained, which limits the impact. <b>Moderate Harm.</b>	<p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p> <p>Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.</p>
X7	Non-designated	-	Collective loss of surrounding buildings which form part of the asset's functional setting and context. The majority of buildings within the X enclave are to be retained, which limits the impact. <b>Moderate Harm.</b>	<p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p> <p>Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.</p>
X8	Non-designated	-	Collective loss of surrounding buildings which form part of the asset's functional setting and context. The majority of buildings within the X enclave are to be retained, which limits the impact. <b>Moderate Harm.</b>	<p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p> <p>Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.</p>
X9	Non-designated	-	Collective loss of surrounding buildings which form part of the asset's functional setting and context. The majority of buildings within the X enclave are to be retained, which limits the impact. <b>Moderate Harm.</b>	<p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p> <p>Recording, disseminating and</p>

				archiving archaeological and historical interest of the important elements of the heritage assets affected.
X11	Non-designated	-	Collective loss of surrounding buildings which form part of the asset's functional setting and context. The majority of buildings within the X enclave are to be retained, which limits the impact. <b>Moderate Harm.</b>	<p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p> <p>Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.</p>
X12	Non-designated	-	Collective loss of surrounding buildings which form part of the asset's functional setting and context. The majority of buildings within the X enclave are to be retained, which limits the impact. <b>Moderate Harm.</b>	<p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p> <p>Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.</p>
X13	Non-designated	-	Collective loss of surrounding buildings which form part of the asset's functional setting and context. The majority of buildings within the X enclave are to be retained, which limits the impact. <b>Moderate Harm.</b>	<p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p> <p>Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.</p>
X38	Non-designated	<p>Improvement to setting through selective shrub and tree clearance of Fort. <b>Modestly Beneficial.</b></p> <p>Inclusion in part of a heritage trail, illustrating history of the building and</p>	Collective loss of surrounding buildings which form part of the asset's functional setting and context. The majority of buildings within the X enclave are to be retained, which limits the impact. <b>Moderate Harm.</b>	<p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p>

		<p>site in general, allowing greater public appreciation of significance. <b>Moderately beneficial.</b></p> <p>Improvement to the asset's setting through the downgrading of Crow Road between the Fort and Village Centre from a vehicular to a cycle and pedestrian route. <b>Moderately Beneficial</b></p>		<p>Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.</p>
X44 & X45	Non-designated		<p>Collective loss of surrounding buildings which form part of the asset's functional setting and context. The majority of buildings within the X enclave are to be retained, which limits the impact. <b>Moderate Harm.</b></p>	<p>The masterplan has been developed in order to, as far as possible retain those elements of setting which make the greatest contribution to the significance of the heritage assets.</p> <p>Recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.</p>

## **5.0 CONCLUSION**

- 5.1 This Built Heritage Statement has been prepared to assess the potential impact on the historic built environment arising from the proposed development of Fort Halstead, in Kent.
- 5.2 This Built Heritage Statement has found a range of impacts upon built heritage arising from the development. Some aspects of the proposals will result in harm to a number of non-designated heritage assets, and as such the decision maker will be mindful of paragraph 197 of the NPPF which states that the effect of an application on the significance of a non-designated heritage asset should be considered in determining the application. In weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regards to the scale of any harm or loss and the significance of the asset.
- 5.3 Other aspects of the proposal will result in harm to designated heritage assets including the Fort Halstead Scheduled Monument, two grade II\* listed and two grade II listed buildings. 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. In this instance, in addition to harm to the significance of two grade II listed buildings the proposals will result in harm to the significance of a Scheduled Monument and two grade II\* listed buildings, as a result of development within their setting; designated heritage assets considered within the NPPF to be of the highest significance.
- 5.4 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 and the Ancient Monuments and Archaeological Areas Act 1979, amended by the National Heritage Act 1983 and 2002 and updated April 2014 which provides specific protection for Scheduled Monuments outside of the planning process.



- 5.5 The proposals also include a range of considerable heritage benefits to both designated and non-designated heritage assets and therefore 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.
- 5.6 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.
- 5.7 When considered against the extant 2015 permission, the current proposals overall would see fewer buildings (including those identified as heritage assets) demolished. Whilst the level of development has increased, the additional built form is not considered to cause any additional harm to the significance of the heritage assets contained within the Site which are already surrounded by built form and experienced as part of a larger cluster of buildings. The detailed element of the application also provides additional benefits, principally relating to the sensitive conversion of buildings Q13 and Q14 and improvement to the setting through the creation of a public square.
- 5.8 On balance, it is considered that the overall impact of the development proposals on built heritage would be beneficial; the heritage benefits of the proposal and requirement for change in order to provide a sustainable future for the Site, justify and outweigh the identified harm. A programme of building recording would further ensure that the identified harm was offset. Critically, the proposals provide a sustainable future for those elements of the Site which make the highest contribution to built heritage significance, whilst creating a new settlement which sensitively and creatively responds the Site's historic context.

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