



London Resort  
Briefing Note:  
Site B Palaeolithic Scheduled Monument (SM)  
and Site of Special Scientific Interest (SSSI)

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## Contents

<b>1</b>	<b>INTRODUCTION.....</b>	<b>1</b>
	1.1 Project circumstances.....	1
	1.2 Purpose and scope of this document.....	1
<b>2</b>	<b>BAKER’S HOLE, SITE B: LOCATION AND TOPOGRAPHY.....</b>	<b>2</b>
<b>3</b>	<b>STATUTORY DESIGNATIONS.....</b>	<b>2</b>
	3.1 Scheduled Monument (SM).....	2
	3.2 Site of Special Scientific Interest (SSSI).....	3
<b>4</b>	<b>SITE IMPORTANCE AND PREVIOUS WORK.....</b>	<b>3</b>
	4.1 Overview.....	3
<b>5</b>	<b>SITE CONDITION AND MANAGEMENT PLANNING.....</b>	<b>5</b>
<b>6</b>	<b>DISCUSSION.....</b>	<b>7</b>
	<b>BIBLIOGRAPHY.....</b>	<b>9</b>
	<b>APPENDICES.....</b>	<b>11</b>
	Appendix 1 Heritage-at-Risk surveys, fieldwork and reports, 2012-2018.....	11
	Appendix 2: Briefing note figures (prepared by Francis Wenban-Smith).....	13



## **Executive summary**

"Baker's Hole, Site B" is a designated heritage site (Scheduled Monument) and Site of Special Scientific Interest (SSSI) in the Ebbsfleet Valley, in the landscaped terrain to the west of the Ebbsfleet International station. It contains important Palaeolithic remains relating to the early Neanderthal occupation of Britain between c. 300,000 and 200,000 BP [years Before Present], and to the environmental background of this period. However, Site B is in poor and deteriorating condition, and is in urgent need of a management plan to try and halt, or otherwise mitigate, its deterioration.

This Briefing Note provides background information on Site B, to provide a platform from which discussion can move forward between heritage curators - Historic England, Natural England and the relevant Local Authority - and London Resort Company Holdings (LRCH) on how best to address the urgent management needs of Site B in conjunction with the London Resort development proposal.



## Acknowledgements

Thanks are due to all at Historic England, Natural England and University of Southampton who have supported and facilitated the Heritage-at-Risk programme of work between 2012 and 2017, the results of which are summarised here, and also to the landowners, managers and agents of the Baker's Hole site who have continually supported and encouraged research there going back to my original PhD investigations. At Historic England: Peter Kendall, Paul Roberts, Jonathan Last, Alison McQuaid and Jane Corcoran; at Natural England: Eleanor Brown, Rosemary Godfrey, Barbara Silva and Lorraine Smith; and at University of Southampton Abi Milsom, Tony Brown and Peter Morgan (Department of Geography). At Blue Circle Cement (later Lafarge): Peter Coveney, and then more recently for Tarmac plc Graham Stone and Mark Heeley, and Russell Norman and his crew for de-vegetation and backfilling. More recently we are grateful for the interest and support of London Resort Company Holdings for their interest in commissioning this work.



# London Resort, Briefing Note: Site B Palaeolithic Scheduled Monument (SM) and Site of Special Scientific Interest (SSSI)

## 1 INTRODUCTION

### 1.1 Project circumstances

- 1.1.1 London Resort Company Holdings (henceforth, 'LRCH') is proposing to develop a new entertainment resort, "The London Resort" on the Swanscombe peninsula, on the south bank of the Thames in northwest Kent, (henceforth, "the Site"). This major new development has been designated as a Nationally Significant Infrastructure Project (NSIP), and thus requires a detailed and statutorily-specified consultation and planning consent process, including preparation of an Environmental Statement and submission of an application for a Development Consent Order (DCO).
- 1.1.2 Wessex Archaeology has been appointed to advise LRCH on heritage matters, and to carry out other work in relation to the historic environment, the DCO and the continuing consent process. The proposed Site is rich in historic remains of many periods, ranging from the earliest period of British prehistory (the Palaeolithic) through to industrial heritage from the 19th and 20th centuries. The proposed development area is particularly rich in important Palaeolithic remains, from the period from the first occupation of Britain maybe 750,000 years BP [years Before Present] through to the end of the last ice age c. 12,000 BP). Wessex Archaeology have therefore in turn appointed the Palaeolithic specialist Francis Wenban-Smith (Department of Archaeology, University of Southampton) to provide specialist input on the Palaeolithic.

### 1.2 Purpose and scope of this document

- 1.2.1 This document comprises a Briefing Note on the Palaeolithic remains and surviving natural deposits in one part of the Site within the historic Baker's Hole chalk quarry, and variously known as "Site B" or "Area B" (**Appendix 2, figures 1-2**). The deposits and Palaeolithic remains at Site B have been noted since the early 20th century as of particular importance. The site was designated as a Site of Special Scientific Interest (SSSI) in 1951, and then later recognised as of national archaeological importance and designated as a Scheduled Monument (SM) in the early 1970s.
- 1.2.2 The purpose of this document is to provide a summary review of the nature of the Palaeolithic remains at Site B, their importance within the context of current research frameworks, and to consider how possible impacts of the proposed London Resort development could be appropriately mitigated, with due consideration of Site B's national importance and its management needs.
- 1.2.3 This Briefing Note provides a summary recap of the history of previous investigation at Site B, and the basis for its statutory designations as SM and SSSI. It reviews the current condition of Site B, and current approaches to its management. It is noted that the site was assessed as "Heritage at Risk" in 2013, and then underwent a series of survey and field investigations in 2014-2015 to assess this risk and identify options for future longer-term management. The key results of this work are summarised here. In light of these, various options are presented here for consideration by all stakeholders - LRCH, Historic England, Natural England and Kent County Council - for the most appropriate path forward that best



balances achieving the most-desirable development outcome for the wider London Resort project with satisfactorily addressing the historic environmental importance of Site B and its immediate surrounds.

## **2 BAKER'S HOLE, SITE B: LOCATION AND TOPOGRAPHY**

- 2.1.1 Site B comprises a small area of unquarried ground within the otherwise mostly-quarried landscape to the west of HS1 and the Ebbsfleet International station, centred on National Grid Reference 561230 17040 (Figures 1-2). "Baker's Hole" was the colloquial name for one later 19th century chalk quarry to the west of Site B. This name has subsequently stuck, and become attached to Palaeolithic localities from within the wider landscape of the heavily-quarried west side of the Ebbsfleet valley.
- 2.1.2 Chalk quarrying ceased in the Ebbsfleet valley in the 1970s, after which the old pits were mostly filled up with landfill and capped by topsoil. Various remediation and re-landscaping took place in the early 21st century, in conjunction with the construction of HS1 and the Ebbsfleet International station. The quarried/land-filled landscape was remodelled to form an undulating terrain capped by coarse grassland with occasional small shrubs. Due to the importance of the deposits surviving there, Site B was preserved within this landscape as an upstanding "island" of natural ground with its vertical sides visible and accessible (Figures 2-3). The surface of Site B is prone to the rapid development of undergrowth, without active steps to control it. Following the most-recent investigation in 2015 (see below, Section 5), a 3-year management agreement was reached between the landowners Lafarge Cement UK and Natural England for annual devegetation up to the end of 2019. Site B will now once again becoming increasingly vegetated unless/until a further agreement is made, or other management actions are implemented.
- 2.1.3 The ground surface of Site B slopes down from c. 15m OD at its west side to c. 10m OD at its east side (Figure 3b,c). However, this does not exactly reflect the pre-quarrying natural landsurface, as the site has undergone some minor impact from pre-1930s quarrying in places, as well as from periodic archaeological investigation since the early 1930s.

## **3 STATUTORY DESIGNATIONS**

### **3.1 Scheduled Monument (SM)**

- 3.1.1 Site B is designated as part of the "Palaeolithic sites near Baker's Hole" Scheduled Monument (LN 1003557), and thus administered as nationally important heritage under the terms of the Ancient Monuments and Archaeological Areas Act 1979. As is clear from the designated site name, there are various important archaeological localities in the vicinity, one of them being Site B (previously SM Kent 267b) (Figures 1-2). The site was scheduled in the early 1970s, on the basis of it being a rare example of surviving deposits from a particular period of the Palaeolithic, with evidence of a distinctive "Levalloisian" lithic industry thought to be associated with Early Neanderthals, and with associated palaeo-environmental remains.
- 3.1.2 The SM citation is not currently available, as the site's historic scheduling record has not been brought in from the OCN ("Old County Number") legacy database into Historic England's newer "List Number" framework. The site was added to the "Heritage at Risk" register in 2013, and its condition is currently assessed by Historic England as "Generally unsatisfactory with major localised problems" and "declining" due to "scrub/tree growth" <https://historicengland.org.uk/listing/the-list/list-entry/1003557> (accessed on 1st July 2021).





### 3.2 Site of Special Scientific Interest (SSSI)

3.2.1 Site B is also designated as part of a Site of Special Scientific Interest (SSSI), under the terms of Section 28 of the Wildlife and Countryside Act 1981. It was first notified in 1951 under the terms of the previous 1949 Act, and then renotified in 1989 under the 1981 Act, following Natural England's [formerly English Nature] systematic Geological Conservation Review of all notified sites. The original "Baker's Hole" SSSI was subsumed in March 2021 into a much-expanded "Swanscombe Peninsula" SSSI area. The expansion was due to natural and wildlife factors, and so has no bearing on this document concerning the Palaeolithic archaeology of Site B, which remains within the expanded SSSI area. However, it should be noted that all subsequent references in this document to "the SSSI", or the "Baker's Hole SSSI" relate to the pre-2021 Palaeolithic SSSI, as shown here (**Appendix 2; Figures 1-2**).

3.2.2 The area of the Baker's Hole SSSI is greater than that of the SM, and includes several areas of unquarried ground that aren't part of the SM, as well as a substantial buffer-zone extending into quarried and landfilled areas (**Appendix 2; Figures 1-2**). The SSSI citation (as updated in 1981, and covering all the various parts of the Baker's Hole SSSI area) states

*"A key Pleistocene site exposing a complex sequence of periglacial and temperate climate deposits, including solifluction, freshwater and possible estuarine deposits. These are associated with the Ebbsfleet Valley, and they have yielded mammals, molluscs, and two different Palaeolithic industries. The first of these is a well-established flake industry, while the second has included worked bone fragments. The interdigitation of solifluction (slope) deposits and temperate freshwater sediments implies that more than one glacial period is represented but research so far has failed to provide sound evidence for relating the Ebbsfleet deposits and their associated industries to either the Pleistocene chronological sequence or to the Thames Terraces. The solution of this problem is of high priority and the Bakers Hole site is likely to receive considerable attention in the future"*

[REDACTED] (accessed on 1st July 2021).

3.2.3 Site B is in the most-southerly part of the designated SSSI area (**Figures 1-2**), and represents a part of the Baker's Hole SSSI complex with the full range of periglacial and temperate deposits, with mammals and molluscs, and with one of the Palaeolithic industries, the "well-established flake industry" which is the early Neanderthal Levalloisian industry, best-represented nationally at Baker's Hole. However, as summarised below (Section 4), the SSSI citation (which dates back to 1981) is out of date. Much research has taken place since the 1980s (eg. Wenban-Smith 1995, 1996; Wenban-Smith et al. 2020a,b,c), which has substantially addressed the then-unresolved research issues highlighted in the citation, although new and different issues now need to be addressed.

## 4 SITE IMPORTANCE AND PREVIOUS WORK

### 4.1 Overview

4.1.1 The Baker's Hole Palaeolithic site is a rare combination of national archaeological and Quaternary importance. It has produced unique records in Britain of a distinctive early Neanderthal lithic industry - the "Levalloisian" - associated with deposits rich in a range of faunal remains, allowing the Levalloisian occupation to be reliably dated to early in marine isotope stage 7, c. 250,000 BP (years Before Present). The Levalloisian occupation horizons at Site B are situated within a deep sequence of deposits, which provide a wider



Quaternary context for this occupational episode, and facilitate correlation with other key sites in the region, as well as nationally and internationally.

- 4.1.2 There has been a substantial history of investigation at Site B and nearby to it (**Table 1**). The Baker's Hole quarry complex was first recognised as of Palaeolithic/Quaternary significance in the later 19th century. Field investigation has subsequently been carried out on several occasions, initially against a backdrop of increasing chalk extraction through the late 19th century and the first half of the 20th century, but most recently in conjunction with construction of HS1 and the Ebbsfleet International station in the Ebbsfleet valley.
- 4.1.3 The sediments at Site B were first revealed by quarrying in the 1930s and were then identified as of archaeological interest and investigated by Burchell. They have been exposed ever since, with intermittent episodes of further investigation as outlined in Table 1. Burchell's initial work was significant in its day as showing that the sequence at Site B contained clear evidence - in a horizon named by him as the "Temperate Bed" - of a prehistoric interglacial episode that was (a) distinct from, and significantly earlier than, the present day, and (b) distinct from, and significantly younger than, the Hoxnian interglacial deposits of the nearby Swanscombe 100-foot terrace. He also recovered numerous lithic artefacts from certain horizons at Site B that were attributable to the distinctive Levalloisian lithic industry, not otherwise known in the UK from dateable horizons. Thus Burchell's work provided important confirmation of the complex and cyclical history of oscillating warm/cold climate change over the last c. 500,000 years in the UK (covering the later Middle and Late Pleistocene) and better contextualisation within this period of the distinctive early Neanderthal Levalloisian lithic industry. Burchell's initial work has, however, been substantially built on subsequently, with further investigation by the British Museum (in 1969) and then by Wenban-Smith, firstly in the 1990s (Wenban-Smith 1995, 1996), and then most recently from 2012-2014 as part of the Strategic Condition Survey (Wenban-Smith 2012, 2015, 2016 and 2018) in light of the site's "Heritage at Risk" status.
- 4.1.4 This subsequent work has provided new and better information on the details of the sequence at Site B, and on the contained palaeo-environmental remains. New techniques of dating have also been applied, namely optically stimulated luminescence (OSL) and amino acid racemisation (AAR). We now have a much better understanding of the wider Pleistocene climatic framework for the Palaeolithic occupation of Britain, and we also have a much better idea of where the various surviving Baker's Hole deposits (and in particular those from Site B) fit within the wider framework.
- 4.1.5 The Baker's Hole complex is of particular importance as the only locality in Britain (and indeed perhaps Europe, or even globally) where deposits are known to be present that represent three distinct episodes of interglacial warmth with woodland development that can all be linked to the MIS 7 interglacial. This complex interglacial is known to have three distinct warm peaks, but it has only recently been recognised (Wenban-Smith et al. 2020a,b,c) - that all three of these peaks are associated with development of woodland, and that all have distinct biostratigraphic signatures. Thus the deposits at Baker's Hole are of crucial importance in establishing a framework within which to understand Palaeolithic and palaeo-environmental remains from other MIS 7 localities, where only one, or sometimes two, interglacial episodes are represented: for instance at other nationally important localities in the Lower Thames basin such as Aveley (Bridgland 1994: 251-261) and Crayford (Roe 1981: 86-88). The surviving deposits at Site B are an integral part of the overall Baker's Hole deposit complex, with evidence of two of the three MIS 7 warm stages being present, as well as horizons with lithic remains. The Site B deposits retain high potential for further improving understanding of MIS 7, since they contain faunal remains



that can be used for palaeo-environmental reconstruction and biostratigraphic dating, as well as molluscan remains that can be used for amino acid dating.

**Table 1** Previous work at Baker’s Hole, main Palaeolithic investigations

<i>Date</i>	<i>Principal investigator/s</i>	<i>Key results</i>	<i>Reference/s</i>
1880s	FCJ Spurrell	First discovered richly fossiliferous deposits with Palaeolithic artefacts; identified Levalloisian "tortoise-core" technology, at "Tramway Cutting"	Spurrell 1883 & 1884
1910	British Museum (RA Smith and H Dewey)	Collection of Levalloisian artefacts from Southfleet Pit [aka "Baker's Hole"]	Smith 1911
1930s, 1950s	JPT Burchell	Discovered artefact-bearing and fossiliferous deposits at Site B (with molluscs especially), and identified interglacial "Temperate Bed" site	Burchell 1933, 1935, 1954 & 1957
1969-1971	British Museum (G Sieveking and MP Kerney)	Made good records of key sediment sequences at Site B, and carried out more detailed molluscan investigations	Kerney & Sieveking 1977
1989-1995	FF Wenban-Smith, PhD work	Survey and recording of surviving deposits; more intensive palaeo-environmental work covering molluscs, small vertebrates and ostracods; chronometric dating with OSL and amino acid racemisation	Wenban-Smith 1992, 1995, 1996; Wenban-Smith <i>et al.</i> 2020a,b,c
2012-2015	FF Wenban-Smith, Heritage-at-Risk survey	More-detailed field survey of deposits in Baker’s Hole SM and SSSI, supplemented by palaeo-environmental assessment	Wenban-Smith 2012, 2015, 2016 & 2018

## 5 SITE CONDITION AND MANAGEMENT PLANNING

5.1.1 Site B has long been vulnerable to degradation and neglect, being located initially within an active quarry, and then subsequently an area of active landfill. Having carried out fieldwork at Site B in the 1990s, F Wenban-Smith became concerned about its deteriorating condition while carrying out nearby fieldwork for HS1 between 1997 and 2003. It was becoming increasingly vegetated, and exposed sediment sections were being visibly affected by erosion and animal action (birds, foxes and insects). This concern was expressed to Historic England (then English Heritage) and also to Natural England, and these bodies agreed to support an initial survey of the condition and vulnerability of the Baker’s Hole SM and SSSI. A walk-over survey was carried out in February 2012. This demonstrated (Wenban-Smith 2012) the poor condition of the site, leading to it being placed in 2013 on the English Heritage list of "Monuments at Risk".

5.1.2 Further fieldwork then took place in 2014 and 2015. The aims of the first phase of fieldwork (in September 2014) were to survey Site B properly, to carry out a baseline investigation of its physical condition, to assess the condition/vulnerability of its key palaeo-environmental remains, and to inform development of a management plan to ensure the future survival of the site in good condition. This phase of work established (Wenban-Smith 2015) that important deposits were exposed and deteriorating at Site B, and that urgent action was

required to address the ongoing deterioration, and their future vulnerability to further deterioration.

- 5.1.3 Therefore a second phase of urgent remedial fieldwork took place in December 2015, with the aim of temporarily stabilising the deterioration of the site so that discussions could take place on its management in the medium and longer term. The main remedial approach was to backfill the old archaeological trenches with sand (**Appendix 2, Figure 3c**), so that exposed sediments were covered up and protected from weathering and animal action. It was recognised at the time that this action would not protect the site beyond a period of c. 3 years, but would buy a little time for a longer-term management plan to be developed and implemented. The exposed sediments were further sampled for palaeo-environmental remains before backfilling, to allow a more systematic assessment of the condition of their contained palaeo-environmental remains to inform discussions on the site's future management. The assessment of these samples (**Appendix 2, Figure 4**; Wenban-Smith 2016) established that there had been significant deterioration of palaeo-environmental preservation since the same deposits were investigated in the 1990s for Wenban-Smith's PhD (1996), c. 20 years previously.
- 5.1.4 Following the second phase of fieldwork, further assessment and analysis of the palaeo-environmental remains from both phases of fieldwork took place in 2016 and 2017, including amino acid dating of some molluscan remains. The results of these analyses were then presented in a further, final "Project Closure Report". The first version of the Project Closure Report was submitted in 2017, but the final post-review version (v2.1) was submitted and approved in 2018 (Wenban-Smith 2018). This final report provided an overview of the condition and vulnerability of Site B, and collated various options for its future management.
- 5.1.5 The Project Closure Report emphasised that while the most-sensitive sediments at Site B were physically protected in the short term, they were also vulnerable to ongoing in situ geochemical changes that would very likely allow continuing deterioration of the preservation of key palaeo-environmental remains. As summarised in the closure report "It needs to be considered firstly whether it is possible to physically protect the Temperate Bed and halt the ongoing in situ deterioration of the contained palaeo-environmental remains; and secondly, if so, how? And then thirdly, if not, what mitigating steps need to be taken?" (Wenban-Smith 2018, Summary).
- 5.1.6 As also emphasised in the closure report, the remedial backfilling was anticipated to have a useful lifespan of c. 3 years - up until the end of 2019 - to provide a window in which to consider the results of Heritage-at-Risk work, and to develop and implement a longer-term management plan. Possible approaches that were suggested included:
- carrying out fieldwork to mitigate the further and ongoing loss of palaeo-environmental information from the most vulnerable Temperate Bed sediment to maintain the site in a visually tidy condition, and to provide some interpretive information boards
  - taking expert advice on the chemistry and material characteristics of the backfill material, and on whether this could be changed in a way that would be beneficial for the sediments and their contained palaeo-environmental remains
  - carrying out a feasibility study on creation in the longer-term of a Palaeolithic heritage centre at the site, that combined protection (or mitigation) of the most vulnerable sediments with a heritage resource that promoted England's Palaeolithic heritage



- 5.1.7 It was also advised that “If development of the site is to take place, it would be advantageous in conjunction with it, and in light of the uncertainty over the medium and longer-term stability of palaeo-environmental remains .. to carry out further more-substantial mitigating fieldwork at the site, in particular to investigate and sample it.. and to investigate its wider extent. And .. consideration needs to be given as to whether the important remains at Baker's Hole can be managed so as to maintain them in long-term good condition, or whether the only way to achieve their benefit is to carry out substantial mitigation before they deteriorate too much further” (Wenban-Smith 2018, Summary).
- 5.1.8 The various stages of this work are summarised below (**Table 2**), along with the key outcomes at each stage and reference to the relevant reports. A more-complete review of the different stages of the Heritage-at-Risk work and the associated reports is collated as an appendix (**Appendix 1**).

**Table 2** Overview of Heritage-at-Risk investigations from 2012 through to 2017, and of resulting reports.

<i>Project stage</i>	<i>Date</i>	<i>Key work undertaken</i>	<i>Key results and outcomes</i>	<i>Report</i>
Initial field assessment	Feb 2012	- initial Baker's Hole walkover - GPS surveying of key visible features	- site appears in poor condition and vulnerable	Wenban-Smith 2012 (v2.4)
Baseline survey and initial environmental assessment	Sep 2014	- more-detailed surveying at Sites B and F - environmental sampling and assessment at Site B	- site confirmed in poor condition and vulnerable - physically degrading exposures of key deposits - identification of new parts of Site B with valuable and vulnerable deposits	Wenban-Smith 2015 (v2.1)
Short-term remediation and further environmental assessment	Dec 2015	- further environmental sampling and assessment at Site B - backfilling of trenches from previous work at Site B	- established that significant ongoing deterioration of key palaeo-environmental remains on decadal timescale - short-term protection of exposures from physical degradation while management options considered	Wenban-Smith 2016 (v1.2)
Project recap and closure	2016-2017	- review and collation of specialist palaeo-environmental assessment reports - various suggestions for longer-term management of Site B	- identified a 3-yr timescale to develop and implement longer-term management plans for Baker's Hole, and in particular the more-vulnerable Site B	Wenban-Smith 2018 (v2.1)

## 6 DISCUSSION

- 6.1.1 It was emphasised in the 2018 Project Closure Report (Wenban-Smith 2018) that the remedial backfilling of December 2015 was a short-term option that would physically protect the site for a period of c. 3 years, up to the end of c. 2019, while plans could be made for



its longer-term management. It was also emphasised that the main issue affecting the site was not-so-much physical deterioration of its valuable sediments, but in situ deterioration of the key palaeo-environmental remains within the sediments. These form a major aspect of the scientific and archaeological value of the site, as they have the potential to address important chronological and palaeo-environmental research questions. It is likely that the in situ deterioration has been ongoing since the site was first exposed by quarrying in the 1930s, and was especially exacerbated by the major archaeological interventions of 1969-1971. It was confirmed by the Heritage-at-Risk work that significant deterioration happened over the c. 20-year period between the 1990s and the 2010s (**Appendix 2, Figure 4**).

- 6.1.2 At this stage, it seems that the only unacceptable option is to do nothing, since this would lead to continuing rapid deterioration, and possibly rapid disappearance, of a key aspect of Site B, much diminishing its heritage and scientific value. There is wide scope for proposal of other options, including, but by no means limited to, those previously flagged up in the Heritage-at-Risk closure report (see above, **Section 5**). Bearing in mind that it could be beneficial to the potential of the Site for development if Site B could be thoroughly excavated and investigated, so that it did not need to be preserved in its current exposed and untidy state. It would seem that there is potential for its urgent heritage management needs to be met by investigation as part of the overall LRCH programme.
- 6.1.3 There is substantial scope for discussion between LRCH and the various relevant curatorial stakeholders - Historic England, Natural England and the Local Authority - as to the balance between investigation and preservation in situ, and the degree to which preserved sediments need to have potential accessibility maintained, if they have already been thoroughly researched and recorded - perhaps including recovery of physical witness sections through techniques such as sediment impregnation with epoxy resin.
- 6.1.4 This Briefing Note provides to all stakeholders the same background information on Site B, to provide a platform from which discussion can move forward between heritage curators and London Resort Company Holdings on how best to address the urgent management needs of Site B in conjunction with the London Resort development proposal.



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## APPENDICES

### Appendix 1 Heritage-at-Risk surveys, fieldwork and reports, 2012-2018

#### Contents:

- **Table A-1.** Baker's Hole Heritage-at-Risk project phases: fieldwork, analysis and reports
- **Table A-2.** Baker's Hole Heritage-at-Risk project reports

**Table A-1.** Baker's Hole Heritage-at-Risk survey, project phases: fieldwork, analysis and reports.

<i>Date</i>	<i>Commissioning body [reference]</i>	<i>Fieldwork [site code]</i>	<i>Palaeo-environmental assessments</i>	<i>Analyses</i>	<i>Report/s *</i>
Feb 2012	Natural England	Walkover survey, Areas A, B, C and F [CC-77-A]	-	-	<b>W-Smith 2012 [1]</b>
Sep 2014	Workman, pp Lafarge	Scrub clearance [CC-77-C]	-	-	-
Sep 2014	Historic England [6478]	Field survey of Areas B and F, and initial enviro sampling [EV 14]	- Molluscs, small vertebrates and ostracods	-	<b>W-Smith 2015 [3]</b>
Jul-Dec 2015	Historic England [6478ANL-1]	-	-	Molluscs, small vertebrates, ostracods, particle-size, geo-chemistry and amino dating [EV 14]	-
Dec 2015	Historic England [HAR]	Short-term remediation (backfilling) and further targeted sampling at Area B [EV 15]	Molluscs, small vertebrates and ostracods [EV 15]	Geo-chemistry [EV 15]	<b>W-Smith 2016 [6]</b>
2016 - 2017	Historic England [6478ANL-2]	-	-	Molluscs, small vertebrates, ostracods and amino dating [EV 15]	<b>W-Smith 2018 [8]</b>

\* [no. in square brackets is internal project report series number]



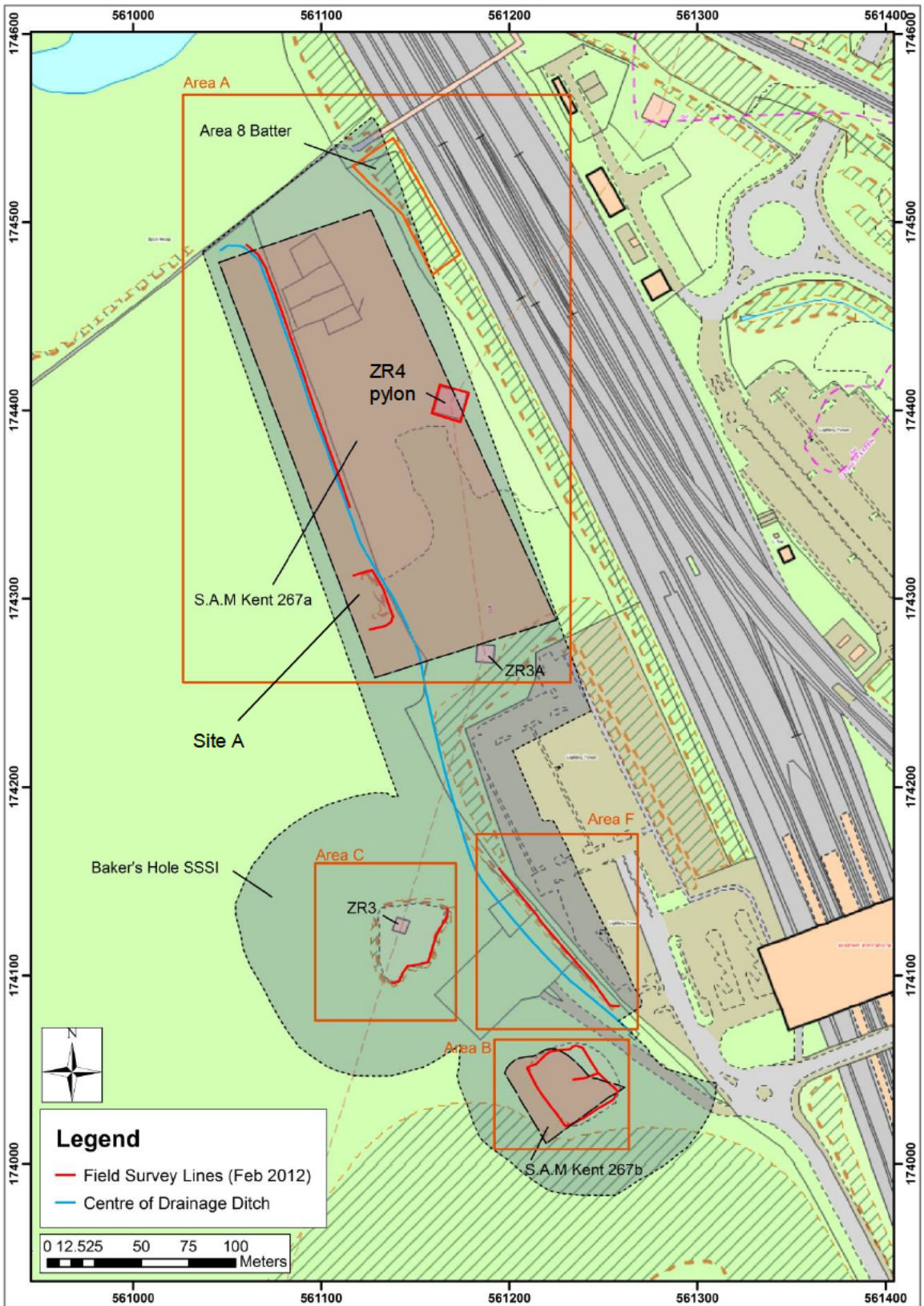
**Table A-2.** Baker's Hole Heritage-at-Risk survey, project reports.

<i>Report reference *</i>	<i>FWS CC-code</i>	<i>Title</i>	<i>Version</i>	<i>Date</i>
<b>W-Smith 2012 [1]</b>	77-A	Baker's Hole SSSI/SAM Field Survey: Report	v2.4	29 <sup>th</sup> March 2012
<b>W-Smith 2015 [3]</b>	77-B1	Project 6478, Baker's Hole SM and SSSI, Strategic Condition Field Survey Final Report: Current Condition and Future Management Recommendations	v2.1	18 <sup>th</sup> April 2015
<b>W-Smith 2016 [6]</b>	77-D	Baker's Hole SM and SSSI, Area B: Report on Assessment of the Temperate Bed under HAR Programme	v1.2	8 <sup>th</sup> March 2016
<b>W-Smith 2018 [8]</b>	77-B2	Baker's Hole SM and SSSI Field Survey (Area B) closure report: Temperate Bed vulnerability, management priorities and collation of specialist analyses	v1.1	19 <sup>th</sup> March 2017
			v2.1	26 <sup>th</sup> March 2018

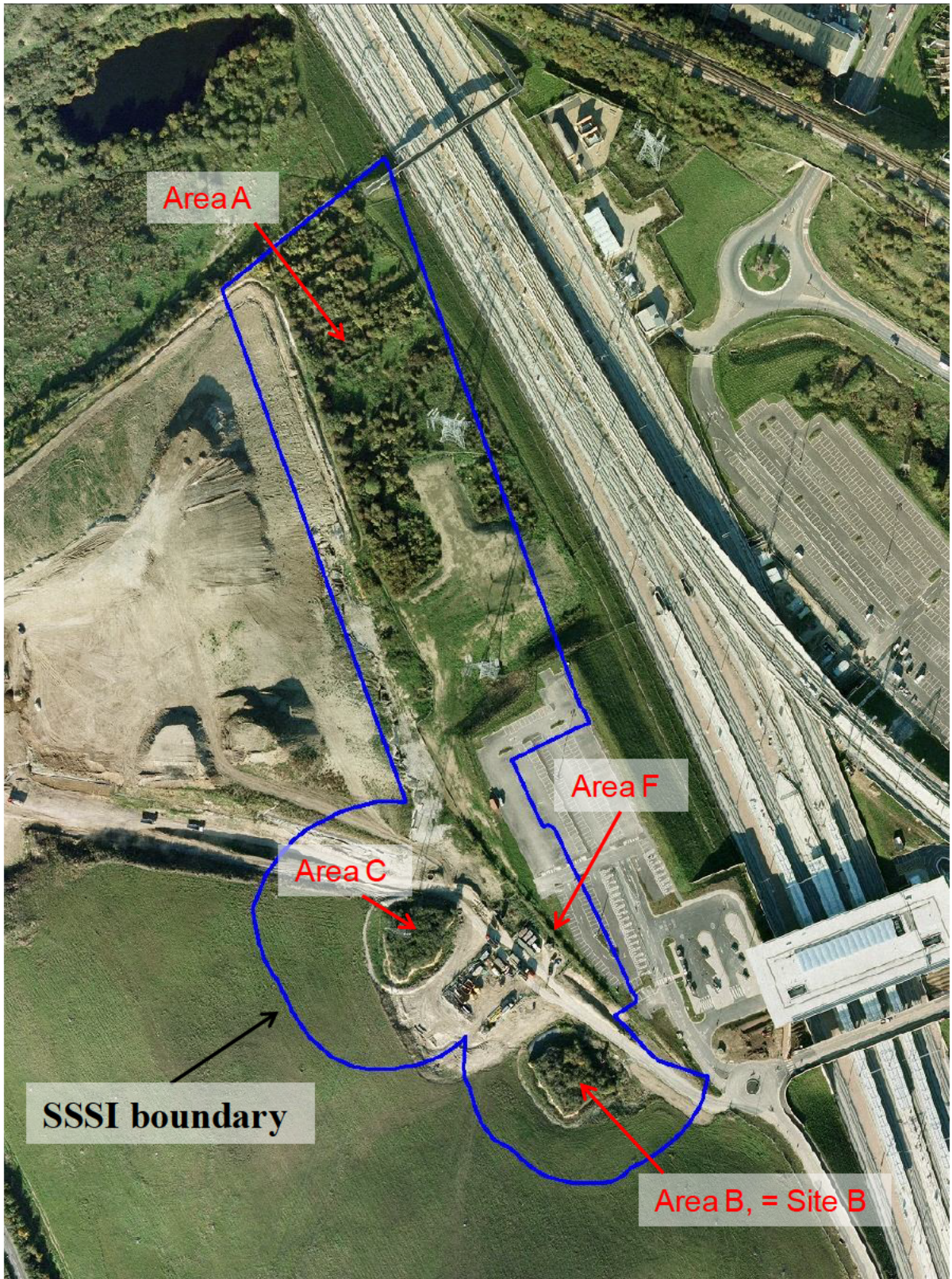
\* [no. in square brackets is internal project report series number]



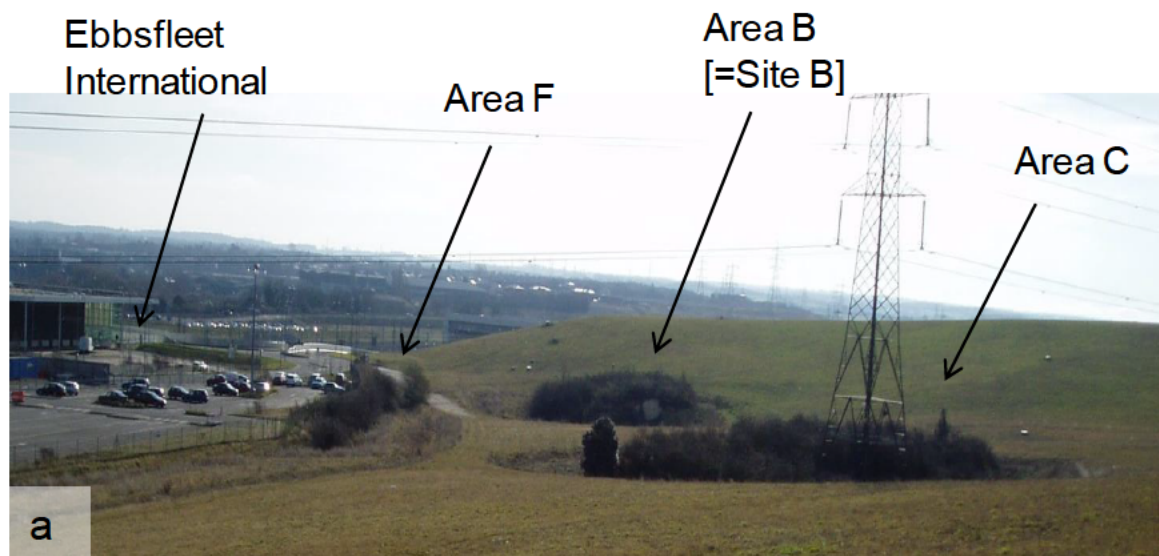
## **Appendix 2: Briefing note figures (prepared by Francis Wenban-Smith)**



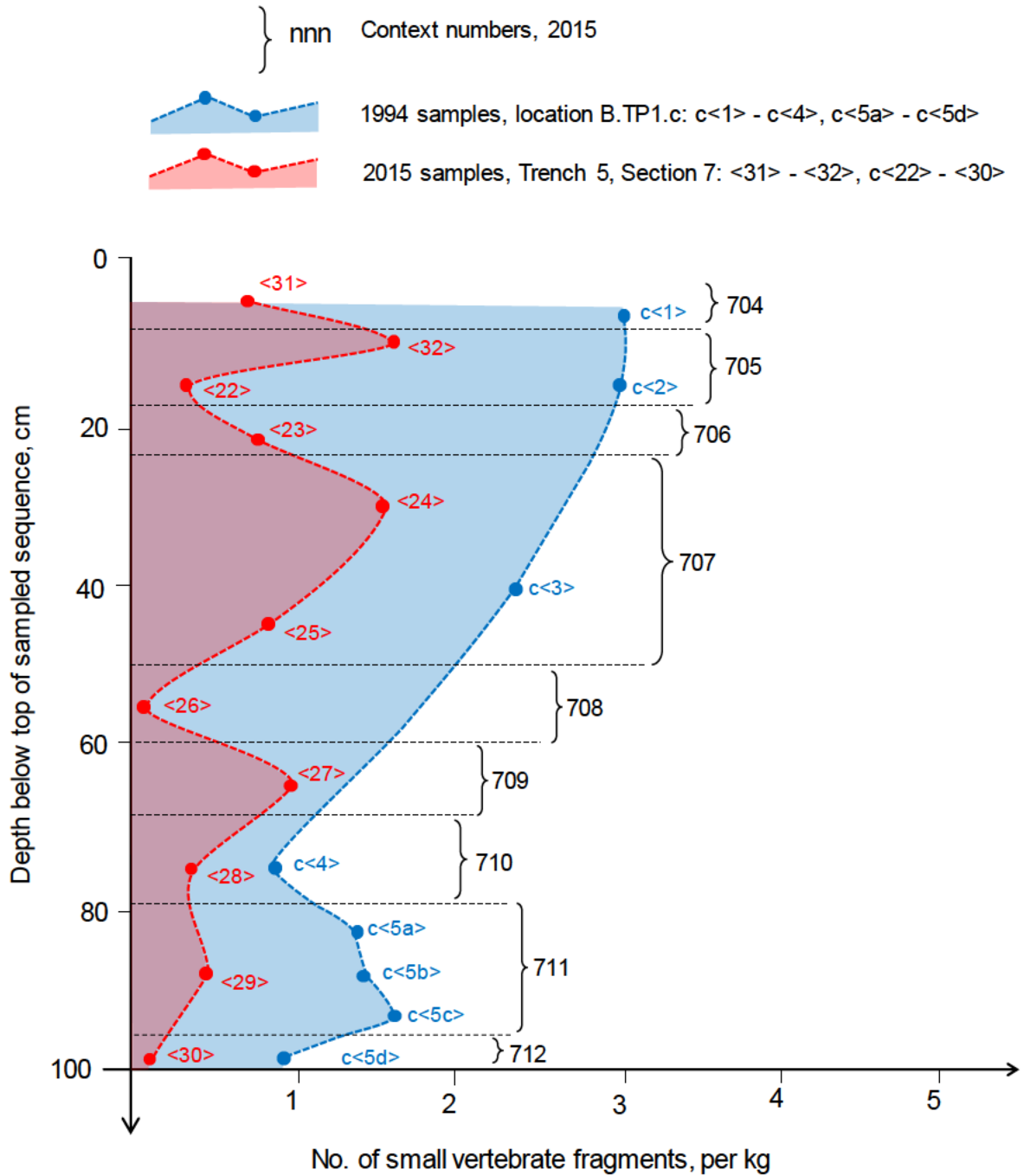
**Figure 1.** Baker's Hole SM and SSSI, location and layout.



**Figure 2.** Baker's Hole site layout: aerial photo, just before opening of HS1 in late 2007



**Figure 3.** Baker's Hole Site B, in its setting: (a) general view of Sites/Areas B, C and F before devegetation of Site B in September 2014 [23-Feb-2012, looking SE]; (b) after devegetation [15-Sep-2014, looking S]; (c) after remedial backfilling in December 2015, with Area C in background [18-Jan-2016, looking NW]



**Figure 4.** Comparison of the survival of small vertebrate remains at Site B between 1994 and 2015, from adjacent sample sequences through the Temperate Bed,



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