

Integrated Waste Management Facility, Rivenhall Airfield, Bradwell, Essex

*Record of a Programme of Archaeological
Strip, Map and Sample/Excavation*



for:
RPS Consulting

on behalf of:
Indaver Rivenhall Ltd

CA Project: SU0403
CA Report: SU0403_1
OASIS ID: cotswold2-505796
HER Ref: RHWM22
April 2022



Integrated Waste Management Facility, Rivenhall Airfield, Bradwell, Essex

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Cirencester Building 11 Kemble Enterprise Park Cirencester Gloucestershire GL7 6BQ t. 01285 771 022	Milton Keynes Unit 8, The IO Centre Fingle Drive Stonebridge Milton Keynes Buckinghamshire MK13 0AT t. 01908 564 660	Andover Stanley House Walworth Road Andover Hampshire SP10 5LH t. 01264 347 630	Suffolk Unit 5, Plot 11 Maitland Road Lion Barn Industrial Estate Needham Market Suffolk IP6 8NZ t. 01449 900 120
e. enquiries@cotswoldarchaeology.co.uk			

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SUMMARY

Project name:	Integrated Waste Management Facility, Rivenhall Airfield
Location:	Bradwell, Essex
NGR:	582534 220670
Type:	Strip, Map and Sample/Excavation
Date:	11th – 12th April 2022; 3rd May 2022
Planning reference:	ESS/55/14/BTE
OASIS ID:	cotswold2-505796
Location of Archive:	To be deposited with Braintree District Museum. The digital archive to be deposited with the Archaeology Data Service (ADS)
Site Code:	RHWM22

In April and May 2022, Cotswold Archaeology (CA) carried out a programme of Archaeological Strip, Map and Sample/Excavation investigation at the former Rivenhall Airfield, Bradwell, Essex, ahead of the construction of a proposed Integrated Waste Management Facility. An area of c.0.31ha was stripped of overburden, which consisted of 0.20m of topsoil over a 0.20 – 0.30m thick layer of subsoil which, in turn, overlay the superficial drift geology. The only features recorded were a modern service trench and a ceramic land drain and the only artefactual evidence was one prehistoric struck flint recovered from the subsoil.

1. INTRODUCTION

- 1.1. In April and May 2022, Cotswold Archaeology (CA) undertook an archaeological Strip, Map and Sample/Excavation investigation (SMSE) at the former Rivenhall Airfield, Bradwell, Essex (centred at NGR: 582534 220670; Fig. 1). This work was commissioned by Mick Rawlings (RPS Consulting) on behalf of their client, Indaver Rivenhall Ltd.
- 1.2. The SMSE investigation was carried out ahead of the construction of Rivenhall Integrated Waste Management Facility (IWMF. Planning ref: ESS/55/14/BTE). Essex Place Services (EPS), the Archaeological Advisors (AA) to the Local Planning Authority (LPA), had not provided a Brief for the current work, although the required archaeological mitigation strategy had previously been discussed with the former consultant for the project (The Guildhouse Consultancy). A Written Scheme of Investigation (WSI) for the work was prepared by Stuart Boulter of CA and was subsequently approved by Richard Havis of EPS. The scope, methods and sampling strategy outlined in the WSI were based upon those put forward in an earlier document written by Archaeology South-East in 2014 (ASE Project No. 8293), but with updated parameters requested by EPS.
- 1.3. The SMSE investigation was also undertaken in line with *Standard and guidance: Archaeological Excavation* (CIfA 2020), the *EAA Standards for Field Archaeology in the East of England* (Gurney 2003), the *Management of Research Projects in the Historic Environment (MORPHE): Project Planning Note 3* (English Heritage 2008), the *Management of Research Projects in the Historic Environment (MORPHE): Project Manager's Guide* (Heritage England 2015) and relevant standards and guidance documents in Appendix B of the WSI (CA 2022).
- 1.4. The site code for the present works is RHWM22. The CA project number is SU0403. The OASIS ID for the site is cotswold2-505796.

The site

- 1.5. The site of the present SMSE investigation, designated as 'Area 1' in planning documents and the WSI (referred to as 'the site' hereafter), is situated within the c.0.8ha development zone of the IWMF. The IWMF development is located substantially within the A2 permission area of Bradwell Quarry, at the location of the former Rivenhall Airfield (Fig. 1).

-
- 1.6. The site is located within a grassed parcel of land in the eastern part of the IWMF development area,. The north-western boundary of this parcel of land is delineated by the former concrete taxiway of the airfield, whilst the eastern boundary is marked by a smaller concrete trackway, also of WWII date, separating it from Woodhouse Farm (Grade II listed). The south-western part of the triangular parcel of land is a wooded area, which also abuts onto a former airfield taxiway. There are several structures of WWII date inside the area. The SMSE site consists of a northeast to southwest aligned rectangular area, c.0.31ha in extent, situated against the north-western edge of the parcel of land (Fig. 2).
- 1.7. The topography of the surrounding area has been affected by the expansion of Bradwell Quarry to the north, west and south of the site in recent years. Prior to this, the site was on the northern edge of a triangular plateau bounded to the north and east by the valley of the River Blackwater, and to the south by the valley of an unnamed tributary (referred to as Cressing Brook, or variations thereof, in several sources, e.g., Rodwell and Rodwell 1986). The site lies approximately 47m above ordnance datum (AOD), sloping gradually from its southern end, which is c.47.7m AOD, to its northern end, c.46.5m AOD.
- 1.8. The overburden encountered during the investigation consisted of a 0.20m thick layer of dark grey-black topsoil/turf, over subsoil. The subsoil varied in thickness between 0.20m and 0.30m and was formed of a mid-reddish/greyish brown, firm silty clay. The subsoil overlay the surface geology, which consisted of a reddish-brown, firm, gravelly silty clay, with outcrops of pale yellow, chalk-flecked clay. The British Geological Survey (BGS) website identifies this as part of the Lowestoft Formation Diamicton, formed up to two million years ago in the Quaternary Period during ice age conditions, where deposits of a glacial origin were created by the actions of the ice and its interglacial meltwaters (BGS 2022). These overlie a formation known as the Kesgrave Sands and Gravels, pre-quaternary deposits relating to the ancestral River Thames. The underlying bedrock comprises clays, silts and sands of the London Clay Formation, a sedimentary rock formed approximately forty-eight to fifty-six million years ago in the Palaeogene Period in a local environment previously dominated by deep seas. These sedimentary rocks are marine in origin, detrital and comprise coarse- to fine-grained slurries of debris from the continental shelf flowing into a deep-sea environment, forming distinctively graded beds (*ibid*).

2. ARCHAEOLOGICAL BACKGROUND

Previous archaeological work

- 2.1. Extensive archaeological works have been undertaken to the north, west and south of the site, ahead of various expansions of Bradwell Quarry and the proposed IWMF site over preceding decades. Archaeological remains have been recorded from a number of archaeological periods, although those of an Iron Age/Roman and medieval date dominate the record. The WSI (CA 2022) highlights the archaeological remains and investigations pertinent to the present site, a summary of which is reproduced below.
- 2.2. The earliest systematic archaeological survey undertaken in the area was a programme of fieldwalking in 1991 and 1992 (Medlycott 1991; Johnson 1992). Fifteen concentrations of artefacts were recorded across the proposed mineral extraction areas. Subsequently, targeted geophysical survey failed to identify anomalies associated with the artefact concentrations (Johnson 1992).
- 2.3. A Cultural Heritage (Archaeology) Statement was prepared for Rivenhall Airfield (OAA 1997).
- 2.4. A number of fieldwork projects have been undertaken which cover parts of the IWMF site. These include continuous monitoring and piecemeal excavation of the mineral extraction area known as Site R between 1991 and 2010 (Peachey 2003; Allen and Roy 2006; Germany 2006; Ennis 2008; Germany et. al. 2017), trial-trenching of the IWMF site (Ennis 2006), trial-trenching of mineral extraction areas A2 and A5 in 2010 (EFAU 2011) and archaeological excavation and monitoring of mineral extraction of parts of A2 during 2011 to 2014 (ASE 2017a). The part of the site known as Area 2, forming the southern end of the IWMF area was subject to archaeological monitoring in 2016/early 2017 (ASE 2017b).
- 2.5. Evidence for prehistoric activity appears to be dispersed with only small concentrations of features of Neolithic and Bronze Age date, although during the Iron Age there was clearly an increased presence with agricultural activity and dispersed occupation sites recorded.
- 2.6. The later Iron Age and Early Roman remains indicate that an extensive agricultural landscape of fields, enclosures and droveways had developed along with significant occupation/settlement sites, for example in the area recently excavated by CA as part

of Site A5 immediately to the south of the IWMF site, where there was a double ditched enclosure with associated cremation cemetery. However, there appeared to be a significant decline in activity from the later 1st century AD onwards.

2.7. Evidence for later Roman activity was limited, but some of the undated ditches could relate to this period, and small farmsteads have been identified elsewhere in the vicinity, including just to the north of the western end of proposed quarry extension Site A7 (The Guildhouse Consultancy 2022, 12).

2.8. The medieval period, from about the 12th century, saw an agricultural landscape of fields developing from assarting of the earlier woodland/wood pasture with frequent areas of quarrying and small-scale settlement/occupation along the frontages of lanes, many of which are still in use today. It seems clear that the developed medieval landscape remained relatively unchanged into the 20th century where there was extensive field boundary removal and the construction of the airfield.

Historical background

2.9. The site lies just west of Woodhouse Farm, a Grade II Listed site, surrounded on three sides by a moat. Woodhouse Farm was first mentioned by name (as *Wodhous*) in a document of 1487, although strong circumstantial evidence points to a 13th – 14th century foundation, probably the result of medieval assarting within an area referred to as the ‘wild wood’ in contemporary records (The Guildhouse Consultancy 2011). The farm is located at the northern extremity of Kelvedon parish, in an area that was extensively wooded in the post-Roman period, before assarting began making inroads into it during the medieval period (Rodwell and Rodwell 1986), Woodhouse Farm being one of these encroachments.

2.10. The earliest depiction of the site is on Thomas Petchye’s 1634 map of lands owned by Woodhouse Farm (The Guildhouse Consultancy 2011). The map shows that the site once lay within the north-eastern part of a large rectangular field, bounded to the east by the moated site of Woodhouse Farm, to the north by a ditch/watercourse that fed into the moat, and to the south by a trackway. The map shows this field as separated into two parts, the southern portion being an irregularly shaped subdivision (*ibid*), which, by analogy with surrounding fields depicted on the same map, may be the result of recent woodland clearance/removal of hedgerows around the edges of the field. The 1838 tithe map of Kelvedon shows little change, although the 1634 subdivision within the fields is no longer depicted. A small area in the southeast

corner of the field had been separated off as a new field by 1838 (*ibid*). The 1845 Pattison map names these two fields, the large one containing the present site as *Great Barn Field* and the new smaller one as *Little Barn Field* (*ibid*). Whilst evidence suggests Woodhouse Farm was always contained within its moat, the ‘*Barn Field*’ names on the 1845 map could suggest some outlying structures had existed outside of it (*ibid*).

- 2.11. According to later Ordnance Survey maps (e.g., the 1875 and 1897 25-inch O.S.), there were no changes to the extent or layout of *Great Barn Field* prior to the construction of Rivenhall Airfield in 1943, which resulted in the present shape of the area containing the site. Although this area contained structures related to the airfield, none of these were located within the excavation area, which appears to have remained largely unchanged from 1943 to the present day.

3. AIMS AND OBJECTIVES

- 3.1. As specified in the WSI, the ‘*principal objective of the archaeological mitigation works is to record in detail the character of the archaeological deposits that will be compromised during the course of the IWWMF development.*’ (CA 2022)

- 3.2. The specific aims of the work, as outlined in the WSI (*ibid*) are to:

- record any evidence of past settlement or other land use of the site.
- recover artefactual evidence to date any evidence of past settlement that may be identified
- sample and analyse environmental remains to create a better understanding of past land use and economy

- 3.3. If merited, the results of the SMSE investigation would then to be ‘*placed within their local and regional context with regard to the East Anglian Regional Research Agenda* (Medleycott 2011) and the updated version (<https://researchframeworks.org/eoe/>)’ (CA 2022).

4. METHODOLOGY

- 4.1. Prior to the site strip, a metal detecting survey was undertaken across the area to be investigated. Further metal detecting was conducted across the stripped surface.
- 4.2. The site was stripped using a mechanical excavator with a bladed ditching bucket, under direct archaeological supervision. The overburden was removed down to the surface of the underlying superficial drift geology.
- 4.3. An RTK GPS was used to survey the outline of the excavated area and the outline of a modern service and a ceramic field drain crossing the site.
- 4.4. Digital photographs were taken of the site following the site strip. A representative section of the overburden soil profile was cleaned by hand and recorded with digital photographs, which included a scale bar and north arrow.
- 4.5. A single artefact, recovered from the subsoil during the site strip, was collected and placed in a finds bag. A label stating the site code (RHWM22) and context number for the subsoil was placed into the bag. The artefact was processed in accordance with *CA Technical Manual 3: Treatment of Finds Immediately after Excavation*.
- 4.6. Descriptions of the topsoil and subsoil were entered into a Microsoft Access database.
- 4.7. CA will make arrangements for the deposition of the project archive with Braintree District Museum. The digital archive will be prepared and deposited with the Archaeology Data Service (ADS). The archives (museum and digital) will be prepared and deposited in accordance with *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives* (ClfA 2014; updated October 2020).
- 4.8. A summary of information from this project has been entered onto the OASIS online database of archaeological projects in Britain. The OASIS ID for the site is cotswold2-505796. The summary table is reproduced as Appendix C, below.

5. RESULTS

- 5.1. Two layers of overburden were stripped from the site; topsoil layer 0001 and subsoil layer 0002 (Fig. 3; see paragraph 1.7, above, for descriptions). No archaeological features were uncovered by the site strip other than a modern service trench.
- 5.2. A single worked flint was recovered from subsoil layer 0002 during the site strip (see *Chapter 6. The Finds*, below).

6. THE FINDS

Lithics

Michael Green

- 6.1. A single piece of struck flint was recovered during the course of the investigation. It appears to be a piece of debitage created during the reduction of a core. It is of indeterminate prehistoric date.

7. DISCUSSION

- 7.1. No archaeological features were uncovered during the SMSE investigation. The single piece of prehistoric struck flint found within the subsoil is typical of other examples recovered from the overburden deposits of the surrounding area, e.g., Area A2 of Bradwell Quarry (ASE 2017), just south of the present site.
- 7.2. Historic maps indicate that no field boundary divisions have crossed the area of the site since at least 1634. Given that the site was within land belonging to Woodhouse Farm for all its attested history, it is possible that prior to the medieval assarting that created the farm, the site was within the 'wild wood' recorded in early sources.

8. CA PROJECT TEAM

- 8.1. Fieldwork was undertaken by Preston Boyles. This report was written by Preston Boyles and edited by Stuart Boulter. The struck flint report was produced by Michael Green. The report illustrations were prepared by Ken Lymer. The project archive has been compiled by Clare Wootton. The project was managed for CA by Stuart Boulter, on behalf of Mick Rawlings of RPS Consultancy.

9. REFERENCES

- Archaeology South-East 2017 *Area A2, Bradwell Quarry, Bradwell-juxta-Coggeshall, Essex, Post-excavation assessment and Updated Project Design* ASE Report No. **2016210**
- British Geological Survey 2022 *Geology of Britain viewer*
<https://mapapps.bgs.ac.uk/geologyofbritain/home.html> Accessed 13 April 2022
- Cotswold Archaeology 2022 *Integrated Waste Management Facility, Area 1, Rivenhall Airfield, Essex Written Scheme of Investigation for a Programme of Archaeological Strip, Map and Sample/Excavate*
- CIfA, 2014 (updated 2020) *Standard and Guidance for Archaeological Excavation. Chartered Institute for Archaeologists* (Reading)
- The Guildhouse Consultancy 2011 *Proposed Bradwell Quarry Extension: Site A2 NR Braintree, Essex. A desk-based assessment.*
- Rodwell, W.J and Rodwell, K.A. 1986 *Rivenhall: investigations of a villa, church and village, 1950-1977* CBA Research Report No **55**

APPENDIX A: CONTEXT DESCRIPTIONS

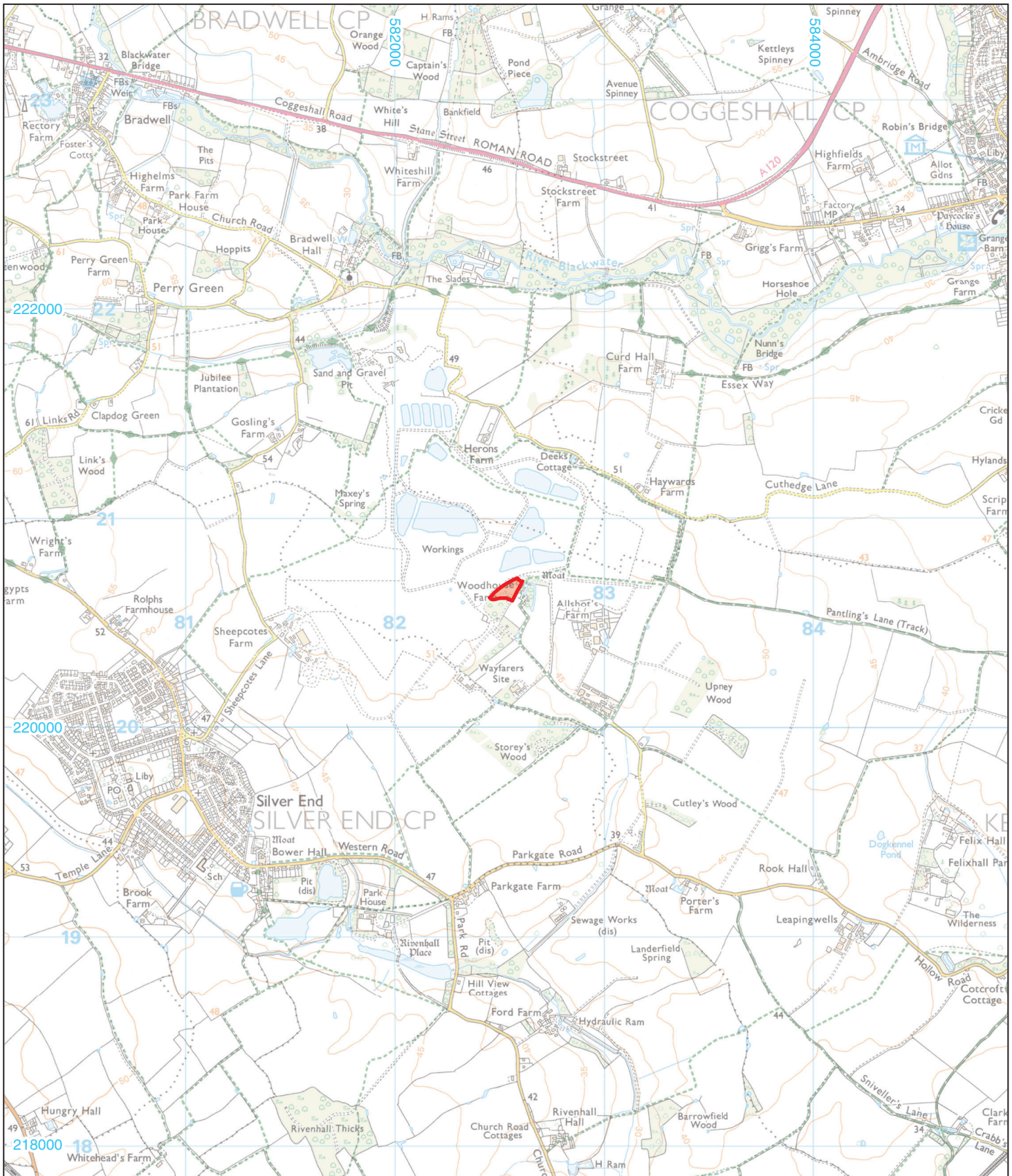
Context No.	Type	Fill of	Interpretation	Description	Length (m)	Width (m)	Depth/thickness (m)
0001	Layer		Topsoil	Dark greyish-black topsoil/turf			0.20
0002	Layer		Subsoil	Mid-reddish/greyish brown firm silty clay			0.20 – 0.30

APPENDIX B: THE FINDS

Finds type	Context	Material	Period	Quantity
Worked flint	0002	Flint	Prehistoric	1

APPENDIX C: OASIS REPORT FORM

OASIS ID (UID)	cotswold2-505796
Project Name	Strip, Map and Search/Excavate at Integrated Waste Management Facility, Rivenhall Airfield
Sitename	
Activity type	Watching Brief, Strip Map And Sample
Project Identifier(s)	SU0403
Planning Id	ESS/55/BTE
Reason For Investigation	Planning requirement
Organisation Responsible for work	Cotswold Archaeology
Project Dates	11-Apr-2022 - 12-Apr-2022; 03-mAY 2022
Location	Integrated Waste Management Facility, Rivenhall Airfield NGR : TM 82534 20670 LL : 51.8131708509519, 2.09779710120365 12 Fig : 682534,220670
Administrative Areas	Country : England Area : Maritime
Project Methodology	Strip, Map and Search/Excavate investigation conducted ahead of the construction of a proposed Integrated Waste Management Facility.
Project Results	In April 2022, Cotswold Archaeology carried out an archaeological Strip, Map and Sample/Excavate investigation at the former Rivenhall Airfield, Bradwell, Essex, ahead of the construction of a proposed Integrated Waste Management Facility. An area of c.0.31ha was stripped of overburden, which consisted of 0.20m of topsoil over a 0.20 – 0.30m thick layer of subsoil, down to the top of the surface geology. No archaeological features were uncovered, although one prehistoric struck flint was recovered from the subsoil.
Keywords	
Funder	
HER	Essex HER - unRev - STANDARD
Person Responsible for work	
HER Identifiers	HER Event No - RHWM22
Archives	Physical Archive - to be deposited with Braintree District Museum Digital Archive - to be deposited with Archaeology Data Service Archive



 Site boundary

0 1km

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Ordnance Survey 0100031673



Andover 01264 347630
Cirencester 01285 771022
Milton Keynes 01908 564660
Suffolk 01449 900120
www.cotswoldarchaeology.co.uk
enquiries@cotswoldarchaeology.co.uk

PROJECT TITLE

**Integrated Waste Management Facility,
Bradwell, Essex**

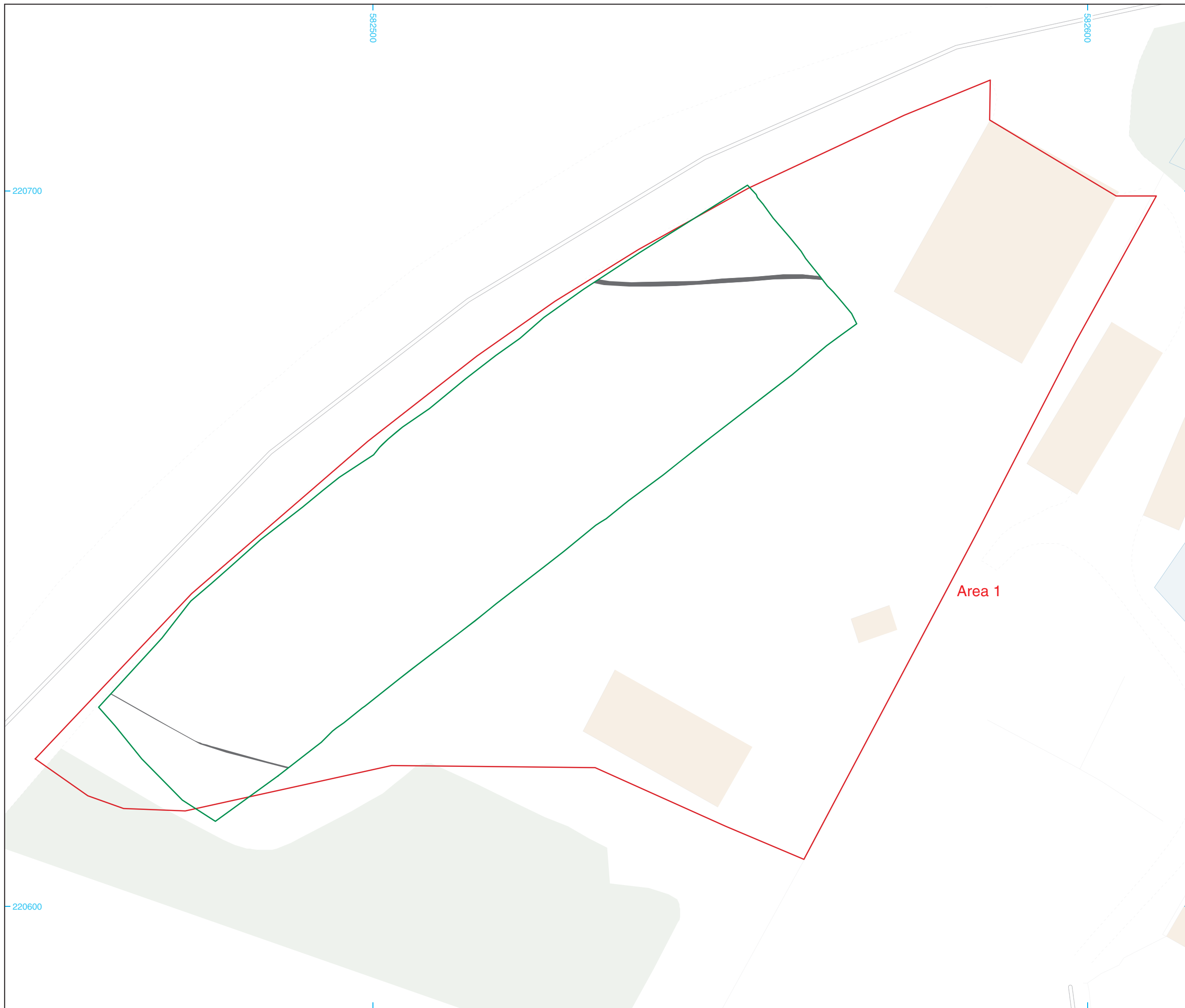
FIGURE TITLE

Site location plan

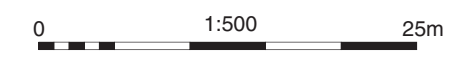
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CHECKED BY DB DATE 19/04/2022
APPROVED BY SB SCALE@A4 1:25,000

FIGURE NO.

1



- Site boundary
- Excavation area
- Modern feature



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Cotswold Archaeology
 Andover 01264 347630
 Cirencester 01285 771022
 Milton Keynes 01908 564660
 Suffolk 01449 900120
www.cotswoldarchaeology.co.uk
enquiries@cotswoldarchaeology.co.uk

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FIGURE TITLE
 Area 1 excavation area

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Area 1 after site strip, looking south-east



Overburden soil profile, Area 1, looking south-west (1m scale)



Andover 01264 347630
 Cirencester 01285 771022
 Milton Keynes 01908 564660
 Suffolk 01449 900120
 www.cotswoldarchaeology.co.uk
 enquiries@cotswoldarchaeology.co.uk

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FIGURE TITLE

Photographs

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Andover Office

Stanley House
Walworth Road
Andover
Hampshire
SP10 5LH

t: 01264 347630

Cirencester Office

Building 11
Cotswold Business Park
Cirencester
Gloucestershire
GL7 6BQ

t: 01285 771022

Milton Keynes Office

Unit 8 - The IO Centre
Fingle Drive, Stonebridge
Milton Keynes
Buckinghamshire
MK13 0AT

t: 01908 564660

Suffolk Office

Unit 5, Plot 11, Maitland Road
Lion Barn Industrial Estate
Needham Market
Suffolk
IP6 8NZ

t: 01449 900120

e: enquiries@cotswoldarchaeology.co.uk

