



Chelmsford Local Plan

Examination Hearing Statement

Matter 6a – Housing Provision in Growth Area 1 – Central and Urban Chelmsford

Prepared by Strutt & Parker on behalf of Hopkins Homes (ID 927684)

November 2018

Context

1. Strutt & Parker have made representations on behalf of Hopkins Homes throughout the preparation of the Chelmsford Local Plan, in respect of land to the north of Maldon Road (A1114), Great Baddow (also referred to as Land East of Chelmsford/North of Great Baddow in the Council's plan-making process). This included representations on the Chelmsford Pre-Submission (Regulation 19) Local Plan.
2. The Local Plan proposes that the above site be allocated for the development of *inter alia* 250 new homes, new Country Park, and vehicular access to Sandford Mill as Strategic Growth Site 3a.
3. This Hearing Statement is made in respect of the Chelmsford Local Plan Examination Matter 6a and addresses Question 62.
4. The following Appendices accompany this Hearing Statement:
 - Appendix 1: Heritage Assessment
 - Appendix 2: Geophysical Survey Report
 - Appendix 3: Landscape and Visual Appraisal
 - Appendix 4: Masterplan
 - Appendix 5: Requested modifications

Question 62

Are the housing site allocations in GA1 within Location 1: Chelmsford Urban Area, Location 2: West Chelmsford and Location 3: East Chelmsford justified and deliverable? Are there any soundness reasons why they should not be allocated?

- a. **Is the scale of housing for each site allocation, particularly the large Strategic Growth Sites, justified having regard to any constraints, existing local infrastructure and the provision of necessary additional infrastructure?**
5. In respect of Strategic Growth Site 3a, detailed assessment work has been undertaken which demonstrates that not only can the site sustainably accommodate the scale of growth the Local Plan proposes, but that a greater quantum is capable of being delivered having regard to on-site constraints and existing infrastructure.
6. Alongside our representations made on the Chelmsford Pre-Submission (Regulation 19) Local Plan (PSLP), we provided copies of technical assessment work which demonstrate the sustainability and deliverability of the site for development; with a summary of these within the representations themselves. As requested, the contents of previous representations are not repeated here.
7. However, in relation to our representations on the PSLP – and of particular relevance to scale of development proposed – it should be noted that the Strategic Transport Feasibility Report¹ provided as to these representations considered a proposed development of the site comprising 600 residential dwellings, 60 hectares of Country Park, a visitor centre, and accessibility enhancements to Sandford Mill. It concluded that there were no transport-related reasons why the site should not be allocated for development.

¹ Appendix 2 to representations made on Chelmsford Pre-Submission (Regulation 19) Local Plan

8. Similarly, a Strategic Flood Risk Report considered development of the site for up to 600 homes and Country Park, and included preliminary assessment of flood risk which concluded there are no fundamental barriers to proposed residential development on the basis of flood risk.
9. An Access Appraisal² considered access to the site via a roundabout at Maldon Road/ Sandford Mill Lane, and the provision of an internal loop; and found that this access arrangement has potential to serve more than 350 dwellings.
10. It is recognised that whilst the above are of assistance in relation to the question of what scale of development is appropriate for the site, other factors require consideration.
11. In relation to the density of development that may be suitable, the Council's Strategic Land Availability Assessment (SLAA)³ considered 35 dwellings per hectare to be a suitable density for the site (reference CFS208), considering the site's location, resulting in a potential capacity of 608 dwellings.
12. Separately, it is notable that the current adopted Development Plan includes a policy⁴ which would require development of this site to be between 30 and 60 dwellings per hectare. It does not specify whether this is net or gross density, but the Council's Making Places (2008) Supplementary Planning Document suggests it should be net. The extent of the residential allocation at Strategic Growth Site 3a measures approximately 27 ha. On the assumption of a gross-to-net percentage of between 50% and 75% in applying the policy, the current policy would be looking for at least 405-608 dwellings. This illustrates the scale of development that would normally be expected for an allocation of this size.

² Appendix 9 to representations made on Chelmsford Pre-Submission (Regulation 19) Local Plan

³ EB072D Appendix 4: Policy-on SLAA Assessment

⁴ Policy DC3 – Managing Development Densities in Different Locations of the Core Strategy and Development Control Policies (2008, reviewed 2013).

13. However, the above is considered to be far too blunt an instrument for use in determining a suitable and achievable capacity for the development of Site 3a – one which fails to consider the site’s characteristics and constraints.
14. We acknowledge that a sensitive, landscape-led approach to the site’s development is required (indeed, such an approach is a key aspect of our vision for the site). Our approach in this regard has been informed by detailed landscape appraisal work⁵, considered in conjunction with a detailed site concept plan⁶ and site appraisal plan⁷, resulting in a landscape and visual opportunities plan⁸. This was considered alongside on-site constraints (including utilities⁹), to produce a site capacity analysis¹⁰. This concluded that, having regard to site constraints and ensuring a landscape-led development which respond sensitively to the site’s context, 390 dwellings could be accommodated at Growth Site 3a.
15. The Local Plan currently proposes Growth Site 3a be developed for “around” 250 dwellings. This equates to a gross density of 9 dwellings per hectare on the land proposed to be allocated.
16. The stated justification for this number is set out at paragraph 7.125 of the Local Plan, at which heritage, landscape and utility constraints are cited. However, the restriction of the site to 250 dwellings is not informed by an objective analysis of the site’s characteristics, and cannot be considered justified. We note that from the text at paragraph 7.125, one could infer that there is acknowledgement that the site could accommodate a greater number of new homes, with the final sentence of the paragraph stating:

⁵ Appendix 3 to representations made on Chelmsford Pre-Submission (Regulation 19) Local Plan

⁶ Appendix 4 to representations made on Chelmsford Pre-Submission (Regulation 19) Local Plan

⁷ Appendix 6 to representations made on Chelmsford Pre-Submission (Regulation 19) Local Plan

⁸ Appendix 7 to representations made on Chelmsford Pre-Submission (Regulation 19) Local Plan

⁹ Appendix 11 to representations made on Chelmsford Pre-Submission (Regulation 19) Local Plan

¹⁰ Appendix 12 to representations made on Chelmsford Pre-Submission (Regulation 19) Local Plan

“Due to the heritage, landscape and utility constraints at this site, proposals **significantly** in excess of 250 homes are **unlikely** to be acceptable” [emphasis added].

17. The Council has not provided evidence of how concerns in relation to heritage, landscape and utility constraints has resulted in the identification of a reduction capacity for the site of 250 dwellings. Indeed, this figure of 250 dwellings is not supported by the SLAA, or Sustainability Appraisal (SA) (SD004). There is nothing within the SA in either the appraisal of the site or its reason for selection which suggests the site should be restricted to this quantum.
18. Further to the above concerns, and given work already undertaken in relation to landscape and utilities, further heritage assessment work has been undertaken subsequent to the publication of the PSLP.
19. This has included a Heritage Assessment (a copy of which is provided as **Appendix 1** to this statement); and, mindful of reference at paragraph 7.137 to the southern part of the site containing the remains of a Bronze Age enclosure, a geophysical survey has also been undertaken to identify any evidence of archaeology (the results of which are provided as **Appendix 2**).
20. The geophysical survey identified no evidence for archaeology around the outside of the Bronze Age ringfort monument located at the site of the existing farm shop. Nevertheless, and taking a precautionary approach to arrive at a conservative estimate of the site's capacity for development, the proposed masterplan for the site incorporates a 25m buffer around the site of the Bronze Age ringfort.
21. The findings of the Heritage Assessment have been incorporated into the preparation of a revised Landscape and Visual Appraisal (LVA) (provided as **Appendix 3** to this statement) in conjunction with a Masterplan (**Appendix 4**).
22. Continuing with a landscape-led approach (as per our representations on the PSLP) which accounts for the policy requirements of the emerging Local Plan, but

incorporating the findings of the Heritage Assessment, and taking a precautionary approach vis-à-vis the Bronze Age monument and its setting, the revised Landscape and Visual Appraisal and Masterplan identify developable parcels of land within the site. It goes on to consider the number of dwellings each parcel is able to suitably accommodate. In the case of all of these developable parcels of land, a low density of development (the majority at a density of less than 30 dwellings per hectares; all under 35 dwellings per hectare) has been applied. Taking this precautionary approach, and arriving at a conservative figure for the total quantum of development for the site, the Landscape and Visual Appraisal and Masterplan demonstrate that the site can accommodate 350 dwellings.

23. In summary, objective and robust assessment of the site having regard to its characteristics and to all relevant policy requirements demonstrates that its residential development for 350 dwellings is justified. Conversely, there is no objective evidence to support limiting the scale of development on the site to around 250 dwellings, and the imposition of such a limit would be unjustified.

b. Is the housing trajectory realistic and are there any sites which might not be delivered in accordance with the timescale set?

24. We consider the trajectory is very much realistic in relation to the development of Site 3a. Please see our response to Question 57 of Matter 6.

c. Are the planning and masterplanning principles justified?

25. We consider that the site masterplanning principles identified for Site 3a are justified, with the exception of the following:

- reference to the “nationally significant Bronze Age monument and its setting”; and
- the requirement to provide formal recreation space within the site.

26. In respect of the remains of a Bronze Age enclosure, we do not consider reference to it as “nationally significant” is justified. There was no evidence to support this assertion at the PSLP stage, and we are not aware of any having been produced subsequently. Our concerns as per our representations on the PSLP remain. Hopkins Homes has commissioned archaeological research, and have commissioned a magnetometer field survey which does not corroborate the purported significance of these remains.
27. Nevertheless, and in the interests of taking a precautionary approach to the site’s development and the treatment of the remains of a Bronze Age enclosure, the Masterplan provided as Appendix 4 treats the site as a non-designated heritage asset of archaeological interest. Furthermore, and notwithstanding the lack of evidence for archaeology around the outside of the Bronze Age ringfort, the Masterplan incorporates a 25m buffer around the remains of the enclosure.
28. In respect of the requirement to provide on-site formal recreational space, as per our PSLP representations, we consider the requirement for this to be provided to be neither justified nor – given the other policy requirements in respect of this site, and its specific characteristics – effective.
29. Furthermore, the Strategic Growth Site 3a allocation (as clarified through Additional Amendment AC256, SD002) includes provision of Strategic Open Space in the form of a new Country Park, which the policy requires to be delivered as part of the site’s development. It is not considered justified or necessary for formal recreational space to be provided in addition to this substantial provision of strategic recreational land.
30. The Masterplan provided as Appendix 4 has been prepared in accordance with the masterplanning principles.
31. Furthermore, we do not consider that the masterplanning principles give rise to any concerns in respect of deliverability, i.e. they do not render the proposal for the development of the site ineffective.

- d. Are the specific development and site infrastructure requirements clearly identified for each site allocation, are they necessary and are they justified by robust evidence? Is any other infrastructure necessary for site delivery?**
32. We welcome the proposed additional change AC112 (SD002) and the clarification it provides that contributions to provide, or make financial contributions towards new or enhanced sport, leisure or recreation facilities will be considered having regard to the provision of the new Country Park.
33. We note additional change AC110 (SD002) and its proposed amendment to the policy in respect of contributions towards Essex Coast Recreational disturbance Avoidance and Mitigation Strategy (RAMS), which will mitigate the impact of new development on European Designated sites. We note the caveat of “where appropriate”, and acknowledge this will help indicate to a decision-maker that it will not necessarily be the case that contributions towards recreation disturbance avoidance and mitigation measures for European designated sites. However, it is suggested that additions be made to the accompanying text to the policy, explaining and acknowledging the substantial benefits of the new Country Park in mitigating impact on European designated sites, as set out within our PSLP representations. This will assist the decision-maker in determining whether it is appropriate for an additional contribution from the development of the site to be made towards RAMS.
34. We note the suggestion at paragraph 7.127 that the site should provide self-build housing in accordance with policy (5% of the total site, as per Policy HO1). However, paragraph 8.5 of the Local Plan states that the Council will review the percentage of self-build housing required as part of larger development sites at the time of application. As set out elsewhere within our representations, we anticipate a planning application will be made for the development of Strategic Growth Site 3a in the near future. We have not seen any evidence of a scale of demand for self-build homes which justifies the 5% requirement be imposed at this time. Furthermore, we are not aware of any evidence of demand for self-build homes on

this site. Indeed, we consider it is unlikely those wishing to develop self-build homes will seek to do so within a larger development site.

e. Are the site boundaries for the allocations justified?

35. We consider the site boundaries of Strategic Growth Site 3a – including both the residential and the new Country Park elements – are justified.
36. The focus of the residential element of the development of Strategic Growth Site 3a towards the southern end of the site provides a logical extension to the existing residential area to the south, and optimum location in terms of accessibility to services and facilities for future residents. The residential extent of the allocation avoids significant constraints which are present to the north (including areas of flood risk), and the Conservation Area.
37. The extent of the proposed residential allocation, and the degree to which it extends northwards in particular, is further justified by our landscape assessment work. The site (Growth Site 3a as a whole, including new Country Park) comprises two distinct character areas. As noted within the LVA (paragraph (Appendix 3) there is a distinct change between the central and northern areas of the site, which relate to the river valley, and the southern area of the site, which relates to the settled valley sides. The LVA (paragraph 6.6) found the character of the northern and central areas of the site, which are located within the valley floor, will be enhanced in accordance, resulting in beneficial effects to this area. The character of the southern area of the site will change from arable fields to residential development, but the LVA notes this residential development will be located in the context of adjacent residential areas and infrastructure, and set within a strong landscape framework.
38. Separately, the Council's Green Wedge Review Report¹¹ provides further justification for the extent of the allocation and split between residential and Country Park, acknowledging the two distinct landscape character areas in

¹¹ Green Wedges and Green Corridors: Defining Chelmsford's River Valleys Review Report (EB94A)

concluding the southern part of the site does not merit inclusion within the Green Wedge.

39. Objectives of the Green Wedge include enhancing landscape, functioning as a green network for wildlife, and leisure and recreational use. The site as a whole, which is privately owned and in agricultural use, currently makes a nominal contribution to these key objectives of the Green Wedge. The removal of the southern element of the site from the Green Wedge not only reflects the findings of the Green Wedge review, but its allocation for residential development will enable the delivery of the Country Park on the remainder of the site: this will substantially enhance its contribution towards the objectives of the Green Wedge. This further justifies the allocation of Growth Site 3a, and the split between residential development and Country Park.
40. The Infrastructure Delivery Plan Report Update 2018 (ED018B) states (paragraph 6.56) that in respect of Country Parks, scale of provision is key; and that, in order for a Country Park to be a 'destination' it should be a minimum of 40ha. The proposed allocation for the Country Park at Strategic Growth Site 3a exceeds this 40ha threshold, ensuring the new Country Park can become a destination.

f. Will the site allocations in these locations achieve sustainable development?

41. As noted within our PSLP representations, the development of Strategic Growth Site will have a number of positive social, economic and environmental impacts; and that these have been confirmed through SA. We do not repeat the points made in these representations here.
42. In addition, we note that 11 Local Authorities within Essex are in the process of preparing an Essex Coast Recreational disturbance Avoidance and Mitigation Strategy (RAMS). This aim of this is to seek to identify measures to address potential effects of recreational disturbance on coastal European sites. As noted in our response to Question 62e above, the proposed Country Park at Strategic

Growth Site 3a exceeds the minimum suggested size to enable it to become a destination. As such, the proposed new Country Park here will become a destination – an alternative destination to European sites, thereby helping to reduce recreational disturbance to protected coastal areas. This represents a further sustainability benefit of Strategic Growth Site 3a.

g. Are any amendments necessary to the policies to ensure soundness?

43. For the reasons set out above, in our responses to Question 62a and 62c in particular, we consider that the changes are required in order to make the Local Plan sound. These are set out within **Appendix 5** of this Hearing Statement. Modifications to the Local Plan are respectfully requested on this basis.

Matter 6a Appendices



BUILT HERITAGE STATEMENT

**MANOR FARM
GREAT BADDOW
CHELMSFORD**

MAY 2018

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EXECUTIVE SUMMARY

1. This report has been prepared by CgMs Heritage (part of RPS plc) on behalf of Hopkins Homes. It addresses built heritage considerations in relation to the future residential development of a 24.7 hectare site located to the north of the A414, north-east of Great Baddow, Chelmsford, Essex.
2. Archaeological aspects for this scheme are addressed in a separate CgMs Archaeological Desk-Based Assessment CgMs 2018, MF/SM/23854/01.
3. This Built Heritage Statement has been prepared in compliance with the National Planning Policy Framework, to identify and provide a description of the significance of and built heritage assets located within the vicinity of the site and the likely effects of development on their significance.
4. This Built Heritage Statement has identified there are fifty-nine listed buildings, three conservation areas and fifteen non-designated built heritage assets located within a 1 km search area of the site. A further two listed buildings and one non-designated built heritage asset have been identified beyond the 1 km search area. The majority of these built heritage assets will remain unaffected by the development of the site.
5. This Built Heritage Statement shows that the site forms a small part of the setting to the Grade I listed Cathedral Church of St Mary in Chelmsford. The site's topography provides the ability to appreciate the significance of the asset as a symbolic local landmark. The proposals have the potential change the views of this asset in a small part of its setting, resulting in a adverse impact on an element of the asset's significance. In the context of the NPPF, the resultant harm would amount to less than substantial harm, sitting at the low end of the harm spectrum. The incorporation of a sight line through the development towards this asset and the potential for tie-ins with heritage interpretation boards would help to reduce this harm however, the outcome would likely remain as less than substantial harm.
6. The site forms a small part of the setting to the Grade I listed Church of St Mary in Great Baddow but makes a neutral contribution to its significance. The proposals will result in changes to views of the tower and spire of this asset however, subject to anticipated landscaping and storey height limits the development will be not impact on the significance of this listed building.

7. As a small part of the setting to the Grade II listed Barnes Mill the site's arable fields provide a low contribution to an element of the building's significance. The proposed development will result in the partial loss of the more visually prominent arable land associated with this significance and result in a adverse impact. In the context of the NPPF, the resultant harm would amount to less than substantial harm, sitting at the lower end of the harm spectrum. There are no clear mitigation measures to offset this potential harm.
8. The site forms a small part of the setting to the Chelmer and Blackwater Navigation Conservation Area. From the site, panoramic views into the Conservation Area affords the ability to appreciate the broader significance of the relationships in this part of the Conservation Area between Chelmsford's urban area, the Navigation/River Chelmer and the pockets of industry marked by mills along its route. The proposals would have an adverse impact on the ability to appreciate the significance to this part of the Conservation Area. In the context of the NPPF, this would result in less than substantial harm, sitting at the low end of the harm spectrum. The incorporation of a sight line through the development along the A414, potentially tying in with the archaeological mitigation of the Site, and/or the potential removal of reservoir to the north would help to reduce this harm however, the outcome would remain as less than substantial harm.
9. This Built Heritage Statement concludes that for designated built heritage assets the development has the potential to result in less than substantial harm to the significance of the Grade I listed Cathedral Church of St Mary, Grade II listed Barnes Mill and the Chelmer and Blackwater Conservation Area. Consequently, paragraph 134 of the NPPF would apply, whereby this level of harm will be weighed in the planning balance with the public benefits of the proposal alongside the statutory tests of Section 66 and 72 of the Planning (Listed Buildings & Conservation Areas) Act 1990.
10. This Built Heritage Statement shows that the site forms a small part of the setting to a FW3/Type-24 Pillbox, regarded as a non-designated built heritage asset. The site provides a negligible contribution to the significance of this asset, through historic rural context. The proposals will introduce a developed character to this part of its setting resulting in a minor impact to its significance. The resultant harm could be reduced by the implementation of heritage boards and/or its conversion to a Bat roost, subject to separate technical advice.

11. As a non-designated heritage asset paragraph 135 of the NNPF would apply, where the Local Authority should make a balance judgement to the scale of any harm or loss and the significance of the heritage asset.
12. The site also forms part of the setting to the non-designated built heritage asset of Sandford Mill Waterworks. The site does not contribute to its significance and this asset will remain unaffected by the proposed development.

1.0 INTRODUCTION

- 1.1 This Built Heritage Statement has been researched and prepared by CgMs (Part of RPS plc) on behalf of Hopkins Homes to inform a future planning application for residential development of land located north of the A414, north-east of Great Baddow, Chelmsford. The land, referred to in this report as the 'Site', is centred as OS National Grid Reference TL 735 055 and currently comprises 24.7 hectares of agricultural land (Figure 1).
- 1.2 The assessment comprises an examination of evidence from Historic England's National Heritage List for England (NHLE), the Essex County Council Historic Environmental Record (HER), Chelmsford Borough Council, the Essex Record Office and online resources. The assessment incorporates published and unpublished material and charts historic land-use through a map regression exercise.
- 1.3 There are no designated or non-designated built heritage assets located within the Site and therefore, this Built Heritage Statement has been prepared in compliance with the National Planning Policy Framework, to identify and provide a description of the significance of built heritage assets located within the vicinity of the Site and the likely effects of development on their significance.
- 1.4 A Site visit was undertaken on Wednesday 21st March 2018.
- 1.5 The findings and recommendations from this Built Heritage Statement remain current for three years from issue. The report will need amendments, subject to changes in national and local planning policy and on the emergence of more detailed development designs.

2.0 LEGISLATION, POLICY AND GUIDANCE

- 2.1 Legislation regarding listed buildings and areas of special architectural and historic interest is contained within the Planning (Listed Buildings and Conservation Areas) Act 1990.
- 2.2 The relevant legislation in this case is set out in Section 66 of the 1990 Act, which states that special regard must be given by the planning authority in the exercise of planning functions to the desirability of preserving or enhancing listed buildings and their settings.
- 2.3 The meaning and effect of these duties have been considered by the courts in recent cases, including the Court of Appeal decision in relation to Barnwell Manor Wind Energy Ltd v East Northamptonshire District Council [2014] EWCA Civ 137.
- 2.4 The Court agreed with the High Court's judgment that Parliament's intention in enacting section 66(1) was that decision-makers should give 'considerable importance and weight' to the desirability of preserving the setting of listed buildings
- 2.5 Section 72 of the 1990 Act states that in exercising all planning functions, local planning authorities must have special regard to the desirability of preserving or enhancing the character or appearance of Conservation Areas.

National Planning Policy Framework (NPPF) (March 2012)

- 2.6 The NPPF, published 27th March 2012, sets out the Government's planning policies for England and how these are expected to be applied.
- 2.7 When determining Planning Applications the NPPF directs LPAs to apply the approach of presumption in favour of sustainable development; the 'golden thread' which is expected to run through the plan-making and decision-taking activities. This encourages LPAs to approve development proposals that accord with the development plan without delay.
- 2.8 Where a development plan is absent, silent or out-of-date, permission should be granted except where adverse impacts would significantly and demonstrably outweigh those benefits, when assessed against NPPF policies as a whole; or where specific policies contained within the NPPF (including those with regard to

designated heritage assets) indicate that development should be restricted to some degree.

- 2.9 Section 7 of the NPPF, 'Requiring Good Design' (Paragraphs 56 to 68), reinforces the importance of good design in achieving sustainable development by ensuring the creation of inclusive and high quality places. This section of the NPPF affirms, in Paragraph 58, the need for new design to function well and add to the quality of the area in which it is built; establish a strong sense of place; and respond to local character and history, by reflecting the built identity of the surrounding area.
- 2.10 Paragraph 128 of the NPPF states that LPAs, when determining applications for development, should require applicants to describe the significance of the heritage assets affected and the contribution made by their setting. The paragraph indicated that the level of detail provided should be proportionate to the significance of the asset and sufficient to understand the impact of the proposal on this significance.
- 2.11 According to Paragraph 129, LPAs should also identify and assess the significance of a heritage asset that may be affected by a proposal and should take this assessment into account when considering the impact upon the heritage asset.
- 2.12 Paragraphs 132 to 136 consider the impact of a proposed development upon the significance of designated heritage assets. Paragraph 132 emphasises that when a new development is proposed, great weight should be given to the conservation of designated heritage assets and that the more important the asset, the greater this weight should be. It is noted within this paragraph that significance can be harmed or lost through the alteration or destruction of the heritage asset or by development within its setting.
- 2.13 Paragraph 133 advises that where a development leads to substantial harm to or loss of significance of a designated heritage asset, LPA's should refuse consent, unless it can be demonstrated that the substantial harm or loss is necessary to achieve substantial public benefits that outweigh that harm or loss, or all of the following apply:
- the nature of the heritage asset prevents all reasonable uses of the site;

- no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation;
- conservation by grant-funding or some form of charitable or public ownership is demonstrably not possible;
- the harm or loss is outweighed by the benefit of bringing the site back into use.

2.14 Paragraph 134 advises that where a development will cause 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 securing its optimum viable use.

2.15 Local planning authorities may identify what are referred to as non-designated heritage assets by drawing up Local Lists, through their conservation area appraisals process or through other means. In planning decisions, the effects of proposals on the significance of a non-designated heritage asset should be taken into account in determining the application, weighing the scale of harm or loss against the significance of the non-designated heritage asset (Paragraph 135).

2.16 The NPPF provides definitions of terms relating to the historic environment. For the purposes of this report, the following are important to note:

Heritage asset: This is a building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions. These include designated heritage assets and assets identified by the local planning authority; and

Significance: The value of a heritage asset to this and future generations because of its heritage interest. This interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting.

Planning Practice Guidance (PPG) (March 2014)

2.17 This guidance has been adopted in support of the NPPF. It reiterates the importance of conserving heritage assets in a manner appropriate to their significance as a core planning principle.

- 2.18 It also states, conservation is an active process of maintenance and managing change, requiring a flexible and thoughtful approach. Furthermore, it highlights that neglect and decay of heritage assets is best addressed through ensuring they remain in an active use that is consistent with their conservation (Paragraph 003 Reference ID: 18a-003-20140306).
- 2.19 Key elements of the guidance relate to assessing harm. It states, an important consideration should be whether the proposed works adversely affect a key element of the heritage asset's special architectural or historic interest. Adding, 'it is the degree of harm, rather than the scale of development that is to be assessed'. The level of 'substantial harm' is stated to be a high bar that may not arise in many cases. Essentially, whether a proposal causes substantial harm will be a judgment for the decision taker, having regard to the circumstances of the case and the NPPF (Paragraph 017: 18a-017-20140306).
- 2.20 Importantly, it is stated harm may arise from works to the asset or from development within its setting (Paragraph 017: 18a-017-20140306). Setting is defined as 'the surroundings in which an asset is experienced, and may be more extensive than the curtilage'. A thorough assessment of the impact of proposals upon setting needs to take into account, and be proportionate to, the significance of the heritage asset and the degree to which proposed changes enhance or detract from that significance and the ability to appreciate it.
- 2.21 Importantly, the guidance states that if *'complete or partial loss of a heritage asset is justified, the aim should then be to capture and record the evidence of the asset's significance, and make the interpretation publically available'* (Paragraph 003: 18a-003-20140306).

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

- 2.22 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 through the planning process, the document is recommended to local authorities to ensure that all decisions about change affecting the historic environment are informed and sustainable.
- 2.23 This document remains relevant with that of the current policy regime in that emphasis is placed upon the importance of understanding significance as a

means to properly assess the effects of change to heritage assets. The guidance describes a range of heritage values which enable the significance of assets to be established systematically, with the four main 'heritage values' being:

- Evidential value: which derives from the potential of a place to yield evidence about past human activity. It can be natural or man-made and applies particularly to archaeological deposits, but also to other situations where there is no relevant written record.
- Historical value: which derives from the ways in which past people, events and aspects of life can be connected through a place to the present. It can be illustrative (illustrative of some aspect of the past) or associative (where a place is associated with an important person, event, or movement).
- Aesthetic value: which derives from the ways in which people draw sensory and intellectual stimulation from a place. Aesthetic values can be the result of the conscious design of a place, including artistic endeavour, or they can be the seemingly fortuitous outcome of the way in which a place has evolved and been used over time.
- Communal value: which derives from the meanings of a place for the people who relate to it, or for whom it figures in their collective experience or memory. Communal values are closely bound up with historical (particularly associative) and aesthetic values, but tend to have additional and specific aspects. Commemorative and symbolic values reflect the meanings of a place for those who draw part of their identity from it, or have emotional links to it. Social value is associated with places that people perceive as a source of identity, distinctiveness, social interaction and coherence. Spiritual value attached to places can emanate from the beliefs and teachings of an organised religion, or reflect past or present-day perceptions of the spirit of a place.

2.24 The Principles emphasise that '*considered change offers the potential to enhance and add value to places...it is the means by which each generation aspires to enrich the historic environment*' (Paragraph 25).

Overview of Historic Environment Good Practice Advice in Planning

- 2.25 Historic England has published three Good Practice Advice in Planning Notes (GPAs), which provide supporting guidance in relation to good conservation practice: 'GPA1: Local Plan Making' (Published 25th March 2015), 'GPA2: Managing significance in Decision-Taking in the historic Environment' (Published 27th March 2015) and 'GPA3: The Setting of Heritage Assets (Second Edition Published December 2017).
- 2.26 These documents particularly focus on the how good practice can be achieved through the principles included within national policy and guidance. As such, the GPAs provide information on good practice to assist LPAs, planning and other consultants, owners, applicants and other interested parties when implementing policy found within the NPPF and PPG relating to the historic environment.
- 2.27 In addition to these documents Historic England has published three core Advice Notes (HEAs) which provide detailed and practical advice on how national policy and guidance is implemented. These documents include; 'HEA1: Understanding Place: Conservation Area Designation, Appraisal and Management' (25th February 2016), 'HEA2: Making Changes to Heritage Assets' (25th February 2016) and 'HEA3: The Historic Environment and Site Allocations in Local Plans' (30th October 2015).

Historic Environment Good Practice Advice in Planning: Note 2: Managing Significance in Decision-Taking in the Historic Environment (March 2015)

- 2.28 This document provides advice on the numerous ways in which decision-taking in the historic environment can 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 its significance. In line with the NPPF and PPG, this document states that early engagement and expert advice in considering and assessing the significance of heritage assets is encouraged, stating that *'development proposals that affect the historic environment are much more likely to gain the necessary permissions and create successful places if they are designed with the knowledge and understanding of the significance of the heritage assets they may affect.'*
- 2.29 The advice suggests a structured staged approach to the assembly and analysis of relevant information, this is as follows:

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 and the need for change; and
 6. Offset negative impacts on aspects of significance by enhancing others through recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.
- 2.30 The advice reiterates that heritage assets may be affected by direct physical change or by change in their setting. Assessment of the nature, extent and importance of the significance of a heritage asset and the contribution of its setting at an early stage can assist the planning process resulting in informed decision-taking.
- 2.31 In understanding the impact of a development proposal on the significance of a heritage asset the document emphasises that the cumulative impact of incremental small-scale changes may have as great an effect on the significance of a heritage asset as a larger scale change.
- 2.32 Crucially, the nature and importance of the significance that is affected will dictate the proportionate response to assessing that change, its justification, mitigation and any recording which may be necessary. This document also provides guidance in respect of neglect and unauthorised works.

Historic Environment Good Practice Advice in Planning: Note 3: The Setting of Heritage Assets (Second Edition December 2017)

- 2.33 This advice note focuses on the management of change within the setting of heritage assets. This document replaces 'The Setting of Heritage Assets' (English Heritage, March 2015) in order to aid practitioners with the implementation of national policies and guidance relating to the historic environment found within the NPPF and PPG. The guidance is largely a continuation of the philosophy and

approach of the 2015 document and does not present a divergence in either the definition of setting or the way in which it should be assessed.

- 2.34 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 the previously withdrawn 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.
- 2.35 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.
- 2.36 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. Further clarification on this matter has been provided by the High Court in relation to *Steer v Secretary of State for Communities and Local Government and Others* [2017] which stresses the potential importance and contribution of non-visual elements of setting.
- 2.37 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.

2.38 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.

2.39 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 and Guidance:

2.40 The relevant parts of the current Local Development Framework Plan for Chelmsford comprises The Core Strategy and Development Control Policies document (adopted February 2008). This document includes strategic policy (Policy CP9) for the protection of the Natural and Historic Environment.

Policy CP9 – Protecting Areas of Natural and Built Heritage and Archaeological Importance

2.41 *The Borough Council is committed to protecting and enhancing the Borough's important natural and historic environment. The Borough Council will therefore seek to sustain biodiversity, historic landscape character, archaeological and geological conservation by ensuring sites of international, national, regional and local importance are protected and enhanced.*

The Borough Council will designate and keep under review Conservation Areas in order to protect or enhance their special architectural or historic interest and will seek to protect the character and setting of Listed Buildings, Historic Parks and Gardens and Protected Lanes. Areas of land within the Chelmsford area that have the function of maintaining the open character of river valleys and associated flood plains and afford the opportunity to protect and enhance sites of nature conservation importance are designated as Green Wedges. The Borough Council will also seek to ensure that the open rural character of the undeveloped coastline within the Coastal Protection Belt is protected.

- 2.42 This strategic policy is detailed further in Policy DC17 Conservation Areas and Policy DC18 Listed Buildings.

Policy DC17 – Conservation Areas

- 2.43 *Development proposals in Conservation Areas must preserve or enhance the character or appearance of the Conservation Area. Planning permission and/ or conservation area consent will be refused where:*

- i) the siting, form, massing, height, proportions, elevation design, or materials would harm the character and appearance of the Conservation Area; or*
- ii) it would prejudice the appearance and surroundings of a Conservation Area or spoil any significant spaces or inward or outward views; or*
- iii) a proposed land use would be incompatible with the function and character of a Conservation Area; or*
- iv) it would involve the demolition of a structure contributing to the character and appearance of the area.*

Policy DC18 – Listed Buildings

- 2.44 *The Planning permission and/or listed building consent will be refused where development proposals or works affecting the exterior or interior of listed buildings, fail to preserve or enhance the special character and/or setting of those buildings. The Borough Council will only permit the change of use of a*

listed building where it is in the interests of the long-term preservation of the building and its setting.

Full details of any alterations required to implement the proposed use, both internal and external, must be submitted with change of use applications

New Local Plan

- 2.45 The Council is currently working on a New Local Plan to shape growth and development in Chelmsford until 2026. It is expected that the New Local Plan will be adopted in early 2019.
- 2.46 As of January 2018, the Council have prepared a pre-submission plan entitled: *Chelmsford Draft Local Plan – Pre-submission Document (Regulation 19 – Publication Draft)*. Relevant emerging heritage policy includes Strategic Policy S5 – Conservation and Enhancing the Historic Environment.

Strategic Policy S5 – Conserving and Enhancing the Historic Environment

- 2.47 *The Council will protect and enhance the historic environment. The Council will designate and keep under review Conservation Areas in order to protect and enhance their special architectural or historic interest and will seek to protect and enhance the character and setting of Listed Buildings, Scheduled Monuments and Registered Parks and Gardens.*

When assessing applications for development, there will be a presumption in favour of the preservation and enhancement of designated heritage assets and their setting. The Council will encourage applicants to put heritage assets to viable and appropriate use, to secure their future protection and enhancement including buildings, structures, features, gardens of local interest, protected lanes and archaeological sites.

New Local Plan – Site Allocations

- 2.48 As part of the New Local Plan, various areas, including the Site are being put forward for development allocations. The Site falls within an area specified as a Strategic Growth Site - 3A: Land east of Chelmsford and Great Baddow – Manor Farm.

STRATEGIC GROWTH SITE 3a – EAST CHELMSFORD (MANOR FARM)

- 2.49 *Land to the north of Great Baddow (Manor Farm) adjacent to Chelmsford's Urban Area as shown on the Policies Map, is allocated for a landscape-led, high-quality comprehensively-planned new sustainable neighbourhood that maximises opportunities for sustainable travel as well as a new Country Park. Development proposals will accord with a masterplan approved by the Council to provide:*

Amount and type of development:

- *Around 250 new homes of mixed size and type to include affordable housing*

Supporting on-site development:

- *A new Country Park New vehicular access road from Maldon Road into Sandford Mill.*

Site masterplanning principles:

Movement and Access

- *Main vehicular access to the site will be from a new junction at Maldon Road/Sandford Mill Lane*
- *Provide pedestrian and cycle connections*
- *Provide a well connected internal road layout.*

Historic and Natural Environment

- *Conserve and enhance the character and appearance of the Chelmer and Blackwater Conservation Area*
- *Protect the nationally significant Bronze Age monument and its setting*
- *Protect important views into and through the site from across the Chelmer Valley*
- *Enhance the historic and natural environment*
- *Create a network of green infrastructure*
- *Provide suitable SuDs and flood risk management*
- *Ensure appropriate habitat mitigation and creation is provided*
- *Retain the WWII pillbox in the eastern part of the site and provide interpretation boards*
- *Undertake a Minerals Resource Assessment*
- *Undertake an Archaeological Assessment*

Design and Layout

- *Provide a coherent network of public open space, formal and informal sport, recreation and community space within the site*
- *Remove electricity lines and pylons from the site and install electricity cables underground.*

Site infrastructure requirements:

- *Heritage interpretation, including information boards and public art*

Other pertinent Local Authority/Planning Guidance

Chelmsford Local Plan – Evidence Base Document – Heritage Assessments – Technical Note, March 2017

- 2.50 This report was produced for the Local Authority as part of the evidence base for the New Local Plan to provide an assessment on the heritage significance of designated and built undesignated heritage assets whose setting may be affected by development option sites and to inform constraints and opportunities in their future allocation and delivery. The report included an assessment of the Site, referred to as 'Land East of Chelmsford and Great Baddow - Development Site A'.
- 2.51 The report's assessments of designated heritage assets concluded that views across the area towards the Grade I listed buildings of Chelmsford's Cathedral Church of St Mary the Virgin and the Church of St Mary at Great Baddow were significant and required protection. The report also concluded that Development Site A made a significant contribution to the setting of the Chelmer and Blackwater Conservation Area.
- 2.52 The report's assessment for non-designated heritage assets identified the Sandford Mill Waterworks and concluded that future development would impact upon its setting. Additionally, it identified several Second World War Pillboxes and advised that these should be conserved and protected by future development.

Chelmsford Borough Historic Environment Characterisation Project

- 2.53 The Site has been categorised as part of the '*Sandon and the Area East of Great Baddow*' and is described as comprising meadow pasture and large scale agricultural fields south of the River Chelmer. The field patterns within this area are described as having largely retained ancient hedgerow boundaries at their edges but the loss of internal division has led to the creation of large fields. Additionally, the Characterisation Project noted that the area has surviving elements, mainly pillboxes which are the remnants of the Second World War General Headquarters (GHQ) anti-invasion defence line.

Chelmer and Blackwater Navigation Conservation Area: Conservation Area Character Appraisal:

- 2.54 This Conservation Area Character Appraisal (March 2009) covers the entire 22.1km length of the Chelmer and Blackwater Navigation Conservation Area (designated in 1991). It breaks down the Conservation Area into two Character Areas 1 and 2 and five character zones. The Site is identified as lying adjacent to Character Area 2 – Zone 2 – Chelmer Road – Barnes Mill.

3.0 HISTORIC DEVELOPMENT

- 3.1 This section of the Built Heritage Statement provides an overview of the historic development of the Site and its wider vicinity in relation to the built historic environment from the post-medieval period onwards. This is achieved through a review of archival sources and a map regression exercise.
- 3.2 The earliest map identified which shows the Site in detail is Chapman & Andre's map of Essex, first published in 1777. This shows the Site bounded by roads to the south (now the A414) and east (now Sandford Mill Lane). The eastern area of the Site was shown as forming a raised area of land, with the western half of the Site shown undefined (Figure 4).
- 3.3 A 1799 Ordnance Survey Drawing (Figure 5) shows the Site covering approximately eight large straight-sided fields. Immediately north of the Site areas of rough pasture separated the Site from the River Chelmer and the Chelmer and Blackwater Navigation, which had opened in 1797. To the west of the Site, a new trackway ran south from the rough pasture towards the edge of Great Baddow. In the wider vicinity, Baddow Hall, an isolated house surrounded by large grounds was labelled to the south of the Site and the settlements of Great Baddow and Sandon were depicted to the Site's south-west and south-east.
- 3.4 The 1838 Great Baddow Tithe map (consulted but not reproduced) shows the Site covering approximately eleven enclosures (Numbered: 82, 103 or 105, 104, 106, 107, 107b, 108, 108a, 109, 110, 111). A small farmstead is shown within the south-eastern part of the Site, surrounded by Plots 106, 107, 109 and 110. North of the Site, additional agricultural land had been reclaimed from the rough pasture located to the south of the River Chelmer/Navigation.
- 3.5 The accompanying Tithe Apportionment shows that the freehold for all the land covered by the Site was owned by the Lord of the Manor - John Archer Houblon. Plots 105, 106 and 111 were tenanted by the Executors of James Duffield, farmers at Manor Farm; then located south-west of the Site within Great Baddow. Plots 107, 107a, 108, 108a and 109 were tenanted by Thomas Marriage, a Miller at Barnes Mill located on the River Chelmer, to the north-west

of the Site. Plot 110 was tenanted by John Bramston, the Reverend for the Church of St Mary in Great Baddow from c.1830-1840.

- 3.6 On the 1881 Ordnance Survey (OS) map the Site is shown covering approximately nine fields, with the farmstead labelled Foxhole Farm (Figure 6). A footpath ran diagonally across the western half of the Site from Great Baddow to Sandford Mill.
- 3.7 The subsequent OS map edition of 1897-98 (not reproduced) shows the Site in a similar arrangement however, there had been some loss of internal field boundaries and Foxholes Farm was unlabelled and is shown reduced to a single building.
- 3.8 The 1923 OS shows the further loss of internal field divisions and the amalgamation of fields within the Site (Figure 7). There were few depicted changes to the wider surroundings of the Site.
- 3.9 On the 1938 OS map (not reproduced), the main change to the Site was the clearance of the buildings at Foxholes Farm. In the wider vicinity of the Site a new housing estate (Baddow Hall Crescent) is shown to the south of the Site on the former grounds of Baddow Hall. Additionally, north-east of the Site, Sandford Mill had been redeveloped into the Chelmsford Waterworks (operational in 1929).
- 3.10 During the early part of the Second World War (c.1940), the General Headquarters (GHQ) defence line comprising a substantial anti-tank ditch was constructed approximately 250 metres east of the Site (HER Monument Reference: 8893). The GHQ was fortified by a variety of pillboxes, tank traps and mortar emplacements, however neither the GHQ nor these fortified sites were shown on later OS mapping.
- 3.11 In the second half of the twentieth-century, Great Baddow's residential areas expanded however this development was contained by the c.1960s construction of the A1114 located to the south-west of the Site (1969 OS map not reproduced). At this time, Manor Farm was either relocated from Great Baddow or a new farm with this namesake constructed to north-east of the Site. The Site

itself remained relative unchanged. By 1972 (OS map not reproduced) the Site's diagonally aligned footpath was no longer depicted and a small electricity sub-station was built in the southern part of the Site.

- 3.12 During the 1980s, the Site remained unchanged however agricultural reservoirs were constructed to the north-east and north-west of the Site.
- 3.13 The 1990 Ordnance Survey map (Figure 8) shows the creation of a layby and small building located parallel with the Site's southern boundary with the A414, which presently houses a Farm shop.
- 3.14 There have been relatively few changes depicted to the Site and the wider area between the 1990 and 2017 Ordnance Survey maps (Figures 8 and 9) with the exception of creating a larger agricultural reservoir located to the north of the Site.

4.0 SITE APPRAISAL

- 4.1 The Site totals approximately 24.7 hectares of agricultural land comprising approximately four fields, although the internal field divisions are largely incomplete. The height of the land gradually falls from 36 metres Above Ordnance Survey (AOD) at the southern boundary parallel with the A414 to approximately 20 metres AOD at the northern boundary. The northern boundary runs parallel with a public footpath and is located adjacent to the southern boundary of the Chelmer and Blackwater Navigation Conservation Area (designated in 1991).
- 4.2 The Site is situated between 500-700 metres south of the Chelmer and Blackwater Navigation with the intervening land comprising flatter arable and pastoral fields and a large agricultural reservoir. From within the Site, the higher topography allows for distant views towards the built edge of Chelmsford's centre and its surrounding suburbs, with the floodplains and agricultural land of the Conservation in the foreground (Plate 1). The built form of these areas is largely indistinguishable and the hedgerows surrounding the Site's southern boundary restricts experiencing similar views of the settlement and the Conservation Area from along the A414.
- 4.3 Views from within the Site towards Sandford Mill (Chelmsford's former Waterworks) to the north-east are in part restricted by the topography of the Site, which rises towards Manor Farm, and by denser areas of trees and vegetation screening surrounding the Chelmer and Blackwater Navigation. West of the modern farm buildings of Manor Farm and outside of the Site's north-east boundary is an isolated Second World War FW3/Type24 pillbox. The visibility of this structure from the Site and surrounding area is poor owing to vegetation cover (Plate 2).
- 4.4 From the eastern area of the Site (approx. OS NGR TL 74006 05605), the increase in the height of the land affords views of Chelmsford's skyline approximately 3.5 km to the north-west. These views include clearer views than from other areas of the Site towards the upper stage and spire to Chelmsford Cathedral (Plate 3). Views out of the Site from this eastern area of Site looks across agricultural land, crossed by modern pylons.

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- 4.5 Very distant views to the spire of the Church of St John the Baptist at Danbury are afforded from across the Site at a distance of c.4.8 km from the Site's western boundary and c.3.9 km from the Site's eastern boundary. However, at this distance the architectural interest of the building is not readily appreciable and there is no discernible relationship between this asset and the Site or the nearest settlement of Great Baddow (Plates 4).
- 4.6 From within the Chelmer and Blackwater Conservation Area, the Site is seen as a continuation of the arable fields south of the Chelmer; gradually rising to the built form of housing located along the southern side of the A414.
- 4.7 Occasional views of the spire to the Church of St Mary's at Great Baddow are seen from within the Site. However, more of church, its tower embattlements and spire are seen in views looking out of the Chelmer and Blackwater Navigation Conservation Area, albeit along competing skyline structures (a 1950's Radar Mast, Fire Station Drill Tower and post-war residential block - Plate 5).
- 4.8 The Site is also distantly visible from locations on the banks of the Chelmer and Blackwater Navigation, approximately 1.4-1.8 km north-west of the Site, and marginally from west of the A138 road/highway bridge. However, at this distance it appears as a small area of wider rural hinterland (Plate 6).

5.0 HERITAGE ASSETS

5.1 The following section identifies built heritage assets located within the Site and a 1 km+ search area and evaluates whether they have the potential to be affected by the proposals.

5.2 Further detailed assessment of the significance and setting of pertinent built heritage assets is provided in Section 6.0.

Listed Buildings

5.3 There are no listed buildings located within the Site.

5.4 A total of one Grade I, four Grade II* and fifty-four Grade II listed buildings are located within a 1 km search area of the Site. The majority of these listed buildings are concentrated within or close to Great Baddow (located c.0.5 km south-west of the Site) and Sandon (c.0.7 km south-east of the Site).

5.5 The two Grade II* and thirty-nine Grade II listed buildings located within the historic core of Great Baddow are surrounded by modern development; the two Grade II* and seven Grade II listed buildings located in and near Sandon are screened from the Site by dense intervening vegetation. Consequently, these listed buildings share no intervisibility with the Site. There is also no discernible historic functional association between these assets and the Site. The Site is not considered to form part of the setting to these fifty listed buildings and they remain unaffected by the development proposals. Other than identification, these listed buildings are not assessed further within this report.

5.6 The spire of the Grade I listed Church of St Mary (1122149) in Great Baddow is visible from limited areas of the Site and from the Site's surroundings. The Site also has a minor historical association with the asset, with a field tenanted by Reverend John Bramston of the Church from 1830-1840; although it is not known the exact tenure or nature of this association. Additionally, the Church was identified as a pertinent asset within the Local Authorities Heritage Assessment Technical Note (March 2017), as part of the evidence for the new Local Plan. Consequently, further assessment is required to establish whether

the Site can be considered to form part of the asset's setting and its contribution, if any, to its significance.

- 5.7 Approximately 1 km north-west of the Site is the Grade II listed Barnes Mill (1238769) and attached to the north of the mill is the Grade II listed Barnes Mill House (1122621). There is very restricted visibility of Barnes Mill from the Site, owing to vegetation surrounding the mill. However, part of the Site has a historic functional association with Barnes Mill through tenancy of land in the mid-nineteenth-century by a member of the Marriage family, whose family's tenure of Barnes Mill ran from c.1792-1917. Therefore, further assessment is required to establish whether the Site can be considered to form part of Barnes Mill's setting and its contribution, if any, to its significance. Barnes Mill House is excluded from further assessment as this listed building shares no intervisibility with the Site and its functional association with the Site is intangible.

Outside of 1 km Search Area

- 5.8 Located outside of the 1 km search, at c.3.9 km east of the Site, the spire to Danbury's Church of St John the Baptist (1122201) is distantly visible, however no understanding of architectural or historic interest of the building is readily appreciable at this distance. There is also no evidence of a meaningful historic functional association with the Site. Consequently, the Site is not considered part of the setting to this listed building and they are not assessed further within this report.
- 5.9 Views of the tower and spire to the Grade I listed building of Chelmsford's Cathedral Church of St Mary the Virgin (1328779) are afforded from Site's eastern and southern boundaries. There is no evidence of any meaningful historic functional association between this listed building and the Site however, the Cathedral Church has been identified within Chelmsford Council's Heritage Assessment Technical Note (March 2017) and therefore, further assessment to establish whether the Site can be considered to form part of its setting and its contribution, if any, to the significance of the asset is considered relevant.

Conservation Areas

- 5.10 The Site is not located within a Conservation Area however, the northern boundary runs parallel with a small part of the Chelmer and Blackwater Navigation Conservation Area (designated 1991). Due to its identification within

the Council's Technical Note, further assessment is considered necessary to establish whether the Site forms part of its setting and its contribution, if any, to the significance of the asset.

- 5.11 Located approximately 290 metres south-west of the Site is the Great Baddow Conservation Area (designated 1969) and 0.6 km south-east of the Site is the Sandon Conservation Area (designated 1973). There is no intervisibility between the Site and these conservation areas owing in part to topography, vegetation, road infrastructure and areas of development. There is also no discernible historic functional association. Consequently, the does not form the settings to these Conservation Area and they will not be affected by the proposed development. They require no further assessment.

Non-designated Built Heritage Assets

Register of Buildings with Local Interest

- 5.12 Chelmsford Council has produced a Register of Buildings with Local Interest, which is split into six areas covering the centre and surrounding suburbs and villages - Chelmsford, Broomfield, Chignal, Mashbury, Springfield and Great Baddow.
- 5.13 Located within the Springfield area, approximately 430-480 metres to the north-east of the Site, the former pumping station and water filtering buildings forming the Sandford Mill Waterworks are identified. These buildings are also recorded on the HER however, forming one entry (HER: 15085).
- 5.14 There is restricted intervisibility between the Site and these non-designated heritage assets owing to vegetation cover and these buildings have no discernible historic functional association with the Site. However, they have been considered within Chelmsford Council's Heritage Assessment Technical Note (March 2017) and therefore further assessment to establish whether the Site can be considered to form part of their settings and its contribution, if any, to their significance is required. Due to their close proximity and functional association these buildings will be assessed collectively.

- 5.15 Additionally, within the Springfield Area six pillboxes are recorded to the north-east of Sandford Mill Road and identified using OS National Grid References. They are also recorded on the Essex County Council Historic Environment Record (HER).
- TL 7357 0632 HER: 10166
 - TL 7407 0625 HER: 10167
 - TL 7405 0617 HER: 10168
 - TL 7406 0609 HER: 10169
 - TL 7414 0567 HER: 10172
- 5.16 These pillboxes share no intervisibility with the Site or any meaningful historic functional association. The Site does not form part of their settings and require no further assessment.
- 5.17 The HER records an additional eight pillboxes located within the 1 km search area:
- TL 7387 0577 (HER: 10171)
 - TL 7408 0532 (HER: 10176)
 - TL 7433 0525 (HER: 10177)
 - TL 7453 0492 (HER: 10178)
 - TL 7414 0458 (HER: 10185)
 - TL 7418 0458 (HER: 10186)
 - TL 7408 0442 (HER: 10189)
 - TL 7408 0439 (HER: 10190)
- 5.18 Pillbox TL 7387 0577 HER: 10171 is located approximately 150 metres north-east of the Site, and west of modern buildings associated with Manor Farm. Only the Manor Farm pillbox (HER: 10171) is visible from the Site and this is also identified within the Chelmsford Council's Heritage Assessment Technical Note (March 2017). Therefore, this pillbox warrants from further assessment to establish whether the Site can be considered to form part of its setting and its contribution, if any, to the significance of this asset.
- 5.19 Located within the Great Baddow area, the Register identifies the West Hanningfield Road, BAE Systems Mast, which was relocated to Great Baddow in 1954. The upper-most stage of the Mast is visible from small parts of the Site

and its surroundings however, these account for a small number of total views afforded within and surrounding Great Baddow and there is no historic functional association between the Mast and the Site. This structure has also not been identified within Chelmsford Council's Heritage Assessment's Technical Note (March 2017). Therefore, the Site is not considered part of the setting to this structure and this asset requires no further assessment.

Summary:

- 5.20 The built heritage assets that require further assessment in Section 6 are shown on Figure 3 (with the exception of the Church Cathedral) and are listed below:
- Cathedral Church of St Mary the Virgin. (Listed Building. Grade I. NHLE: 1328779);
 - Church of St Marys. (Listed Building. Grade I. NHLE: 1122149);
 - Barnes Mill. (Listed Building. Grade II. NHLE: 1238769);
 - Chelmer and Blackwater Conservation Area (designated 1991);
 - Sandford Mill Road Waterworks Buildings (HER: 15085); and
 - Pillbox at TL 7387 0577 (HER: 10171).

6.0 ASSESSMENT OF SIGNIFICANCE

- 6.1 Paragraph 128 of the NPPF states that planning decisions should be based on the significance of the potentially affected heritage assets, including any contrition from their setting. 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 review the potential impact of the proposal upon the significance of that asset.
- 6.2 This section describes the heritage assets' significance and understands the setting in which they are currently experienced. In accordance with Historic England guidance, both the physical surroundings and the ways in which each asset is experienced have been addressed.

Designated Heritage Assets

Listed Buildings:

**Cathedral Church of St Mary the Virgin. Grade I. NHLE: 1328779.
Listed: 20.05.1949.**

Historic Interest:

- 6.3 The NHLE list entry for the Cathedral Church of St Mary the Virgin describes that the asset was in part designated for illustrating successive historic and contemporary renewals, restorations and the evolution of a large fifteenth-century Parish Church, both responding to Chelmsford's nineteenth-century growth and in its transition to a Cathedral Church in the early twentieth-century.

Architectural Interest:

- 6.4 The church is built from flint rubble and high quality flushed flint work, particularly to the fifteenth-century tower and southern porch. The building also has a high use of decorative stonework, stonework dressings and ashlar facing to the south aisle of the nave, which was rebuilt in the nineteenth century. Although the design and plan of the church has several different phases, the quality in their design and the craftsmanship of materials attaches a high historic illustrate and aesthetic value to the building. This is emphasised by Bettley and Pevsner's architectural critique of the flushwork to the southern porch,

describing it as '*amongst the finest in Essex*' (2007: 201). Additionally, the list entry description emphasises the quality and rarity in the extensive survival of the church's Georgian restoration, especially the nave roof; while Bettley and Pevsner describe the tower as '*commanding*' with its summit topped by a classical, eighteenth-century open lantern and needle spire.

- 6.5 The list entry also describes the Church possessing very high quality twentieth-century fixtures, reflecting its elevation to Cathedral status and interior memorials and glass dating from the nineteenth and twentieth centuries.

Setting:

- 6.6 The Cathedral Church is located within the centre of Chelmsford and as described within the list description's reasons for its designation the '*church enjoys very strong townscape value, and forms the core of historic Chelmsford*' (Appendix B). The upper-stages of the tower and its needle spire are visible from a wider area, including from the River Chelmer and the surrounding river valley of which the Site forms a small part. From these wider areas, views of the fifteenth-century tower and eighteen-century spire are experienced as part of a rural historic context which has undergone relatively few modern changes. The Site forms, a small part of this wider rural hinterland and from the higher vantage points of the Site's, distant views towards the Cathedral are afforded.

Summary of Significance:

- 6.7 The significance of the Cathedral Church of St Mary the Virgin is derived from evidential, historic illustrative and aesthetic values shown in the survival, quality and craftsmanship of its fabric spanning the medieval, post-medieval and modern periods. The building also embodies communal and spiritual values, which have been intensified by its elevation from a Parish Church to a Cathedral in the twentieth-century.
- 6.8 The significance of the building is principally appreciated from within the historic core of Chelmsford however, by virtue of the height the building's tower and needle spire; the communal and spiritual heritage values of the building are projected over a wider area, including from within the rural context of the River Chelmer/Navigation.

- 6.9 As a result of the twentieth century changes to the status of the building, the building is no longer appreciated only as a fifteenth century Parish Church but as a Cathedral Church with an expanded communal and spiritual relationship with the wider area. In this respect, it is seen as a symbolic local landmark, which relies more heavily upon its general visibility, which the openness to the river valley affords, rather than from its rural context. The Site forms a small part of a rural hinterland however; the Site's elevated areas afford distant views of the Cathedral Church with less visual interference from competing built forms and vegetation. Consequently, the Site contributes to the significance of the asset by affording the ability to appreciate its communal and spiritual significance as a twentieth-century Cathedral Church.

Church of St Mary. Grade I listed. NHLE: 1122149. Listed: April 1967.

Historic Interest:

- 6.10 The Parish Church of St Mary the Virgin dates from the twelfth century and it has retained a high proportion of medieval and post-medieval fabric with thirteenth century nave arcades and chancel, fourteenth-century aisles and western tower, sixteenth century clerestory, parapet and chancel chapel and a seventeenth century southern porch. The church possesses some nineteenth century restorations, albeit the church interior underwent alterations and reordering in 1999.

Architectural Interest:

- 6.11 The Church of St Mary's tower is built largely from rubble flint and the clerestory, chapels and porch in brick, with lead and slate roofs. Bettley and Pevsner's architectural critique of the church describes it as having a '*splendid exterior thanks chiefly to the early Tudor brick clerestory and its stepped battlements on a trefoiled corbel frieze and brick pinnacles*' (2007: p.386). The list entry also places emphasis on the importance of the interior of the church, citing Pevsner's opinion of an '*outstanding*' pulpit and describes the building possessing very good medieval roofs and eighteenth century monuments. Nineteenth and early twentieth century alterations (1892-1903) are attributed to Chelmsford based architects C. and W. H. Pertwee, which is valued at a local level.

Setting:

- 6.12 The Church of St Mary's is positioned within a relatively large churchyard located within the historic core of the Great Baddow and surrounded by a varied townscape of historic and modern development. The built form of the townscape largely restricts the visibility of the church beyond its immediate setting however; the combined height of the tower and spire ensures the visibility of these architectural features on approaches into the town for example, from Church Street and between houses from surrounding roads. Additionally, the height of the spire extends the visual prominence of the building beyond the built edge of the settlement.

Summary of Significance:

- 6.13 The significance of the Church of St Mary is derived from evidential, historic illustrative and aesthetic values shown in the survival, quality and craftsman of its medieval and post-medieval fabric, particularly shown on the roofs, the clerestory and interior fixtures. To a lesser degree these heritage values are evident in the building's nineteenth-century restorations, associated with a locally valued architectural practice. These elements of the church's significance principally rely upon the ability to visually perceive the materials and decorative techniques inherent in the fabric of the church, rather than on its setting.
- 6.14 Part of the communal value of the church, as a place of worship is projected over a wider area by the visibility of its fourteenth century tower and spire. In this respect, the Site forms a small part of the wider rural landscape surrounding Great Baddow and accounts for a small proportion of total views of the asset. The visibility of the spire from within the Site and in wider views, where the Site forms part of the foreground is restricted by intervening development and vegetation cover. Consequently, the ability to experience these architectural features and their conveyance of the Church's communal value is heavily reduced. The Site forms part of the setting to the church but provides a neutral element to it the asset's significance.

Barnes Mill. Grade II. NHLE: 1238769. Listed 1949.

Historic Interest:

- 6.15 The site of Barnes Mill has potentially been in use since the fifteenth-century however, the present mill building dates from the eighteenth-century and its multi-storey arrangement reflect the typical character and development of

watermills of this period, utilising gravity based milling processes (Historic England, 2017).

- 6.16 Barnes Mill is historically associated with a branch of the Marriage family, a well-known milling family in Essex who owned, operated and managed the mill from c.1792-1917, having also likely owned nearby mills in Springfield and Croxton. Parts of the Site, as arable land was tenanted by the Marriage family during the period of the Tithe Survey in the mid-nineteenth century however, the specific tenure length and any relationship between the Site and Barnes Mill is unknown.
- 6.17 Barnes Mill remained in use until the 1950s, and then fell into dereliction before being converted into a dwelling in 1975. At this time, the majority of its interior fixtures and fittings were removed.

Architectural Interest:

- 6.18 Barnes Mill is a two storey with attics watermill, now in residential use. The building has retained the typical aesthetic appearance of a watermill, constructed from brick, timber-framing and weatherboard, partly painted in white and black bitumen, with a tiled and slated mansard roof. Despite, the removal of interior fixtures and fittings, the survival of exterior component mechanisms, for example a nineteenth century sluice gate, typifies the character associated with watermills from this industrial period.

Setting:

- 6.19 Barnes Mill is positioned on a north-to-south axis astride to a series of waterways, channels and ponds servicing it. Ornamental planting and a modern wooden boating jetty surrounds the main millpond and has produced a low domestic character to the initial setting of these buildings however, its industrial character is clearly perceived visually by the mill's materials and the remaining exterior infrastructure and divisions of the waterways. Closely planted trees to the south of the mill, largely restricts the visibility of the Mill from the Chelmer and Blackwater Navigation and wider valley of the River Chelmer to the south, including from the Site.
- 6.20 North of Barnes Mill is a small mix of largely modern dwellings on Vue Mill Road and to its north-west are a further two listed buildings Barnes Farmhouse (Grade

II. NHLE: 1141357) and associated Barn (Grade II, NHLE: 1141358). These buildings are not visible from the Site. However, as part of the Mill's setting they have largely retained their historic agricultural character and the modern dwellings have made use of traditional materials, for example with weatherboarding which complements the vernacular character of the mill buildings and the wider rural setting of the river valley.

Summary of Significance:

- 6.21 The significance of Barnes Mill is derived from evidential, historic illustrative and aesthetic heritage values of an industrial building representing the typical construction and vernacular materials and styling of eighteenth-century river mills built along waterways in Essex. The ability to understand and appreciate this significance relies less upon its setting however, the engineering character derived from its surrounding waterways south of the mill, complements the mill's industrial character. The wider agricultural land, which the Site forms part of, broadly contributes to a historic illustrative relationship between the arable fields and the historic output of the mill however, this relationship forms a very small element of the asset's significance.

Chelmer and Blackwater Navigation Conservation Area

(Designated in 1991. Conservation Area Character Appraisal March 2009).

Historic Interest:

- 6.22 The Chelmer and Blackwater Navigation was instigated by a Bill in Parliament in 1793 and completed by 1797 by using a combination of canal engineering and the natural course of the River Chelmer. The completed Navigation provided an alternative, improved and more cost-effective transport system which transformed the industrial growth and population of Chelmsford. The use of Navigation peaked by the mid-nineteenth century with competition from the Great Eastern Railway. A gradual decline in trade culminated in the end to the passage of commercial barges in the early 1970s, before the waterway was used for recreational uses. Nevertheless, the survival of canal locks, bridges and mills along and close to the Navigation provides evidential and historic illustration of how the development and technological advancement of the waterway catalysed the industrial growth and development of Chelmsford and the wider area.

Architectural Interest:

- 6.23 The Chief Engineer for the Chelmer and Blackwater Navigation was John Rennie (1761-1821) a noted canal architect however, its survey and construction was largely overseen by Charles Wedge and Richard Coates. The Navigation was constructed with twelve locks, which were built to accommodate wider than standard barges and were designed by Rennie, along with the majority of brick bridges along its length.
- 6.24 The opening of the Navigation galvanised investment in waterway industries, which resulted in the rebuilding and expansion of existing watermills. The survival of Moulsham and Barnes Mills provide examples of traditional eighteenth-century watermills, which harnessed power from the river and benefited from their close proximity to the canal, enabling easier and cheaper transport to wider markets.
- 6.25 Additionally, the survival of traditional agricultural buildings found along the route of the River Chelmer reflects the relative importance of farming to the historic narrative of the river industries.

Setting:

- 6.26 The boundary to the Chelmer and Blackwater Conservation Area predominately follows the extent of the floodplains meadows to the north of the Chelmer and a wider band of pastoral and arable fields to the south, which provides separation from the built forms of Chelmsford's outlying suburbs and villages. This built edge has experienced expansion during the twentieth century and particularly, to the north of the Conservation Area has seen the modern built edge of Chelmer Village advance towards the floodplains. However, vegetation screening and pockets of traditional buildings, for example surrounding Barnes Mill reduces the visual impact of the modern townscape in relation to the rural context of the Conservation Area. South of the Conservation Area the surrounding land comprises a mix of pastoral and arable farming land, which has experienced some modern farming intervention with the creation of agricultural reservoirs and the loss of some internal field boundaries.
- 6.27 The Site forms a small part of this rural hinterland but is more visually prominent in outward views from the Conservation Area owing to a gradual rise in the Site's topography towards the A414 Site and Manor Farm to the east.

Additionally, the modern removal of internal field boundaries within the Site has accentuated uninterrupted views of the arable land from the flatter land of the Conservation Area. Consequently, inward looking views into the Conservation Area from the Site's southern boundary, close to the A414 and from its eastern extent afford distant panoramic views of Chelmsford and the route of the Navigation, with pockets of traditional waterside industry visible within a wider rural context.

Summary of Significance:

- 6.28 The significance of the Chelmer and Blackwater Conservation Area is derived from evidential, archaeological and historic illustrative heritage values reflecting a transport system and its surviving infrastructure which contributed to the economic development and social growth of Chelmsford during the late eighteenth and nineteenth-centuries.
- 6.29 The survival of eighteenth-century watermills along the Navigation possess historic illustrative heritage value demonstrating the historic importance of the Navigation's effect on renewing impetus into existing river industries and the advancement of industrial and technological processes. The survival of agricultural buildings close to the Navigation also helps to reflect the relative importance of farming to the historic narrative of the river industries.
- 6.30 The Site forms a small part of a wider rural hinterland surrounding the Navigation. The Site's topography and reduced internal field boundaries afford panoramic type views which afford the ability to appreciate a broad historic narrative between the urban centre of Chelmsford with the more rural context of the Navigation and nineteenth-century waterside industries. In the context of the Site's contribution to the Conservation Area, the ability to appreciate this broad narrative relates to a small element of its overall significance.

Non-Designated Built Heritage Assets

Pillbox - HER Number: MEX31657 (OS NGR: TL 7387 0577)

Historic Interest:

- 6.31 This FW3/Type-24 pillbox is the most commonly built and surviving pillbox, from twelve standardised designs issued by Branch FW3 of the War Office to provide a quick strategic defence structure in response to the threat of invasion during 1940-1942 (Jones et al. 2008).
- 6.32 The pillbox likely formed part of the 1940 General Headquarters (GHQ) defence line, which spanned the north, south and western parts of England and comprised anti-tank ditches, fortified by pillboxes and other defences. The part of the GHQ running through Essex was located approximately 250 metres east of this pillbox.

Architectural Interest:

- 6.33 The FW3/24 pillbox has an irregular hexagonal plan, with a southern entrance and is constructed of c.38 cm thick concrete walls, designed to withstand small arms fire. Each wall features a c.25 cm square rifle/gun embrasure aperture, which have metal exterior plates. These plates may have been a local variation to the standard pillbox design however this was not uncommon in the construction of these structures.
- 6.34 The internal design of the pillbox largely configures with the standardised format however, there is no internal Y-shaped wall, which was designed to reduce bullet ricocheting. There is imprinting of timber formwork, used in the construction of the structure evident on the roof and walls of the pillbox and basic remains of wall mounted timber supports.

Setting:

- 6.35 The pillbox is situated at an elevated position, approximately 30 metres AOD, with the land descending to the south, west and east and more steeply to the north. The pillboxes' western field-of-vision looks across part of the Site, which reflects an agricultural setting somewhat resembling the asset's historical context. However, the pillboxes principal field of fire would have been concentrated to the north and north-east, as the pillbox was positioned to the

west of the former GHQ defence line to cover potential invasions routes from road and river positions.

- 6.36 The majority of the pillbox is now concealed by vegetation, which has camouflaged its visibility from the Site and the surrounding area. Additionally, later built development, for example Manor Farm to the south-east and increases in wider intervening vegetation cover ensures that the pillbox is visually isolated from surviving historic contemporary structures situated predominately to the east of Sanford Mill Lane and towards the River Chelmer.

Summary of Significance:

- 6.37 The significance of this FW3/Type24 pillbox derives from historic illustrative and historic associative values as a short-lived anti-invasion defence structure, forming part of the GHQ defence line, during the Second World War. The architectural and historic value is embedded in its form, fabric and historic function. The asset's immediate setting relates to the assets historic field of fire in relation to its position as part of the GHQ defence line located to the east. In this respect, views to the north and north-east, towards Sandford Lane Mill and the River Chelmer principally contribute more to understanding the historic functional and strategic significance of the pillbox than views across the Site.
- 6.38 The pillbox also possesses group value, as a component element forming the remnants of the GHQ anti-invasion defence line. The interpretation of this group value relies upon a degree of visibility between the remaining historic contemporary structures however; this pillbox is isolated in this respect by modern development and increased vegetation cover and therefore, contributes less to the significance of the GHS as a whole.
- 6.39 Consequently, the Site forms a small part of the setting to the pillbox however, its contribution to understanding the significance of this non-designated heritage asset is low.

Sandford Mill Waterworks HER Number: 15085

Historic Interest:

- 6.40 In 1922/23 Chelmsford Borough Council opted to extract water from the River Chelmer to service its expanding population and purchased Sandford Mill for a

new Waterworks to treat and pump water to the Galleywood reservoir located close to Chelmsford. The earlier mill was demolished and new buildings and reservoirs constructed from 1927-1929. The Waterworks were refurbished and expanded in c.1955 and closed in the 1980s, with the Site occasionally used as a general museum/educational facility.

- 6.41 Historic England guidance on '*Infrastructure: Utilities and Communication*' advises that the highpoint for the construction of Water Works spanned from the 1860s-1930. During this period the architectural styling of these buildings, particularly pumping stations was often seen as symbols of public/private investment and of health and town improvements. The Sandford Mill Waterworks dates from the end of this period and more closely reflects Waterworks development leading up to the Second World War, which were often smaller and less architectural distinctive, partly as they housed small plant and machinery powered without the need for steam-engines.

Architectural Interest:

- 6.42 The buildings of the Waterworks date from the either side of the Second World War. Those from pre-1939 were from the design Mr E. J. Miles, the Chelmsford Borough Engineer and Surveyor from 1920-1932 and therefore likely have a degree of local value (Chelmsford Chronicle, 1930). The pre-1939 buildings are largely built from brick, with slate and tiled roofs, concrete lintels and dressings. The largest of these is the Engine House, which comprises ten bays with near full-length Crittall styled windows on its eastern elevation; a typical architectural feature of Waterworks which required the need for good ventilation and lighting. Attached to the northern side of the Engine house is an earlier two-storey brick house, which has sash windows, French doors, simple terracotta dressings and a twin gable and pantile roof.
- 6.43 North-west of the Engine House is a mid-twentieth century building with a restrained Art Deco aesthetic. Historically known as the 'Filter House', this building comprises two storeys, flat roofs and a tower and is built from brick, partly rendered in white and features Crittall windows.
- 6.44 The HER entry describes the Waterworks buildings from an exterior viewpoint as not being outstanding examples of early twentieth century Waterworks

architecture however, the Register of Buildings of Local Interest describes the pair of buildings as examples of rare, rural twentieth century industrial buildings.

Setting:

- 6.45 The Waterworks are situated on the original course of the River Chelmer, albeit reengineered to accommodate the functions of the buildings and in their immediate setting are surrounded by a variety of regular-shaped, man-made reservoirs. The proximity of the buildings to the waterways clearly relates to their historic functional use and therefore, the significance of the buildings is principally experienced from within a close setting. Additionally, the Waterworks are largely enclosed and visually separated from the wider rural landscape to the south and west and the eastern extent of Chelmer village to the north-west by surrounding vegetation screening.

Summary of Significance:

- 6.46 The significance of the Waterworks derives from evidential, historic illustrative and social heritage values reflecting part of the historic development of Chelmsford in the twentieth-century and the social improvements to the health and welfare of its population. To a lesser degree, the Waterworks possess some aesthetic design values responding to the historic civic pride in the establishment of these building types however, this is valued at a local level, with the design value of the Waterworks conforming to typical aesthetic characteristics for their period.
- 6.47 Visually, the Waterworks is clearly closely associated with the waterways of the River Chelmer and alongside the series of engineered reservoirs surrounding the buildings and it is this immediate setting, which principally contributes to their significance.
- 6.48 The industrial and local civic pride characters, displayed by this type of Utility building are more associated with the historic development and expansion of a settlement, rather than its rural context, which the Site forms a small part. In this respect the Site does not contribute to the significance of the Waterworks.
- 6.49 Views afforded from the Site towards the Waterworks do encompass the built edge of Chelmer Village to the far north-west however, the cotemporary date of

this built form and its separation from the Waterworks owing to vegetation screening, results in the views from the Site not contributing to understanding the significance between the historic relationship between the Waterworks and the town of Chelmsford. Consequently, whereas the Site forms a small part of the setting to the Waterworks, it provides no contribution to its significance.

7.0 NATURE AND IMPACT OF THE PROPOSED DEVELOPMENT

7.1 According with the stepped approach to assessment, set out in Historic England's Good Practice Notes 3 – The Setting of Heritage Assets. This Built Heritage Statement has identified built heritage assets that are potentially affected by development on the Site and has described and assessed their character and significance, and the contribution their setting makes to this (Steps 1 and 2).

7.2 This Built Heritage Statement has been prepared to inform the prospective residential development of the Site. Therefore, this Section provides an initial assessment of the potential impact of residential development on the built heritage assets identified in Section 6 and outlines measures which could be adopted to reduce any harm and potential enhancements. This is in accordance with steps 3 and 4 of Historic England's advice.

The Proposed Development

7.3 The proposals for the Site are in an early stage however, the Site's description within the allocation of the emerging Local Plan '*Strategic Growth Site 3a – East Chelmsford (Manor Farm)*' provides an overview of its potential direction in delivering approximately 250 dwellings.

Impact on Designated Built Heritage Assets:

Cathedral Church of St Mary the Virgin. Grade I. NHLE: 1328779.

7.4 The impact of the development will reduce the ability view the Cathedral Church from the edge of Great Baddow. The available views represent a small percentage of total views of this listed building, which its listing entry refers to as principally experienced from its strong townscape setting.

7.5 The proposals would produce an adverse impact in the ability to appreciating an element of the Cathedrals significance from a small part of its setting. In the context of the NPPF, this would result in less than substantial harm and sit at the low end of the harm spectrum.

7.6 Design measures which would further reduce the harm to a lower level on the harm spectrum should include the incorporation of a sight line through the

development. This could potentially be located on the higher area of the Site's eastern extent and near to the Site's anticipated entrance from the A414/Sandford Mill Lane. As part of this potential sight line, a tie in with heritage information boards for other parts of the site could help with the interpretation and significance of surrounding heritage assets. Subject to these design measures, the proposals would still result in less than substantial harm to the significance of the Cathedral Church and be subject to the NPPF test outlined in paragraph 134.

Church of St Mary. Grade I listed. NHLE: 1122149.

- 7.7 The proposals will bring forward the existing built edge of Great Baddow however the development would be seen within the context of existing built development surrounding the tower and spire of St Mary's Church and along the A414. The development's landscaping scheme is anticipated to screen and soften the visual impact of the housing and complement the existing vegetation character surrounding the built edge of Great Baddow. An anticipated two-storey height for the development would ensure that it does not compete with the visibility of the Church tower and spire in views looking towards Great Baddow from the Chelmer and Blackwater Conservation Area. Subject to these design measures, it is anticipated the proposed development will produce no impact on the significance of the Church of St Mary.

Barnes Mill. Grade II. NHLE: 1238769.

- 7.8 The proposals will result in the partial loss of arable fields located outside of the Conservation Area, which are more visually pronounced than the arable fields situated within the Conservation Area boundaries owing to the Site's topography. The loss of these fields will result in an adversely effect on the visual historic illustrative relationship between Barnes Mill as a former corn mill and the Site.
- 7.9 In the context of the NPPF, the proposals would result in less than substantial harm to the significance of Barnes Mills and be subject to the NPPF test outlined in paragraph 134. There are no clear mitigation measures to offset this potential harm however, the contribution of the Site to the significance of Barnes Mill is low and forms only part of arable fields in the wider area and therefore, the resultant harm would sit at the lower end of the harm spectrum.

Chelmer and Blackwater Conservation Area (designated 1991)

- 7.10 The proposals are anticipated to cover the majority of the Site and this would have the potential to change the current panoramic views afforded from the Site into the Chelmer and Blackwater Conservation Area. These help to appreciate the broader significance of the historic relationships between Chelmsford, the route of the Navigation and industrial and agricultural character along this.
- 7.11 The development would produce an adverse impact on the significance to part of the Conservation Area, which in the context of the NPPF would result in less than substantial harm, and sit at the lower end of the harm spectrum. Consequently, the NPPF test outlined in paragraph 134 would apply. This harm could be mitigated by the inclusion of sight lines within the development, likely combined with the anticipated sight lines for the Cathedral Church.
- 7.12 Subject to the adoption of some or all of these design measures, the outcome would still produce less than substantial harm to the Conservation Area but could potentially reduce the harm to a lower level on the harm spectrum.

Impact on Non-Designated Built Heritage Assets:

Pillbox - HER Number: 10171 (OS NGR: TL 7387 0577)

- 7.13 The proposals will introduce a built character to the Site, which presently forms part of the pillbox's historic rural setting. However, the Site as part of this setting to the pillbox provides a negligible contribution to the asset's significance, which is principally derived from the north and north-east, in relation to the pillbox's position and field of fire in relation to the former GHQ line. Consequently the proposals will result in a minor impact on the significance on the pillbox.
- 7.14 Consequently, as a non-designated heritage asset, paragraph 135 of the NPPF would apply, where the Local Authority should make a balanced judgement having regard to the scale of any harm or loss and the significance of the heritage asset. This is a determination, which is ultimately made by the Local Planning Authority however, the Strategic Growth Site 3a – East Chelmsford (Manor Farm) suggests the implementation of heritage interpretation boards, which potential would allow for appreciating the significance of this and other pillboxes in the surrounding area, to offset this harm. Subject to ecological advice, the pillbox might also lend itself to conversion into a Bat roost.

Sandford Mill Waterworks – HER Number: 15085

- 7.15 The proposals will bring forward the built edge of Great Baddow closer to the Sandford Waterworks however; the significance of these buildings is in part associated with the urban expansion of Chelmsford in the twentieth century and where the development is visible, its will be easily distinguishable as newer in age than the Waterworks and therefore will not impact on the interpretation of the buildings in their relationship to Chelmsford. Consequently, the proposals will result in no impact on the significance of this non-designated heritage asset.

8.0 CONCLUSIONS

- 8.1 This Built Heritage Statement has shown that the Site forms a small part of the setting and contributes to appreciating the significance of the Grade I listed Cathedral Church of St Mary in Chelmsford. The development will result in an adverse impact to an element of the asset's significance. In the context of the NPPF this would result in less than substantial harm, sitting at the low end of the harm spectrum. The incorporation of a sight line through the development towards this asset and the potential for tie-ins with heritage interpretation boards would help to reduce this harm however, the outcome would remain as less than substantial harm.
- 8.2 The Site forms a small part of the setting of the Grade I listed Church of St Mary in Great Baddow but makes a neutral contribution to its significance. Subject to design measures, the development will not impact on the significance of this listed building.
- 8.3 The Site forms a small part of the setting and contributes to the significance of the Grade II listed Barnes Mill. The development will result in a adverse impact on an element of its significance. In the context of the NPPF, the resultant harm would amount to less than substantial harm, sitting at the lower end of the harm spectrum. There are no clear mitigation measures to reduce this potential harm.
- 8.4 The Site forms a small part of the setting to the Chelmer and Blackwater Navigation Conservation Area and contributes to appreciating the significance of the Conservation Area. The development would have an adverse impact on the ability to appreciate an element of its significance within this part of the Conservation Area. In the context of the NPPF, this would result in less than substantial harm, sitting at the low end of the harm spectrum. The incorporation of a sight line through the development along the A414 and/or combined with a Cathedral Church sight line would help to reduce this harm however, the outcome would remain as less than substantial harm.
- 8.5 In regards to designated built heritage assets, the development has the potential to result in less than substantial harm to the significance of the listed buildings of the Cathedral Church of St Mary and Barnes Mill and the Chelmer and Blackwater Navigation Conservation Area. Consequently, paragraph 134 of the NPPF would apply, whereby this level of harm will be weighed in the planning

balance with the public benefits of the proposal alongside the statutory tests of Section 66 and 72 of the Planning (Listed Buildings & Conservation Areas) Act 1990.

- 8.6 This Built Heritage Statement shows that the Site forms a small part of the setting to a FW3/Type-24 Pillbox, regarded as a non-designated built heritage asset. The development would result in a minor impact to its significance. The resultant harm could be reduced by the implementation of heritage boards and/or its conversion to a Bat roost, subject to separate technical advice.
- 8.7 As a non-designated heritage asset paragraph 135 of the NNPF would apply, where the Local Authority should make a balance judgement to the scale of any harm or loss and the significance of the heritage asset.
- 8.8 The Site also forms part of the setting to the non-designated built heritage asset of Sandford Mill Waterworks. The site does not contribute to its significance and this asset will remain unaffected by the proposed development.

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Cartographic

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10.0 PLATES



Plate 1: Looking north-west across the Site. Viewed from the southern boundary, east of Farm Shop.



Plate 2: Looking north-east across the Site. Viewed from the southern boundary, east of the farm shop. Position of Sandford Mill Waterworks indicated by the red arrow.



Plate 3: Looking north-west towards Chelmsford. Viewed from trackway leading from Sandford Mill Road (majority of the Site to the LHS). Position of the Cathedral Church indicated by the red arrow.



Plate 4: Looking east across the Site. Spire of Church of St John at Danbury indicated by red arrow. Viewed from public footpath running along the western boundary of the Site.

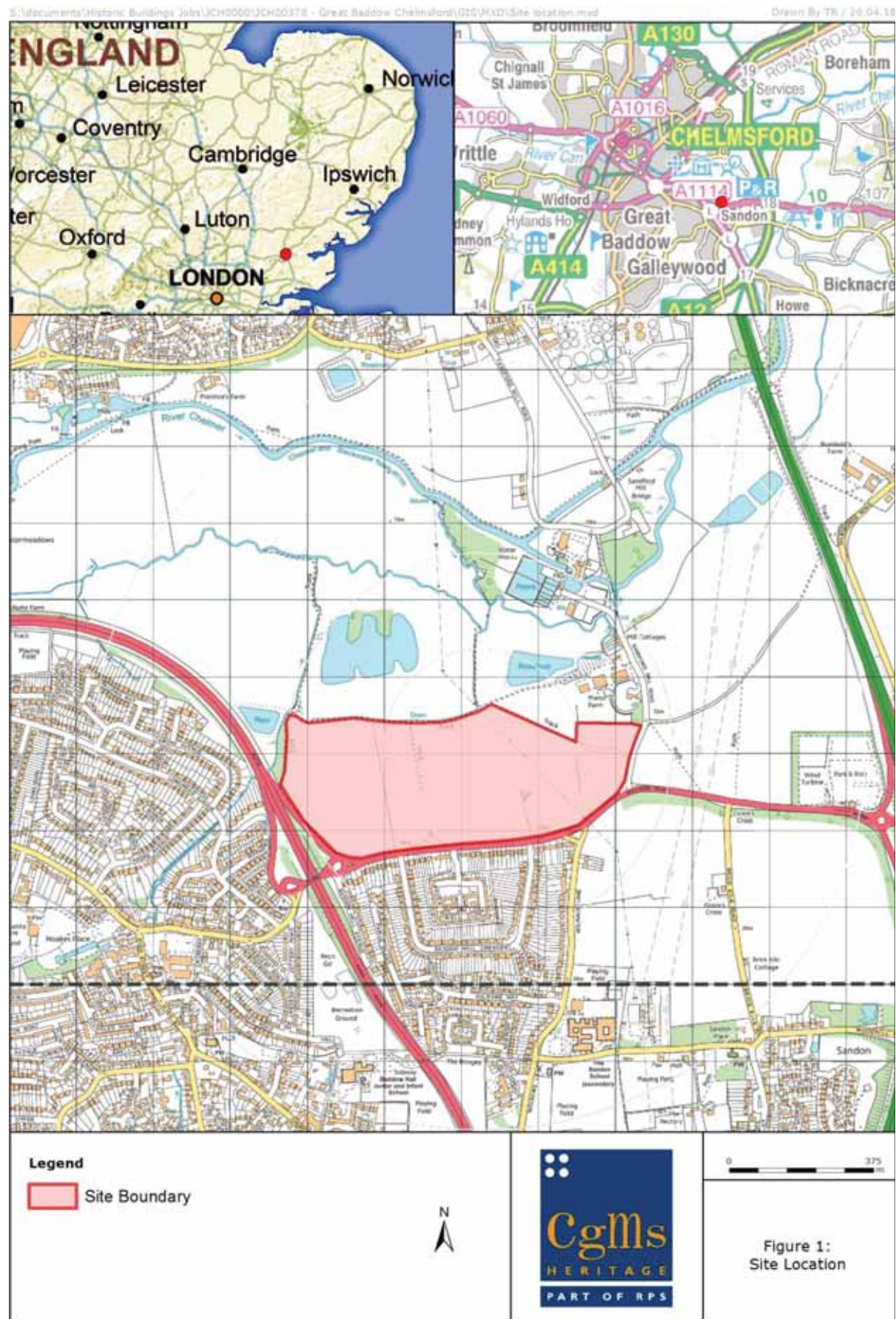


Plate 5: Looking south towards the Site from Barnes Mill Lock. Church of St Mary's Spire indicated by red arrow.

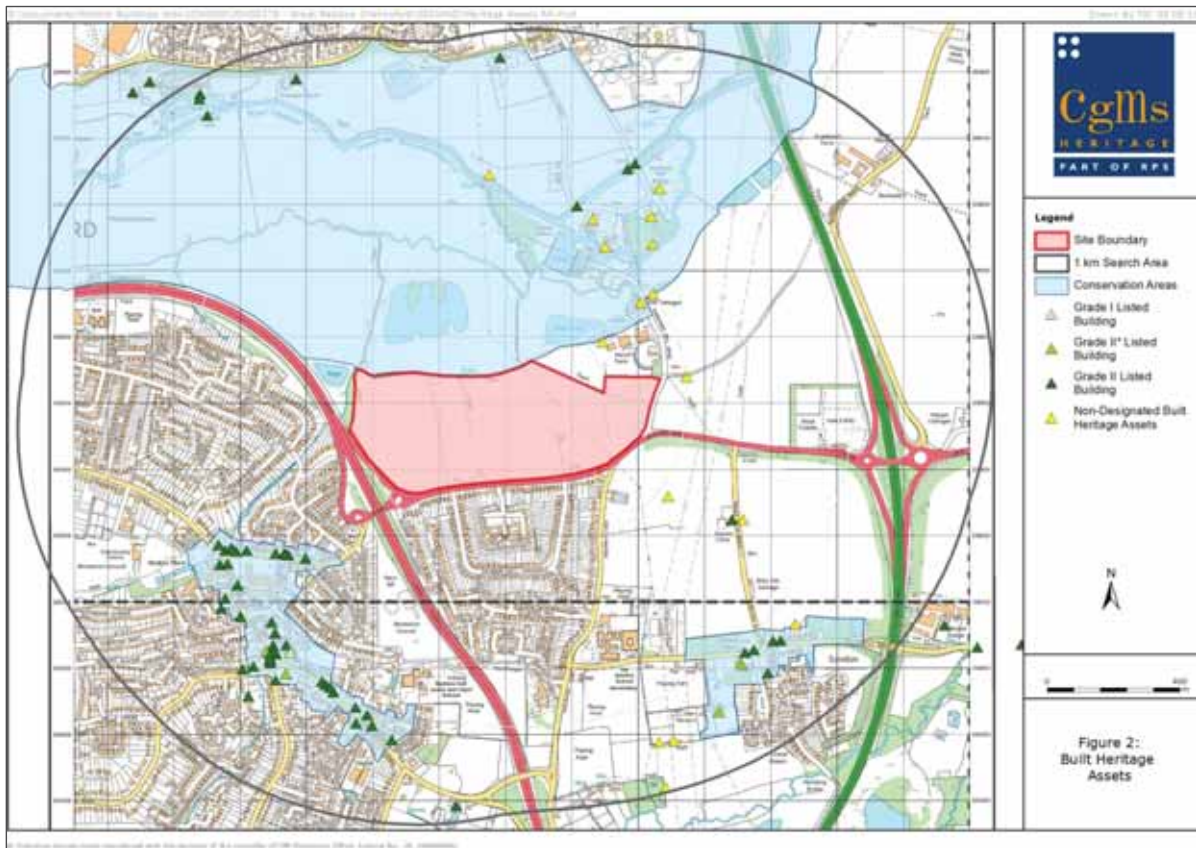


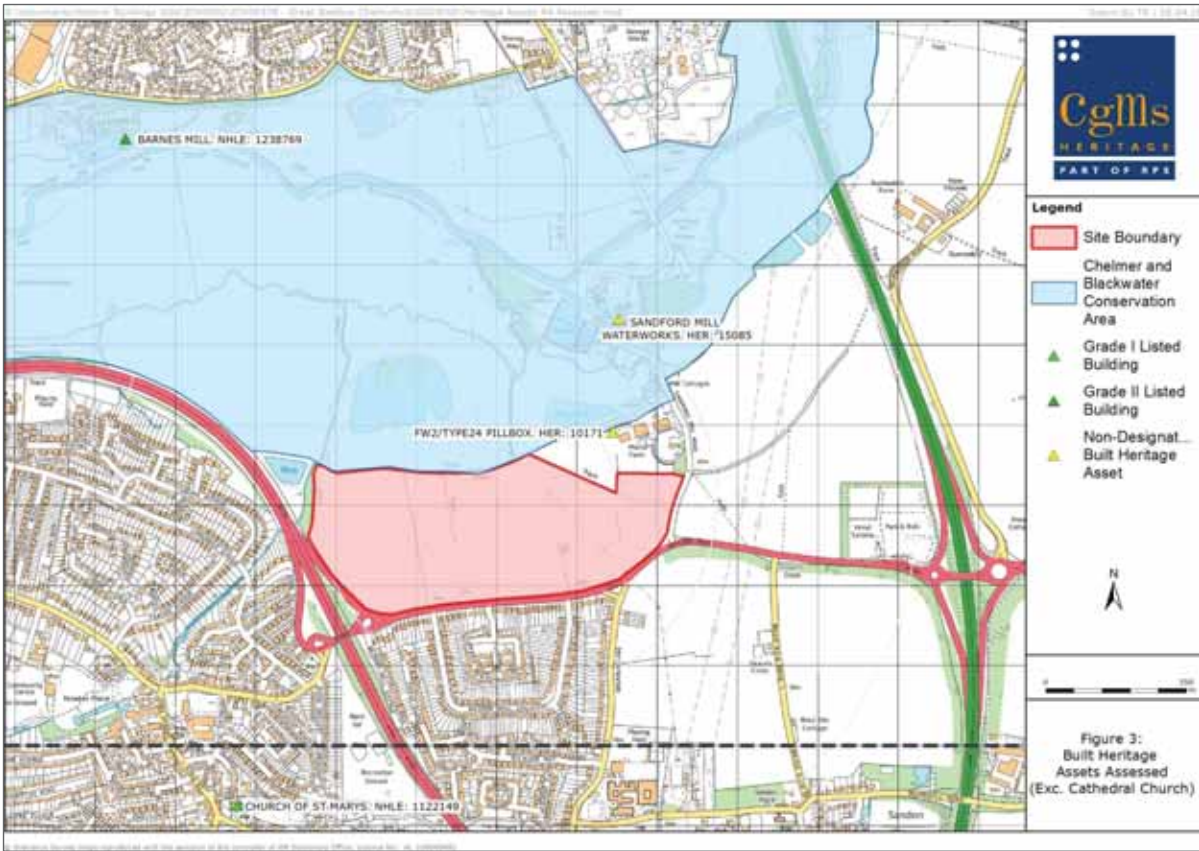
Plate 6: Looking south-east within the Conservation Area, towards the A38 crossing the Chelmer. Position of the Site indicated by a red arrow.

11.0 FIGURES



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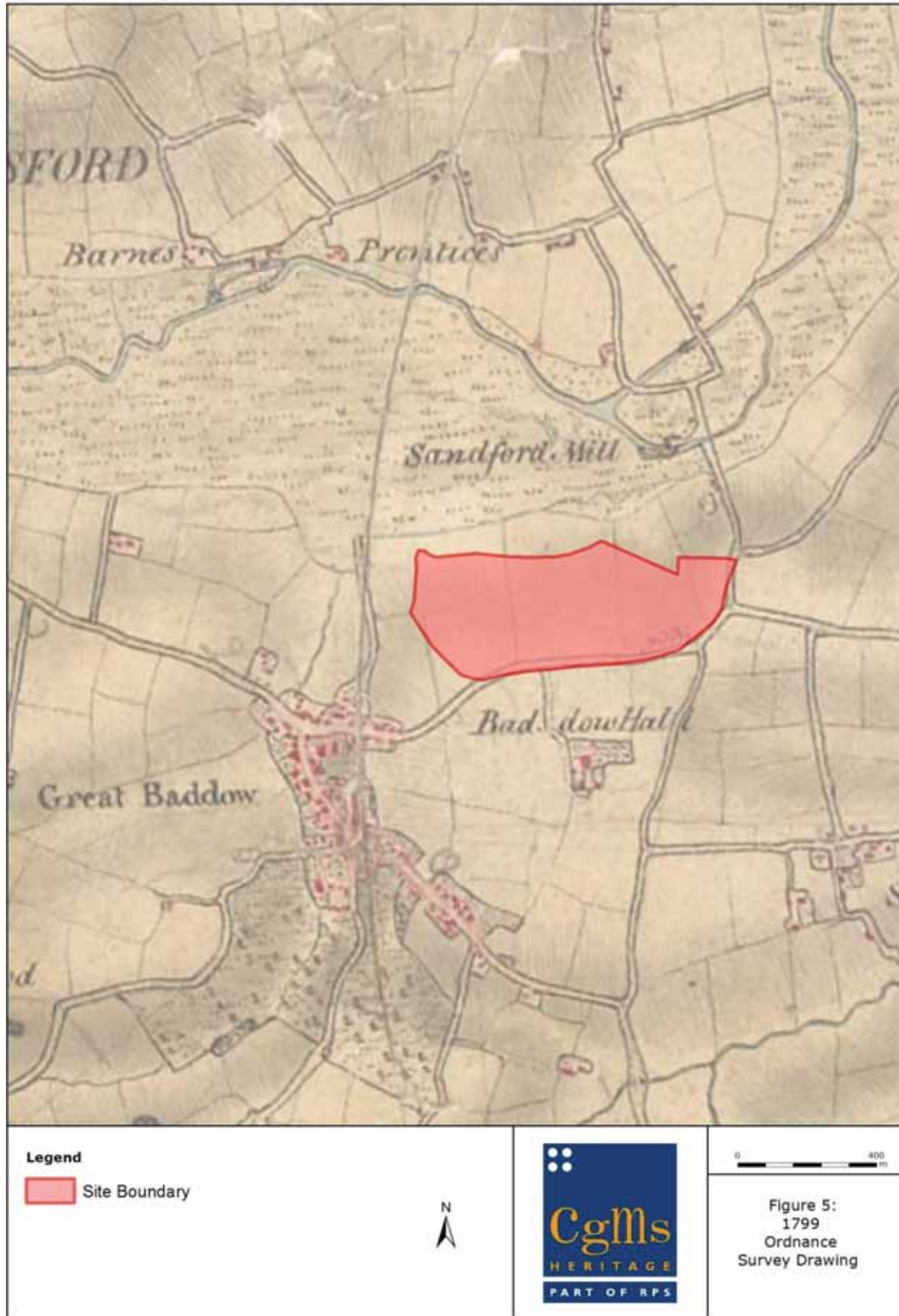






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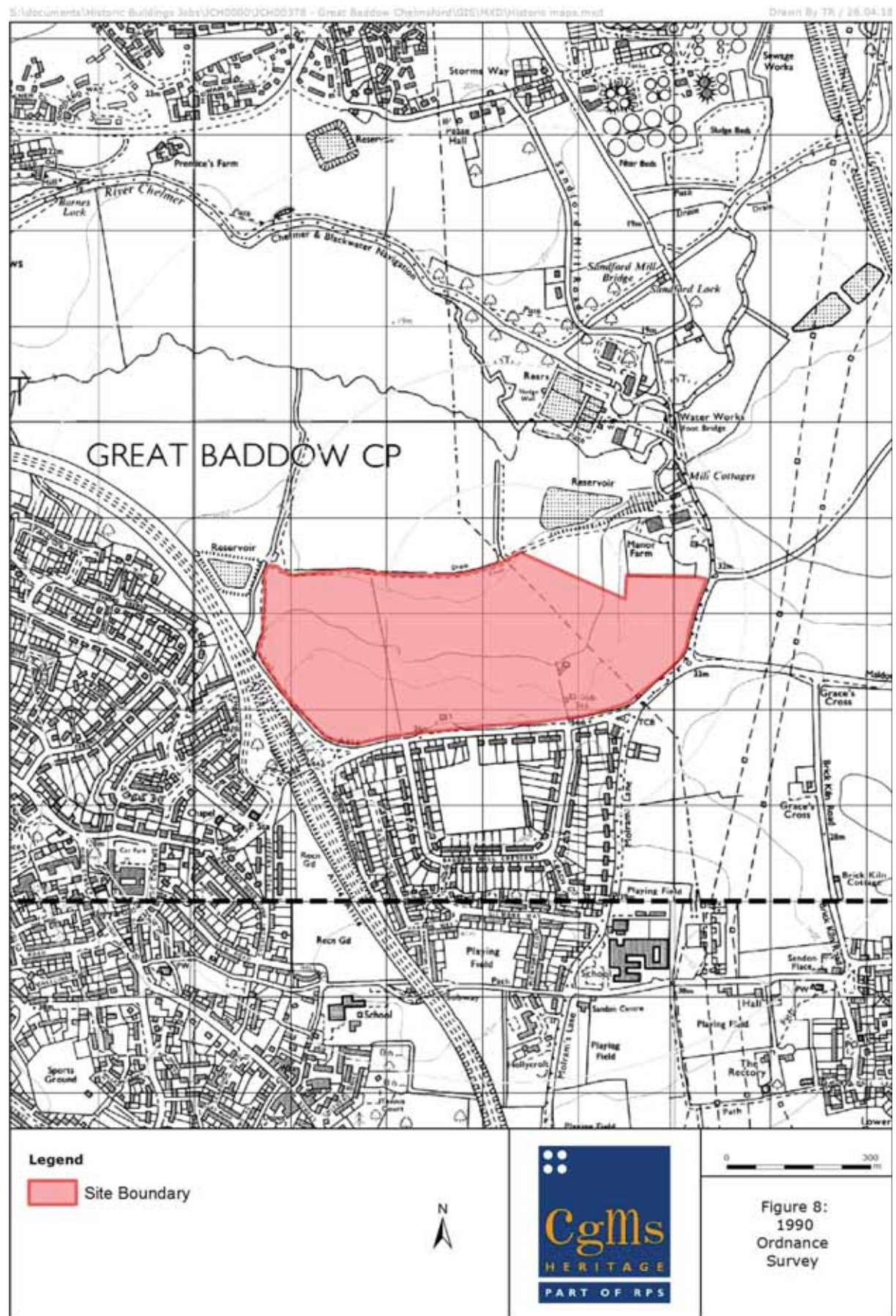
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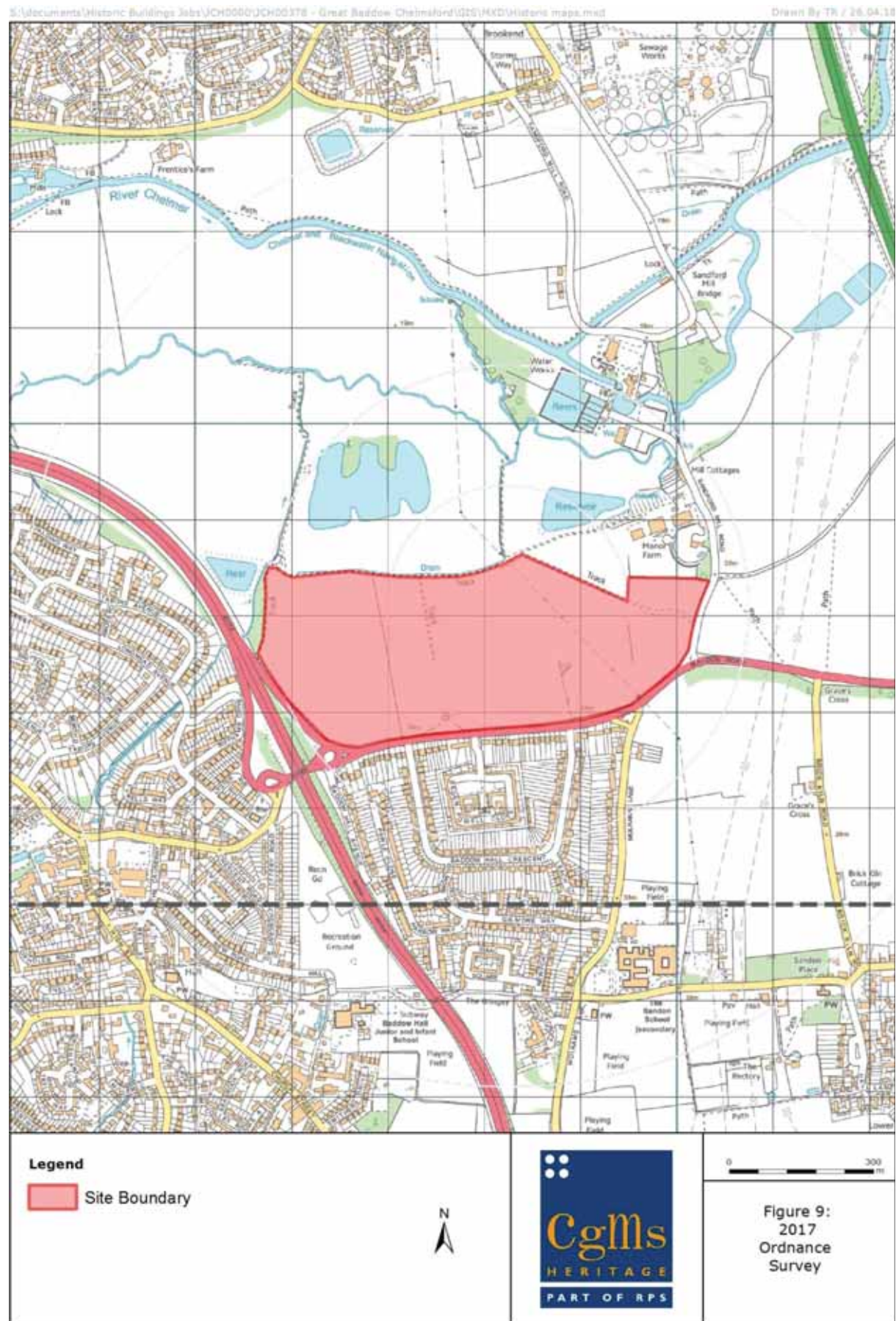


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APPENDIX A – BUILT HERITAGE ASSETS LOCATED WITH 1 KM SEARCH AREA

43-47, Maldon Road. NHLE: 1122121. Grade II. Date Listed 19/06/1975

Sextons Shed NHLE: 1122122 Grade II Date Listed 19/06/1975

Wall To The West Of The Vicarage NHLE: 1122124 Grade II Date Listed 19/06/1975

1-3, Valley Cottages NHLE: 1122147 Grade II Date Listed 19/06/1975

Church Of St Mary NHLE: 1122149 Grade I Date Listed 10/04/1967

Pitt Place NHLE: 1122150 Grade II Date Listed 10/04/1967

Friars Hall NHLE: 1122151 Grade II Date Listed 04/08/1971

Meads NHLE: 1122152 Grade II Date Listed 19/06/1975

Baddow Place NHLE: 1122153 Grade II Date Listed 19/06/1975

47 AND 49, Church Street NHLE: 1122154 Grade II Date Listed 19/06/1975

Gowers NHLE: 1122155 Grade II Date Listed 19/06/1975

Baddow House NHLE: 1122156 Grade II Date Listed 26/11/1974

6, High Street NHLE: 1122157 Grade II Date Listed 19/03/1971

Brick Walls NHLE: 1122158 Grade II Date Listed 19/06/1975

Bankura NHLE: 1122159 Grade II Date Listed 10/04/1967

White Horse Inn NHLE: 1122160 Grade II Date Listed 10/04/1967

Jefferey's House NHLE: 1122161 Grade II Date Listed 19/06/1975

Barnes Mill House NHLE: 1122621 Grade II Date Listed 20/05/1949

66 And 68, High Street NHLE: 1170982 Grade II* Date Listed 10/04/1967

Bancroft House NHLE: 1170995 Grade II Date Listed 10/04/1967

Beech House NHLE: 1171019 Grade II Date Listed 10/04/1967

Olspar NHLE: 1171027 Grade II Date Listed 19/06/1975

Ebenezer Terrace NHLE: 1170810 Grade II Date Listed 19/06/1975

Banstreets The Munnions NHLE: 1170822 Grade II Date Listed 10/04/1967

The Old Vicarage NHLE: 1170837 Grade II* Date Listed 19/06/1975

Houghtons NHLE: 1170870 Grade II Date Listed 19/06/1975

Pound House NHLE: 1170883 Grade II Date Listed 04/08/1971

27 And 29, Church Street NHLE: 1170896 Grade II Date Listed 19/06/1975

Adstocks NHLE: 1170911 Grade II Date Listed 19/06/1975

Baddow Court NHLE: 1170928 Grade II Date Listed 19/06/1975

The Limes NHLE: 1170937 Grade II Date Listed 10/04/1967

59 And 61, High Street NHLE: 1170944 Grade II Date Listed 19/06/1975

Barnes Mill Lock, Including Lock Gates, Chelmer And Blackwater Navigation NHLE:
1237554 Grade II Date Listed 13/07/1988

Sandford Lock, Including Lock Gates, Chelmer And Blackwater Navigation NHLE:
1237589 Grade II Date Listed 13/07/1988

Pease Hall NHLE: 1236536 Grade II Date Listed 19/06/1975

Grace's Cross NHLE: 1235845 Grade II Date Listed 19/06/1975

Church Of St Andrew NHLE: 1235849 Grade II* Date Listed 10/04/1967

Outbuilding West Of Sandon Place NHLE: 1235850 Grade II Date Listed 19/06/1975

The Crown Inn NHLE: 1235851 Grade II Date Listed 19/06/1975

Post Office The Forge NHLE: 1235878 Grade II Date Listed 19/06/1975

Sandford Bridge, Chelmer And Blackwater Navigation NHLE: 1264022 Grade II Date
Listed 13/07/1988

Russell's Barn NHLE: 1264040 Grade II Date Listed 27/07/1988

Brook End Bridge, Chelmer And Blackwater Navigation NHLE: 1264059 Grade II Date
Listed 13/07/1988

The Rectory NHLE: 1264863 Grade II* Date Listed 10/04/1967

Cottage East Of The Post Office NHLE: 1264881 Grade II Date Listed 19/06/1975

Sandon Place NHLE: 1264901 Grade II Date Listed 29/12/1952

Wisteria NHLE: 1305780 Grade II Date Listed 19/06/1975

Wall With Railings And Gate To Number 6 NHLE: 1305821 Grade II Date Listed 19/03/1971

Garden Wall To The West Of Numbers 18 And 22 NHLE: 1305828 Grade II Date Listed 19/06/1975

The Cottage NHLE: 1305851 Grade II Date Listed 19/06/1975

Barnes Mill NHLE: 1328769 Grade II Date Listed 20/05/1949

Manor House, Manor Place And Manor Lodge NHLE: 1338445 Grade II Date Listed 10/04/1967

57, High Street NHLE: 1338447 Grade II Date Listed 19/06/1975

18 And 22, High Street NHLE: 1338448 Grade II Date Listed 10/04/1967

70, High Street NHLE: 1338449 Grade II Date Listed 10/04/1967

1, Maldon Road Nhle: 1338450 Grade II Date Listed 19/06/1975

Coplies NHLE: 1338451 Grade II Date Listed 19/06/1975

Prentices Farm Nhle: 1237528 Grade II Date Listed 09/10/1987

4 And 5, Bell Street NHLE: 1122148 Grade II Date Listed 27/11/1972

Listed Buildings located outside of the 1 km search area.

Cathedral Church Of St Mary The Virgin. NHLE: 1328779. Grade I Date Listed 20/05/1949

Church Of St John The Baptist. NHLE: 1122201. Grade I Date Listed 10/04/1967

Conservation Areas located within the 1 km search area:

Chelmer and Blackwater Navigation Conservation Area (Designated: 1991)

Sandon Conservation Area (Designated: 1973)

Great Baddow Conservation Area (Designated: 1969)

Non-designated Built Heritage Assets located within the 1 km search area:

Sandford Mill Road Waterworks Buildings – comprising former pumping station and water treatment building (joint HER entry: 15085).

Pillboxes:

TL 7357 0632 (HER: 10166)

TL 7407 0625 (HER: 10167)

TL 7405 0617 (HER: 10168)

TL 7406 0609 (HER: 10169)

TL 7387 0577 (HER: 10171)

TL 7414 0567 (HER: 10172)

TL 7408 0532 (HER: 10176)

TL 7433 0525 (HER: 10177)

TL 7453 0492 (HER: 10178)

TL 7414 0458 (HER: 10185)

TL 7418 0458 (HER: 10186)

TL 7408 0442 (HER: 10189)

TL 7408 0439 (HER: 10190)

Non-designated Built Heritage Assets located outside the 1 km search area:

West Hanningfield Road, BAE Systems Mast.

APPENDIX B – ASSESSED BUILT HERITAGE ASSETS - ENTRIES FROM NHLE AND REGISTER OF BUILDINGS WITH LOCAL INTEREST

Cathedral Church of St Mary the Virgin. Grade I. NHLE: 1328779. Listed: 20.05.1949. Amended: 14.12.1978.

The church was wholly rebuilt in the C15, at which date it comprised an aisled nave, chancel with N and S chapels, a W tower and S porch. The spire was rebuilt in 1749. The nave collapsed in 1800 following excavation in the vaults, and was rebuilt by John Johnson. Chancel and S chapel restored by Frederic Chancellor 1862, who also designed the N transept and outer N aisle added in 1873. Chancel E window and clerestory by A W Blomfield, 1877-8. There was further restoration by Chancellor in the 1880s. The two E bays of the chancel were added in 1926-8 to designs by A K Nicholson. The large complex of vestries and the original chapterhouse were added in 1929, also to designs by Nicholson. A new chapterhouse was built elsewhere, and the chapterhouse converted to a song school in 1990, and the whole complex was refurbished in the early C21 by Andrew Murdoch of Fitzroy Robinson. MATERIALS: The medieval and the later C19, C20 and C21 work is mainly flint rubble, but has some handmade brick, with stone dressings, decorative stone banding and much flint flushwork. Early C19 stock brick nave and S aisle, the S clerestory and S aisle ashlar faced. Some Coade stone also used for details in the early C19 work.

PLAN: Nave with N and S aisles, S porch and W porch. Chancel with N and S chapels. Large song school (formerly chapterhouse) and vestry complex attached to the chancel on the N.

EXTERIOR: A large, late medieval town church greatly extended and restored in the C19 and C20.

Late C15 W tower rises high above the nave. Embattled flint flushwork parapet with small pinnacles. Complex C15 W door with ogee label breaking through a square frame with traceried spandrels. Perpendicular W window and bell openings. Classical octagonal lantern of 1749 topped by a tall needle spire of the same date.

Two-storey C15 S porch with very fine flint flushwork said by Pevsner to be 'among the best in Essex'. The embattled flushwork parapet on the porch, and continuing onto the aisle, is similar to that on the tower, and the sides of the porch have pinnacled arcades

among other motifs. The outer S door is Tudor-arched in a square frame with carved spandrels and a vaulted niche above. Tudor-arched inner doorway and staircase of 1956. The porch ceiling has tracery panels.

W of the porch, the S aisle is partly flint, partly handmade brick and has brick banding. The S aisle E of the porch as rebuilt by Johnson in the early C19 and is ashlar faced, as is the clerestory above it. The aisle and clerestory window tracery is Coade stone. The E gable of the nave, and the N clerestory are stock brick, also by Johnson. The C15 S chapel has two C19 square-headed Perpendicular-style windows separated by a restored C15 door with an ogee label. The SE buttress is topped by a figure of St Peter wearing fishing boots and carrying a modern key by Thomas Huxley-Jones of 1960.

The chancel clerestory, on the medieval chancel, is 1877-8 in Perpendicular style by Blomfield. It has 6 windows on the S; those on the N are internal and are blocked to allow for the N transept. The projecting eastern section of the chancel was added in 1926-8 in a C15 style, but it has plain, almost flat, buttresses topped by small gables that are characteristic of Nicholson's style and distinctly C20. It is slightly higher than the medieval chancel and has matching clerestory windows and a chequered parapet. The Perpendicular-style E window, which was enlarged from 3 lights to 5 by Blomfield, was reused by Nicholson.

The N side of the chancel is dominated by a large, two-storied complex of vestries, former chapterhouse and song school in flint with Tudor-style windows. These lead off the N transept added in 1879 by Blomfield. The core was built to designs by Nicholson in 1929, with additions of Andrew Murdoch of 2003-4. The C19 outer N aisle is shorter at the W than the inner N aisle, and has 3 large, late Perpendicular-style windows in square frames and a N door with a gabled hoodmould. The W bay of the inner N aisle is mixed flint and early brick, and has a window similar to those in the outer N aisle.

INTERIOR: 4-bay nave arcades with lozenge-shaped piers and fine mouldings, C15 in origin but much rebuilt in the early C19. The S arcade piers are Coade stone above the bases. The outer N aisle by Chancellor is similar, but has bolder capitals. The Tudor Gothic nave ceiling (painted and gilded in 1961 by Stephen Dykes Bower) is by Johnson, and has rose-window roundels. The ribs are supported by female figures between the windows. The nave aisle roofs are 1899, and are based on C15 fragments. A small balcony above the S door leads into the upper chamber above the S porch, added by Chancellor.

Tall C15 tower arch. The tower is enclosed within the W end of the nave and the N and S sides of the tower open into bays continuing the aisles. C15 chancel arch with slender octagonal shafts on the responds. The 3-bay chancel arcades are early C15, but differ from N to S. On the S side, 3 bays with depressed arches, but on the N the western two bays, leading into the N transept, are enclosed within a large, round outer arch and have pierced tracery infill in the spandrel. The eastern arch is separated from the others by a length of walling. A C15 arch leads from the N transept into the NE chapel. The N transept window is blocked but retains its tracery. C19 hammerbeam roof in N transept. The C20 chancel extension projects beyond the chapels. C19 arch-braced chancel roof on posts descending to a string course below the clerestory; the C20 sanctuary roof is similar but has also has collars and stone shafts descending to the floor. The whole was painted and gilded by Stephen Dykes Bower in 1957.

PRINCIPAL FIXTURES: Refurnished and reordered in 1983-4 by Robert Potter, when many C19 and early C20 fittings were removed. Fittings of this date include Westmoreland slate font on a bronze base and Westmoreland slate altar designed by Potter; Westmoreland slate cathedra by John Skelton; screens to NW and SW chapels, and steel and bronze ambos by Guiseppe Lund. Multi-coloured silk patchwork hanging of 1982 by Beryl Dean under the E window. Light oak choir stalls of 1957. On blocked N transept window, painted Tree of Life by Mark Cazalet, 2004. Sculptures include a Pieta (The Bombed Child) in the SW chapel by Georg Erlich, Christ the Healer in the NW chapel also by Erlich, Madonna and Child by Peter Ball, and Christus by Thomas Huxley-Jones. Above the chancel arch, Christus Rex also by Ball.

Very good C19 and C20 glass. E window of 1859 by Clayton and Bell, enlarged in 1878, also by Clayton and Bell two windows in former S chapel. In the S aisle W of the porch by Henry Holiday, 1905-6. Chancel clerestory windows by A O Hemming, 1906-7. Four windows in the nave by A K Nicholson after 1927, W window of SW chapel also by Nicholson as a war memorial, and the E window of the N (Mildmay) chapel by A K Nicholson studios, 1950-1, replacing bomb-damaged glass. Figure of St. Peter by John Hutton, 1969.

Some good monuments, including in the N transept, Thomas (d.1566) and Avice Mildmay (d.1557), erected 1571, an unusual standing wall monument with an ogee head with strapwork. The base has three panels, with the husband and sons, in one, the wife and daughters in another and their arms in the centre. In S chancel Chapel, Matthew Rudd (d 1615): incised mural slab, attributed to Francis Grigs, with an upright skeleton

between the figures. In the NE (Mildmay) chapel, Earl Fitzwalter (Benjamin Mildmay), d.1756, a large standing wall monument with a large urn in a pedimented niche flanked by cherubs and Corinthian columns of Siena marble, signed by James Lovell. In the chancel, a standing figure within a C17-style niche (all in limestone) to J E Watts-Ditchfield, d.1923, first bishop of Chelmsford, by John Walker. S chapel, Mary Marsh, d. 1757, attributed to Henry Cheere, also J P Tindal, d. 1797 at the Battle of Camperdown on board HMS Monarch, shown in relief at the base of the slab. In the nave, Evelyn, Lady Rayleigh, d. 1934 by C d'O Pilkington Jackson. In the outer N aisle, Robert Bownd, d.1696, a fine wall tablet with Ionic columns, flaming urns and flower garlands.

HISTORY: St Mary's was the parish church of Chelmsford, and is said to have been founded at the same time as the town c.1200. The church was wholly rebuilt in the C15, probably in several phases, and all traces of any earlier work are lost. It was damaged during the Civil War, when the E window was smashed. It was restored and enlarged in the C19 to meet the needs of Chelmsford's growing population. In 1914 it became the cathedral of the new diocese of Chelmsford. Various schemes for enlarging the new cathedral were proposed, and the main additions were the complex of vestries, including former chapter house to the N and the enlargement of the chancel. Sir Charles Nicholson's work is a notable episode in his important career. The cathedral was refurnished in the early 1980s to meet changing liturgical needs that demanded more flexible liturgical space. In 1990 a new Chapter house was built on a different site, and the former chapter house adjacent to the N transept was converted into a song school.

SOURCES Buildings of England: Essex (2007), 201-6

REASONS FOR DESIGNATION The Cathedral Church of St Mary the Virgin, Chelmsford, Essex is designated at Grade I for the following principal reasons:

- A fine medieval town church with excellent flint flushwork on the porch and tower, greatly extended in the C19 and C20.
- Very high quality C20 fixtures, reflecting its elevation to Cathedral status in 1913 and subsequent ongoing development.
- Extensive survival of Georgian restoration (especially to the nave roof): of high quality and an unusual survival.

- Of high interest for the successive phases of restoration, showing evolving approaches to church renewal, and continuing the development right up to modern times.
- The church enjoys very strong townscape value, and forms the core of historic Chelmsford.
- Very good C19 and C20 glass.
- Very good monuments.

Great Baddow Church of St Mary. Grade I. NHLE: 1122149. Listed: 10.4.67.

C12 in origin. Chancel and aisles C13. Tower C14, and aisles also widened in this period. Some work on the chancel in the C15. Chancel chapels, clerestory and parapets early C16. S porch early C17. Restored 1892-1903 by C and W H Pertwee, including the rebuilding of the chancel dormers and vestry. The parapets and pinnacles were restored in 1968. Reordered in 1999 by Gerald Barrett, who also designed the small N extension.

MATERIALS: Flint rubble with some Roman tile. The chapels, clerestory, and porch are brick. Lead, tile and slate roofs.

PLAN: Nave with N and S aisles, W tower, S porch and N toilet block like a porch. Chancel with N and S chapels and NE vestry. Lean-to extension in the angle between the N aisle and W tower.

EXTERIOR: The exterior is particularly notable for its fine early C16 brickwork, although this was much restored in the C20. The nave clerestory is C16 brick, and has two-light windows with cusped brick tracery and hood moulds; unusually the parapet wraps around the E side of the nave and has E windows that must originally have lit the rood inside. The nave parapet has crow-stepped embattling with pinnacles on alternating merlons and black diaper work patterns; it rests on a cusped corbel table. The N and S aisles have heavily restored early C14 windows with geometric tracery and brick buttresses; the early C16 chancel chapels continue the aisles, but in brick, and have C16 brick windows with cemented dressings. The aisle and chapel parapets are continuous, and are of C16 brick in a pattern similar to that on the nave clerestory. The brick S porch is early C17 and has a classicizing outer doorway of two orders, the inner with imposts

and a pendant key block. The gable stands on an entablature and has restored brick pinnacles. The S door is C13, reset in the C14. A porch-like extension on the N, is a late C20 toilet block copied from the S porch and having a false blocked door.

The chancel E window is C19 in a Decorated style with reticulated tracery. The E gable edge is in C16 brick, as is the SE buttress. In the chancel N wall is a C13 lancet, and another in the S wall was enlarged in the C15. The chancel dormers, possibly C17 in origin, were rebuilt in 1892-1903 and again in the mid C20. The late C19 NE vestry, also in brick, is lower than the N chancel chapel and has an embattled brick parapet and Tudor style windows.

The W tower and spire are C14, and may have been built in two phases, with the upper part and spire a little later than the lower part. The W door has moulded jambs and a hood mould, and there is a Decorated W window above it. There are small single light opening in each face, and above them larger single light openings with brick dressings for the bell stage. The tall spire rises from behind an embattled parapet. The scar of an earlier, much more steeply pitched roof for the nave is visible against the E face of the tower.

INTERIOR: The spacious and light interior is plastered and painted. The 3-bay nave arcades are C13, that on the N being slightly earlier than that on the S, and have chamfered orders on cylindrical piers (except for the NW pier, which is polygonal) with moulded capitals. The NW respond is carried on a good carved head corbel. The N aisle N door is C13 or C14 and has a pointed head; formerly blocked, it now opens into the late C20 N toilet block. The tower arch is C14 of three orders, the outer continuous, the inner two on polygonal shafts with moulded capitals. It is now closed by a timber and glazed screen. There is a small, blocked window from the tower into the nave, the top of which is partly hidden by the nave roof. The wide chancel arch is C15 and has a continuous outer order and an inner order on attached shafts. The N and S chancel chapels open to the chancel and aisles through 4-centred, C16 brick arches of two chamfered orders, the inner order on moulded brick responds with moulded capitals and bases. That on the S has C20 timber and glass screens, while the organ fills that on the N. There is a further glazed screen between the S chapel and S aisle, and a small, C19 N door from the chancel to the vestry. The sill of the chancel SE window is dropped to form a sedilia, and the window jamb is cut back to allow access to the piscina from either side.

The N aisle roof is C14, a lean-to design with three tie beams carrying posts and struts to a central purlin. The S wall plate is moulded of the C14, but the N wall plate was replaced in the C17 and has the inscription 'HUMFRERI LOW ET HENRY STILEMAN CHURCHWARDENS ANO D 1639'. The nave roof is C16 and is divided into compartments. It is richly moulded, especially on the principal beams and curved braces. The wall plate is embattled. The S chapel roof has C15 or C16 rafters, but has otherwise been rebuilt. The S aisle roof has probably C17 square rafters. The framing of the ringing chamber of the tower may be C14 or C15. The chancel roof was rebuilt in the late C19.

PRINCIPAL FIXTURES: C13 piscina and sedilia in the chancel, the latter formed by carrying down the sill of the lancet window. C14 piscina in the S aisle, and an early C16 piscina in the N chapel. Early C20 wooden eagle lectern.

The outstanding pulpit, dated 1639, was called the 'best of its date in the county' by Pevsner. Octagonal, it has alternating wide and narrow sides. The wider panels have upper panels carved with early Classical arches with columns and pediments shown in perspective. The lower panels have jewels and foliage, with similar decoration also on the smaller panels. The base is renewed, but the stem is original. It retains its heavily carved tester and backboard. The backboard has strapwork and other ornament, and the tester has a carved frieze, a moulded cornice and a strapwork cresting.

Royal arms of 1660 in a frame with a broken pediment, and a probably C16 text panel found on the back of the Royal Arms, now displayed separately. Stained glass: the E window by H Hughes (Ward and Hughes) of 1876.

Good monuments including a brass to Jane Paschall, d. 1614. A marble wall tablet with pilasters supporting a cornice to Hellen Sydnor, d. 1651 and her sister Elizabeth Hubert, d. 1625. An elaborate monument with an urn to the sisters, Amy and Margaret Gwyn, and to their friend Ann Hester Antrim, by Sir Henry Cheere, erected in 1753; a putto leans on a portrait medallion within a composition mixing Gibbsian and Rococo touches. Also a good collection of hatchments.

HISTORY: The double-square plan of the nave suggests it is C12 in origin. The chancel had reached its present length by the early C13. The aisles were also added in the C13. The tower was built in the C14 and the aisles were also widened in this period. There was some work on the chancel in the C15. The church was considerably remodelled in the

early C16, when the chancel chapels were built or rebuilt and the fine brick clerestory and parapets added. There was further work in the early C17, probably in 1639, the date of the pulpit, and included repairs to the N aisle roof and the addition or rebuilding of the S porch. The church was reseated and provided with new S and NE galleries by Charles Turner in 1832. It was restored, including the removal of the galleries, and the rebuilding of the N vestry and chancel dormers, in 1892-1903 by C and W H Pertwee. There were further repairs, including rebuilding the parapets and pinnacles, in the 1960s by George Bragg of Chancellor (Wykeham) and Bragg. The church was reordered, including the removal of most of the C19 furnishings, in 1999 by Gerald Barrett, who also designed the N extension.

SOURCES Lambeth Palace Library, ICBS 01430 and 13799 Bettley, J and Pevsner, N, Buildings of England: Essex (2007), 386-7 RCHME Essex IV (1923), 49-51

REASONS FOR DESIGNATION The Church of St Mary, Great Baddow, is designated at Grade I for the following principal reasons:

- Parish church, probably C12 in origin, with C13 nave arcades and chancel, C14 aisles and tower, and C16 clerestory, parapets and chancel chapels, C17 S porch.*
- Restored in the C19 by C and W H Pertwee.*
- Very good medieval roofs.*
- Outstanding C17 pulpit.*
- Elaborate monument to Amy and Margaret Gwyn, and their friend Ann Hester Antrim, by Sir Henry Cheere, erected in 1753*

Barnes Mill, Mill Vue Road. Grade II listed. NHLE: 1328769. Listed: 20.05.1949.

A mill of circa 1700, timber framed and weather-boarded. Two storeys high with attics in mansard roof. Fenestration altered by modern conversion into a residence. Roof peg-tiled and plan rectangular. Formerly a breast-shot water wheel, for which the sweep survives. Framed in heavy oak with fine roof trusses having queen posts and elaborate bracing. Passing-braces halved into the east and west walls. The up-and-down shaft remains in situ, of polygonal shaped timber, mounting an octagonally canted great spur wheel with 8 compass-arms. The sack-hoist friction ring survives, also with compass-arms.

Springfield – Register of Buildings of Local Interest

Sandford Mill Road, Sandford Mill Museum* Former water works pumping station, now Chelmsford Industrial Museum. The site was purchased in 1923 by the Chelmsford

Corporation Waterworks with construction completed in 1929 by Thresh, Beale and Suckling. North range: two storeys with gabled roofs, of orange brick, two bay windows, timber sash windows. South range: the former engine hall, red brick, slate roof, full height internal space, small paned metal windows, east elevation with a stone plaque 'Chelmsford Corporation Water Works'. Additions to the south side in red brick, mostly with flat roofs dating from 1955. Significance A rare rural early C20 industrial building within the borough. Good north elevation and engine hall. Part of a group with the water treatment building.

Sandford Mill Road, Sandford Mill Water Works Building* Water treatment building, 1955. Rectangular plan, divided into four bays, northern end narrower. Simple Art Deco inspired detailing. Two storeys, flat roofed with parapets. Red brick with rendered infill panels. Metal framed windows, with horizontal glazing bars, set within plain tile surrounds. Significance A rare rural mid C20 industrial building within the borough. Good Art Deco detailing. Part of a group with the former pumping station.



**magnitude
surveys**

**Geophysical Survey Report
of
Land at Manor Farm
Great Baddow, Chelmsford**

**For
CgMs Heritage
(Part of RPS Group PLC)**

**On Behalf Of
Hopkins Homes Ltd**

Magnitude Surveys Ref: MSTL278

April 2018



**magnitude
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Issued:

30 April 2018

Abstract

Magnitude Surveys was commissioned to assess the subsurface archaeological potential of a c.24.7ha area of land at Manor Farm, Great Baddow, Chelmsford. A fluxgate magnetometer survey was successfully completed and a clear area of potential archaeological activity has been identified at the north-west of the site, including a ring ditch and other ditch-like anomalies, as well as an another more ambiguous ring ditch feature, isolated to the south. These features follow a distinct alignment along the top of a natural spur overlooking the Chelmer valley. The known Bronze Age ringwork at Manor Farm Shop also follows this alignment, but could not successfully be identified against a background of magnetic interference arising from the farm shop building and boundary fence. Several relict field boundaries, documented in historic maps, have been confirmed in the geophysical data, along with buried modern services. An area of broad magnetic anomalies resulting from variation in geology and natural erosion processes has been identified, centred around steeper slopes at the southern end of the site. Two distinct areas of anomalies have been identified towards the east of the site, the potential origins of which could not be confidently determined.

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Figure 4:	Magnetic Gradient	1:2,500 @ A3
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Figure 6:	Magnetic Interpretation Over Satellite Imagery	1:2,500 @ A3
Figure 7:	Magnetic Interpretation Over Historic Maps	1:2,500 @ A3
Figure 8:	Magnetic Interpretation Over LiDAR (composite DSM) and 1m Contours	1:2,500 @ A3
Figure 9:	XY Trace Plot	1:2,500 @ A3

1. Introduction

- 1.1. Magnitude Surveys Ltd (MS) was commissioned by CgMs Heritage (part of RPS Group PLC) on behalf of Hopkins Homes Ltd to undertake a geophysical survey on a c.24.7ha area of land at Manor Farm, near Great Baddow, Chelmsford, Essex (centre approximately at TL 7355 0554).
- 1.2. The geophysical survey comprised hand-pulled, cart-mounted, GNSS-positioned fluxgate magnetometer survey.
- 1.3. The survey was conducted in line with the current best practice guidelines produced by Historic England (David et al., 2008), the Chartered Institute for Archaeologists (CIfA, 2014) and the European Archaeological Council (Schmidt et al., 2015).
- 1.4. The survey commenced on 17/04/2018 and took three days to complete.

2. Quality Assurance

- 2.1. Magnitude Surveys is a Registered Organisation of the Chartered Institute for Archaeologists (CIfA), the chartered UK body for archaeologists, and a corporate member of ISAP (International Society of Archaeological Prospection).
- 2.2. Director Graeme Attwood is a Member of CIfA, as well as the Secretary of GeoSIG, the CIfA Geophysics Special Interest Group. Director Finnegan Pope-Carter is a Fellow of the London Geological Society, the chartered UK body for geophysicists and geologists, as well as a member of GeoSIG, the CIfA Geophysics Special Interest Group. Director Chrys Harris has a PhD in archaeological geophysics from the University of Bradford and is the Vice-Chair of the International Society for Archaeological Prospection.
- 2.3. All MS managers have relevant degree qualifications to archaeology or geophysics. All MS field and office staff have relevant archaeology or geophysics degrees and/or field experience.

3. Objectives

- 3.1. The geophysical survey aimed to assess the subsurface archaeological potential of the survey area.

4. Geographic Background

4.1. The site is located on agricultural land c.3km south-east of the centre of Chelmsford, Essex, and c.1km north-east of the centre of Great Baddow (Figure 1). The survey area is bounded by woodland and Essex Yeomanry Way to the west, Maldon Road to the south, Sandford Mill Lane to the East, Manor Farm to the north-east, and an unpaved access road to the north (Figure 2).

4.2. Survey was undertaken over a contiguous area comprising a series of agricultural fields, which were separated by tracks and hedgerows. The majority of the survey area was covered in a young wheat crop, c. 18 inches tall, with firm, even soil underfoot. A steep north-facing slope occupied the south of the survey area, overlooking the Chelmer valley. Towards the west this slope turns into a north-west facing spur, and to the east it rises to a flat plateau (see 4.3).

4.3. Survey considerations:

Survey Area	Ground Conditions	Further Notes
1	Firm, even soil, planted with young wheat crop, c. 18 in high. Sloped consistently downward from south to north.	Bounded by hedgerows and woodland with wire fencing to the west; hedgerows with wooden post-and rail fencing to the south (Maldon Road); hedgerows to the east, and an access track to the north. A public footpath ran along the southern edge of this area. Multiple raised manholes were extant across the area.
2	Firm, even soil, planted with young wheat crop, c. 18 in high. Sloped consistently downward from south to north.	Bounded by hedgerows to the west; hedgerows with wooden post-and-rail fencing to the south; a concrete trackway to the east; and an access track to the north. A public footpath ran along the southern edge of this area. Multiple raised manholes were extant across the area.
3	Firm, even soil, planted with young wheat crop, c. 18 in high. Sloped consistently downward from south to north.	Bounded by a concrete trackway to the west; hedgerows with wooden post-and-rail fencing to the south; hedgerows to the east; and an access track to the north. A line of mature trees and a pond extended north into the centre of the area from the southern boundary. The eastern half of this area was crossed by multiple overhead power lines mounted on telegraph poles. Multiple raised manholes were extant across the area.
4	Firm, even soil, planted with young wheat crop, c. 18 in high. Flat terrain.	Bounded by hedgerows to the west; hedgerows with wooden post-and-rail fencing to the south and east; and access track to the north.

5	Soft, loose, dry, recently tilled soil. Sloped downward at western end from east to west.	Bounded by an access track to the south, hedgerows to the west, and conifer trees to the north.
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4.4. The underlying geology across the entire site comprises London Clay. The superficial geology on the higher slopes to the south of the site consists of glaciofluvial sands and gravels. Lower down to the north lies an area of washed-out head deposits. To the east, across the majority of Areas 4 and 5, the superficial geology consists of river terrace deposits of sand and gravel (British Geological Survey, 2018).

4.5. The soils across the entirety of the site are described as freely draining, slightly acid loamy soils (Soilscales, 2018).

5. Archaeological Background

5.1. The following description summarises selected information from an archaeological desk-based assessment (DBA) provided by CgMs Heritage (Flitcroft and Gillard 2017). The DBA examined existing archaeological evidence for the site and a surrounding 1km search area, by consulting the Essex Historic Environment Record, historic maps, and other sources.

5.2. The landscape surrounding the site is extensively populated with cropmarks, many of which have been interpreted as ring ditches, barrows and field systems, likely of prehistoric, and possibly Middle Bronze Age, date.

5.3. A non-designated heritage asset has been recorded within the site, located at the southern edge of the site at the Manor Farm Shop. A large circular 'ringwork' type enclosure, c. 67m across and dated to the Late Bronze Age, was initially identified from cropmarks visible in aerial photographs, and later partly archaeologically excavated in 1987. A section of 2m V-shaped ditch was excavated, Along with a possible Late Neolithic pit in the interior of the enclosure. Additionally, three post-pits located outside the ditch were identified, leading to an entranceway in the ditch. This enclosure has been compared in the DBA to an excavated example nearby at Springfield Lyons, to which it bears many similarities and may have been contemporary.

5.4. Other excavated prehistoric features within the DBA search area included:

5.4.1. Three urns and a hearth, recorded c.120m south of the site at Baddow Crescent, of Bronze age or Iron Age date.

5.4.2. Field systems, pits, post holes, ditches, an oven and two separate groups of cremation burials, spanning a period from the Late Bronze Age to the Middle Iron Age, recorded c.540m east of the site at Sandon Park & Ride.

5.4.3. A possible middle Bronze Age cemetery with hearth, found in 1930 and recorded c.340m west of the site.

- 5.5. There is little evidence of Roman activity recorded within the site and its landscape. Several Roman bricks, found incorporated within the walls of the Church of St Mary at Great Baddow (c.580m south-west of the site), and the Church of St Andrew at Sandon (c.730m south-east of the site), as well as a small area of re-used Roman tesserae found at Ladywell Lane (c.960m south of the site), all hint at the presence of at least one Roman building in the area.
- 5.6. No evidence of Anglo-Saxon or Early Medieval activity is recorded within the site or search area.
- 5.7. There is no recorded evidence of Medieval activity within the site. The site would have been situated in the agricultural hinterland of the Medieval cores of Great Baddow (c.550m to the south-west) and Sandon (c.850m to the south-east).
- 5.8. Map regression shows that in 1799 the site was subdivided into a number of large, straight-sided fields. 19th Century Ordnance Survey (OS) mapping marks a small farmstead at the eastern end of the site, labelled 'Foxhole Farm', with a pond, currently extant. 20th Century OS mapping shows gradual loss of these internal boundaries and joining of adjacent fields, leading to the current configuration of large fields. The 1972 OS map labels an electricity substation in the southern part of the site, no longer extant. A 1990 edition marks the creation of the triangular plot and building which are now occupied by the current Manor Farm Shop at the southern boundary of the site.

6. Methodology

6.1. Data Collection

6.1.1. Geophysical prospection comprised the magnetic method as described in the following table.

6.1.2. Table of survey strategies:

Method	Instrument	Traverse Interval	Sample Interval
Magnetic	Bartington Instruments Grad-13 Digital Three-Axis Gradiometer	1m	200Hz reprojected to 0.125m

6.1.3. The magnetic data were collected using MS' bespoke hand-pulled, GNSS-positioned cart system.

6.1.3.1. MS' cart system was comprised of Bartington Instruments Grad 13 Digital Three-Axis Gradiometers. Positional referencing was through a Hemisphere S321 GNSS Smart Antenna RTK GPS outputting in NMEA mode to ensure high positional accuracy of collected measurements. The Carlson BRx6 GNSS Smart Antenna is accurate to 0.008m + 1ppm in the horizontal and 0.015m + 1ppm in the vertical.

6.1.3.2. Magnetic and GPS data were stored on an SD card within MS' bespoke datalogger. The datalogger was continuously synced, via an in-field Wi-Fi unit, to servers within MS' offices. This allowed for data collection, processing and visualisation to be monitored in real-time as fieldwork was ongoing.

- 6.1.3.3. A navigation system was integrated with the RTK GPS, which was used to guide the surveyor. Data were collected by traversing the survey area along the longest possible lines, ensuring efficient collection and processing.

6.2. Data Processing

- 6.2.1. Magnetic data were processed in bespoke in-house software produced by MS. Processing steps conform to Historic England's standards for "raw or minimally processed data" (see sect 4.2 in David et al., 2008: 11).

Sensor Calibration – The sensors were calibrated using a bespoke in-house algorithm, which conforms to Olsen et al. (2003).

Zero Median Traverse – The median of each sensor traverse is calculated within a specified range and subtracted from the collected data. This removes striping effects caused by small variations in sensor electronics.

Projection to a Regular Grid – Data collected using RTK GPS positioning requires a uniform grid projection to visualise data. Data are rotated to best fit an orthogonal grid projection and are resampled onto the grid using an inverse distance-weighting algorithm.

Interpolation to Square Pixels – Data are interpolated using a bicubic algorithm to increase the pixel density between sensor traverses. This produces images with square pixels for ease of visualisation.

6.3. Data Visualisation and Interpretation

- 6.3.1. This report presents the gradient of the sensors' total field data as greyscale images, as well as the total field data from the upper and/or lower sensors. The gradient of the sensors minimises external interferences and reduces the blown-out responses from ferrous and other high contrast material. However, the contrast of weak or ephemeral anomalies can be reduced through the process of calculating the gradient. Consequently, some features can be clearer in the respective gradient or total field datasets. Multiple greyscale images at different plotting ranges have been used for data interpretation. Greyscale images should be viewed alongside the XY trace plot (Figure 9). XY trace plots visualise the magnitude and form of the geophysical response, aiding in anomaly interpretation.

- 6.3.2. Geophysical results have been interpreted using greyscale images and XY traces in a layered environment, overlaid against open street maps, satellite imagery, historic maps, LiDAR data, and soil and geology maps. Google Earth (2018) was consulted as well, to compare the results with recent land usages.

7. Results

7.1. Qualification

7.1.1. Geophysical results are not a map of the ground and are instead a direct measurement of subsurface properties. Detecting and mapping features requires that said features have properties that can be measured by the chosen technique(s) and that these properties have sufficient contrast with the background to be identifiable. The interpretation of any identified anomalies is inherently subjective. While the scrutiny of the results is undertaken by qualified, experienced individuals and rigorously checked for quality and consistency, it is often not possible to classify all anomaly sources. Where possible an anomaly source will be identified along with the certainty of the interpretation. The only way to improve the interpretation of results is through a process of comparing excavated results with the geophysical reports. MS actively seek feedback on their reports as well as reports of further work in order to constantly improve our knowledge and service.

7.2. Discussion

7.2.1. The geophysical results are presented in consideration with satellite imagery (Figure 6), historic maps (Figure 7), LiDAR data (Figure 8) and XY Traces (Figure 9).

7.2.2. The fluxgate magnetometer survey has responded well to the survey area's environment. Weak and strong anomalies have successfully been identified against a consistent magnetic background, occasionally punctuated by natural changes in the superficial geology.

7.2.3. Broad natural geological features, particularly prevalent at the southern end of the site, have been identified from the magnetic total field and gradient plots (Figure 3 and 4). These are likely the result of natural erosion and deposition processes on steeper slopes.

7.2.4. A number of modern services run across large sections of the site, and minimal interference from metallic wire fencing has been identified at the edges of fields. Magnetic interference from the building and boundary at the Manor Farm Shop has obscured a 'halo' area of c.20m along the perimeter of the site, which may have incorporated and masked the any weaker responses resulting from archaeological features associated with the known Bronze Age ringwork. The location of a recent electricity substation has been identified as well.

7.2.5. A circular anomaly at the western end of the site has been identified and interpreted as probably archaeological in origin, along with a number of small linear anomalies nearby. This circular anomaly likely represent a buried ring-ditch feature; the enhanced magnetic response is indicative of magnetic enhancement during the infilling of negative cut features in the landscape. A smaller, isolated, less enhanced circular anomaly has been identified c.200m to the south-east. This has been more tentatively classified as possible archaeology, given its size, shape, less enhanced signal, which is similar in to natural geological activity nearby. These anomalies and the known Bronze Age ringwork at the present-day Manor Farm Shop follow a prominent alignment along

the top of broad sand-and-gravel spur overlooking lower head deposits and the Chelmer valley below (Figure 8).

7.2.6. The locations of several former field boundaries, documented in historic mapping, have been identified within the magnetic data. These include field boundaries that once subdivided the current configuration of larger fields, and a pair of parallel boundaries that once continued north from the pond at Foxhole Farm. A number of weak linear anomalies at field margins, resulting from repeated modern tractor movement, have also been identified.

7.3. Interpretation

7.3.1. General Statements

7.3.1.1. Geophysical anomalies will be discussed broadly as classification types across the survey area. Only anomalies that are distinctive or unusual will be discussed individually.

7.3.1.2. **Undetermined** – Anomalies are classified as Undetermined when the anomaly origin is ambiguous through the geophysical results and there is no supporting or correlative evidence to warrant a more certain classification. These anomalies are likely to be the result of geological, pedological or agricultural processes, although an archaeological origin cannot be entirely ruled out. Undetermined anomalies are generally not ferrous in nature.

7.3.1.3. **Ferrous (Discrete/Spread)** – Discrete ferrous-like, dipolar anomalies are likely to be the result of modern metallic disturbance on or near the ground surface. A ferrous spread refers to a concentrated deposition of these discrete, dipolar anomalies. Broad dipolar ferrous responses from modern metallic features, such as fences, gates, neighbouring buildings and services, may mask any weaker underlying archaeological anomalies should they be present.

7.3.2. Magnetic Results - Specific Anomalies

7.3.2.1. **Archaeology (Probable and Possible)** – A circular anomaly has been identified in the north-west of area 1, measuring c.14m across externally [1c]. The shape and signal of this anomaly is indicative of a buried ring-ditch feature, which may have formed the outer ditch of a round barrow. Such a feature would likely be prehistoric in date and may be tentatively dated more specifically to the Late Neolithic or Bronze Age. Within the interior of this circular anomaly are two small, discrete anomalies. One of these is dipolar in nature and sits close to the western side of the circular feature, while the other is a weaker positive anomaly closer to the centre. These may represent pit-like features, though it is difficult to confidently separate these from the natural distribution of discrete anomalies prevalent across the site, so they have been classified here as 'possible' archaeological features.

7.3.2.2. **Archaeology (Probable and Possible)** – A number of short linear anomalies [1d] adjacently to the south-east of the circular feature [1c] may represent associated ditch-like features, while similar anomalies further to away the

north-east [1e] have been more tentatively interpreted as being possibly archaeological in origin.

- 7.3.2.3. **Archaeology (Possible)** – A second isolated circular anomaly has been identified at the southern end of Area 1 [1f]. This anomaly is weaker in magnitude, more elliptical in shape, and smaller than anomaly [1c], at c.12m across externally, with no discernable internal responses or associated anomalies identified nearby. It is also located in an area populated with responses that have been interpreted as natural in origin. As such, it has been classified as ‘possible archaeology’. Based on its weaker magnetic response, it may represent a more ephemeral buried feature than the ring-ditch to the north, being either less enhanced with archaeological and environmental material, or more heavily degraded by more recent ploughing activity.
- 7.3.2.4. **Agricultural (Strong, Weak, Spread)** – At the western end of Area 3, a weak linear anomaly running E-W has been identified, which collocates with a known field boundary recorded in 19th Century OS mapping (Flitcroft and Gillard 2017: Figure 5). A pair of parallel linear spreads of discrete magnetic responses extending north from the pond in Area 3 also correspond with a pair of linear boundaries recorded in the same map, associated with Foxhole Farm (Figure 7). This spread type of response is indicative of mixed ferrous and other highly magnetic material, rather than a ditch feature which has been naturally in-filled.
- 7.3.2.5. **Agricultural (Trend)** – Along the northern margins of Areas 1 and 3, and the southern margin of Area 3, pairs of linear magnetic trends have been identified. These run parallel with the boundary of the fields, and likely result from repeated tractor movement.
- 7.3.2.6. **Natural (Strong, Weak)** – A number of broad bands of magnetic enhancement have been identified towards the southern end of Areas 2 and 3. These are most clearly visible in the total field greyscale plot (Figure 3). Many of these are curving and ‘chevron’ shaped. Their location corresponds with the area of recorded superficial sand and gravel deposits on the steepest slopes at the southern end of the site (Figure 8). The chevron-shaped anomalies are all oriented the same way, ‘pointing’ downslope to the north. Therefore, it is likely that these anomalies were created by natural variation in geology and the downhill erosion of soils and superficial deposits.
- 7.3.2.7. **Natural (weak)** – At the southern end of Area 1, a number of weak, broken linear anomalies have been identified, many of which join in a ‘branching’ pattern and follow multiple orientations. Based on their random distribution and orientation, these are most likely representative of natural variation in the local geology. Alternatively, they may represent a unique pattern of weathering, erosion or deposition of natural material.
- 7.3.2.8. **Service** – A strong negative linear anomaly has been identified extending north-west from the south-east corner of Area 3. This follows the line of a set of powerlines suspended from a line of telegraph poles, and appears to be

negative in polarity from the gradient (Figure 4), but the total field plots of the upper and lower sensors shows that the response is more positively enhanced than the surrounding area. This response is typical of a buried service, which follows the same alignment as the overhead powerlines.

- 7.3.2.9. **Service** – A weak negative anomaly [1b] has been identified at the north end of Area 1, running south-east from a discrete ferrous response collocated with a surface manhole. Many similar manholes are distributed across Areas 2 and 3 ([2a] and [3a]). This linear anomaly likely represents a non-magnetic service, such as a plastic pipe or buried gravel drain.
- 7.3.2.10. **Ferrous (Strong)** – A large, discrete ferrous anomaly [3d] has been identified which spans across the south-east corner of Area 3 and the south-west corner of Area 4. This anomaly corresponds with the location of an electricity substation marked on a 1972 and 1990 OS map (Flitcroft and Gillard 2017: Figure 7).
- 7.3.2.11. **Undetermined (Weak)** – At the south-eastern end of Area 3, a weak, U-shaped anomaly has been identified [3b]. It bears somewhat of a resemblance to other anomalies identified as naturally-derived (7.3.2.7), but is located further away from these and oriented differently. Therefore, without further additional information, a more precise interpretation cannot be confidently asserted.
- 7.3.2.12. **Undetermined (Strong, Weak)** – At the centre of Area 5, two short linear positive anomalies have been identified which, if extended, would meet at an acute angle in the south of the area [5a]. Based on their clearly-defined linear shape and consistent response, these could be interpreted as either potentially agricultural or archaeological in origin, as they do not correlate with any known or mapped features. In the absence of additional information, it is difficult to confidently classify these anomalies with a specific potential origin.

8. Conclusions

- 8.1. The fluxgate magnetometer survey has responded well to the survey area. A variety of types of magnetic responses, weak and strong in magnitude, have been successfully identified against their background. Minimal interference from modern services, buildings, field boundaries and overhead powerlines has been identified.
- 8.2. The location of the known Bronze Age ringwork and any associated features could not be confirmed due to magnetic disturbance from, and its collocation with, the present-day Manor Farm Shop. However, several other previously unknown archaeological features have been identified to the north-west of this, which may aid in expanding on the understanding of the local prehistoric landscape.
- 8.3. One area of probable archaeological activity has been identified, which comprises a potential ring-ditch feature, possible internal pits, and associated linear anomalies nearby. An additional isolated ring-shaped feature, which is possibly archaeological in origin, has been identified, though it is weaker in magnitude and is located within an area of similar natural responses. These potentially archaeological features are located along a spur-top overlooking the Chelmer valley, as is the known Bronze Age ringwork at the south of the site. The distribution of these features hints at an intentional selection of this prominent location within the landscape.
- 8.4. Multiple field boundaries recorded in historic mapping have been identified in the geophysical data. These have subsequently been ploughed through, as fields were joined to create their current configuration.
- 8.5. Modern ploughing activity was identified along the margins of some fields, as were a number of different services running across the site.
- 8.6. Several areas of anomalies of undetermined activity were identified; whilst they may have been natural or agricultural in origin, an archaeological explanation may be equally likely. This is particularly true in the north-east corner of the site, where two distinct linear anomalies were identified which have no correspondence to features marked on historic maps.

9. Archiving

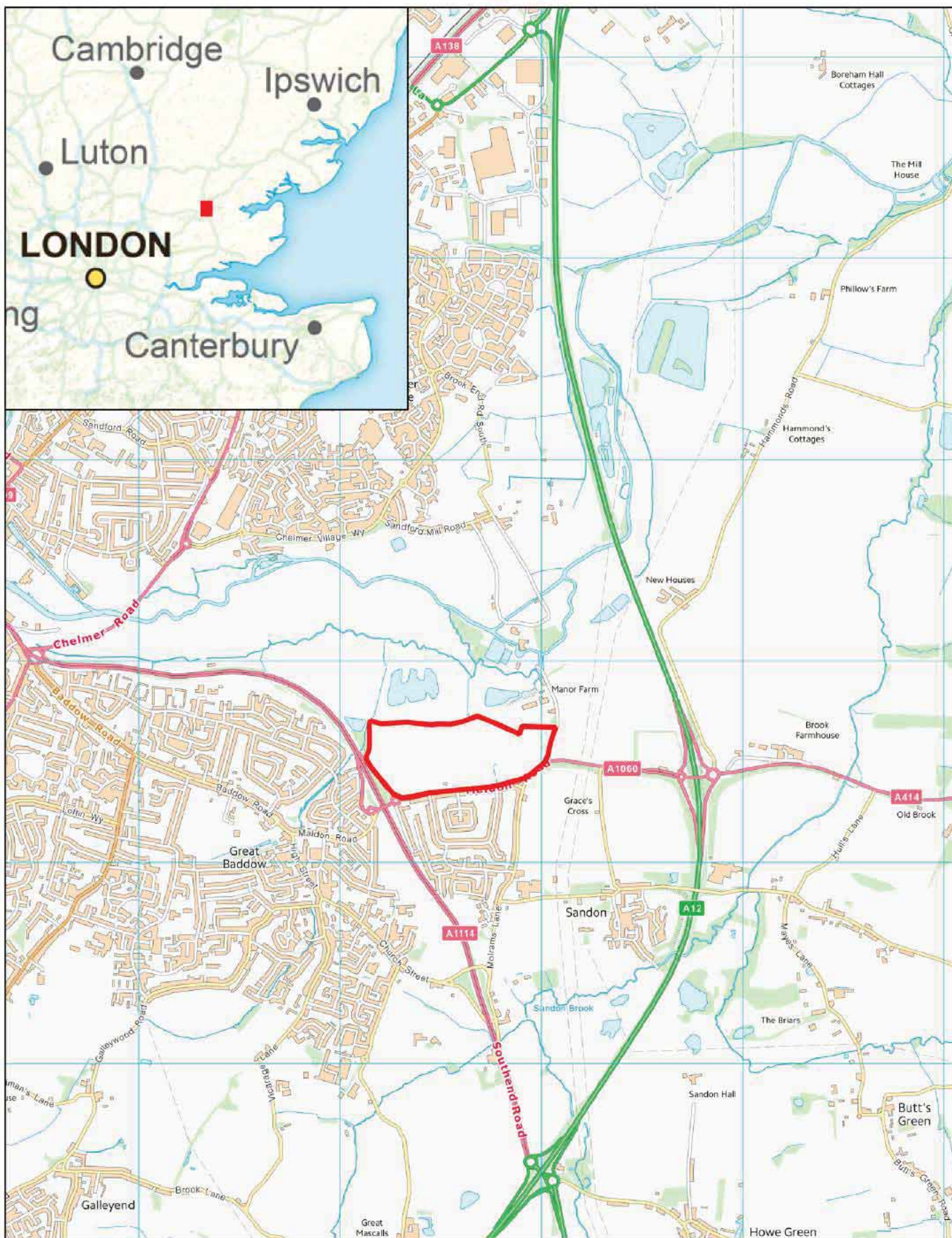
- 9.1. MS maintains an in-house digital archive, which is based on Schmidt and Ernenwein (2013). This stores the collected measurements, minimally processed data, georeferenced and un-georeferenced images, XY traces and a copy of the final report.
- 9.2. MS contributes reports to the ADS Grey Literature Library upon permission from the client, subject to the any dictated time embargoes.

10. Copyright

- 10.1. Copyright and the intellectual property pertaining to all reports, figures, and datasets produced by Magnitude Services Ltd. is retained by MS. The client is given full licence to use such material for their own purposes. Permission must be sought by any third party wishing to use or reproduce any IP owned by MS.

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MSTL278 - Land at Manor Farm, Great Baddow, Chelmsford


Figure 1 - Site Location

1:25,000 @ A4

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OS (100056946)

 Site Boundary



0 0.5 1 km



magnitude
surveys

