



**Archaeological watching brief
at Cranfield Solar Farm, Cranfield Airport,
Cranfield, Bedfordshire
September 2021**

Report No. 21/082

Author: Paul Thompson

Illustrator: Sofia Turk



**Archaeological observation, investigation,
recording, analysis and publication
at Cranfield Solar Farm, Cranfield Airport,
Cranfield, Bedfordshire
September 2021**

Accession number: BEDFM 2021/65

Report No. 21/082

Project Manager: Paul Thompson

Quality control and sign off:

Issue No.	Date approved:	Checked by:	Verified by:	Approved by:	Reason for Issue:
1	05/11/2021	Rachel Clare	Tracy Preece	Paul Thompson	Final issue following comments from client

Author: Paul Thompson

Illustrator: Sofia Turk

© MOLA Northampton 2021

Kent House
30 Billing Road
Northampton
NN1 5DQ
01604 809 800
www.mola.org.uk
business@mola.org.uk

STAFF

Project Manager: Paul Thompson HND BA (Hons) AMA PCIfA

Fieldwork: Paul Thompson

Text: Paul Thompson

Illustrations: Sofia Turk MA

OASIS REPORT FORM

Project: Watching brief at Cranfield Solar Farm		OASIS No: molanort1- 502309	
ACTIVITY TYPE			
Project/ Activity type	Watching Brief		
Reason for investigation	Planning requirement		
Development type	Solar power		
Planning reference ID	CB/21/01231/FULL		
PROJECT LOCATION			
National grid ref	SP 95125 42100		
Site name	Cranfield Solar Farm, Cranfield		
REVIEWERS/ ADMIN			
HER for project	Central Bedfordshire		
National organisation	Historic England (MoRPHE)		
WORK UNDERTAKEN			
Methodological summary	MOLA Northampton was commissioned by RenEnergy to carry out an archaeological watching brief on the service trench for extension to the Cranfield Solar Farm, Cranfield Airport, Bedfordshire.		
Previous works?	No	Future works?	No
Dates - Start date:	13/09/2021	End date:	13/09/2021
Scientific dating done?	No	Type:	N/A
Enviro sampling done?	No		
BIBLIOGRAPHY			
Title	Archaeological observation, investigation, recording, analysis and publication at Cranfield Solar Farm, Cranfield Airport, Cranfield, Bedfordshire, September 2021		
Author(s)	Paul Thompson		
Date of publication	2021		
Publisher	MOLA Northampton		
Place of publication	Northampton		
Report number	21/082		
Report release delay?	No delay		
PEOPLE			
Organisation	MOLA Northampton		
Project manager	Paul Thompson		
Project officer/ supervisor	Paul Thompson		
Funding body	RenEnergy		
KEYWORDS			
Monuments found/ date	-		
Finds types found/ date	-		
RESULTS			
Description of outcomes/ summary of research framework contribution	No archaeological features, deposits or finds were encountered.		
ARCHIVES			
Accession ID	BEDFM 2021/65		
Finds Archive repository	N/A	Expected date of submission:	N/A
Paper Archive repository	The Higgins, Castle Lane, Bedford, Bedfordshire, MK40 3XD	Expected date of submission:	TBC
Digital Archive repository	Archaeological Data Service (ADS)	Expected date of submission:	TBC

Contents

1	INTRODUCTION.....	1
2	BACKGROUND.....	1
2.1	Location, geology and topography.....	1
2.2	Historical and archaeological background.....	3
3	AIMS AND OBJECTIVES.....	4
3.1	Project aims.....	4
4	METHODOLOGY.....	5
5	EXCAVATION RESULTS.....	7
5.1	Summary of excavation results.....	7
7	Conclusion.....	8
	BIBLIOGRAPHY.....	9
	Appendix 1: CONTEXT INVENTORY.....	10

Figures

Front cover: Solar panels at Cranfield Solar Farm, looking north

Fig 1: Site location

Fig 2: Trench section showing typical stratigraphy observed throughout, looking south-east

Fig 3: Trench section length displaying typical, consistent and uniform stratigraphy throughout, looking north-east

Fig 4: Typical trench section, looking north-west

Back cover: Service trench excavation in progress

Archaeological observation, investigation, recording, analysis and publication at Cranfield Solar Farm, Cranfield Airport, Cranfield, Bedfordshire September 2021

ABSTRACT

MOLA Northampton carried out an archaeological watching brief at Cranfield Solar Farm, Cranfield, Bedfordshire prior to the installation of cabling for solar panels. Layers of subsoil and topsoil was recorded above natural clay geology. No archaeological features, deposits or finds were revealed.

1 INTRODUCTION

MOLA was commissioned by RenEnergy to undertake a programme of archaeological observation, investigation, recording, analysis and publication of works for the installation of solar panels at Cranfield Solar Farm, Cranfield Airport, Cranfield, Bedfordshire (NGR SP 495125 242100, Fig 1).

The archaeological work was undertaken in compliance with the National Planning Policy Framework (MHCLG 2019) and the methodology outlined in a Written Scheme of Investigation (WSI; MOLA 2021) in accordance with the Chartered Institute for Archaeologists' *Code of Conduct* (CIfA 2019) and the Historic England procedural document *Management of Research Projects in the Historic Environment (MoRPHE)* (HE 2015).

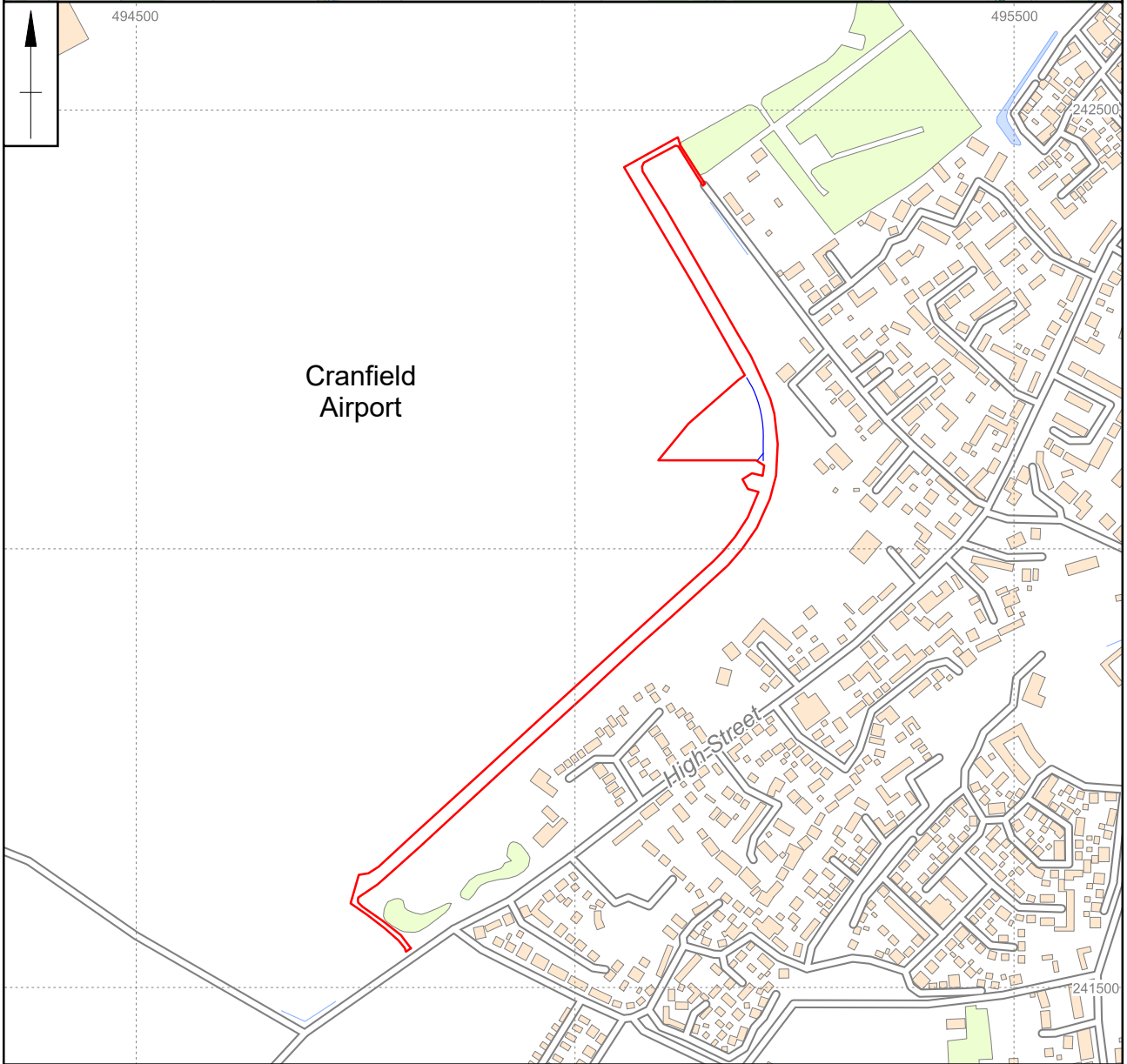
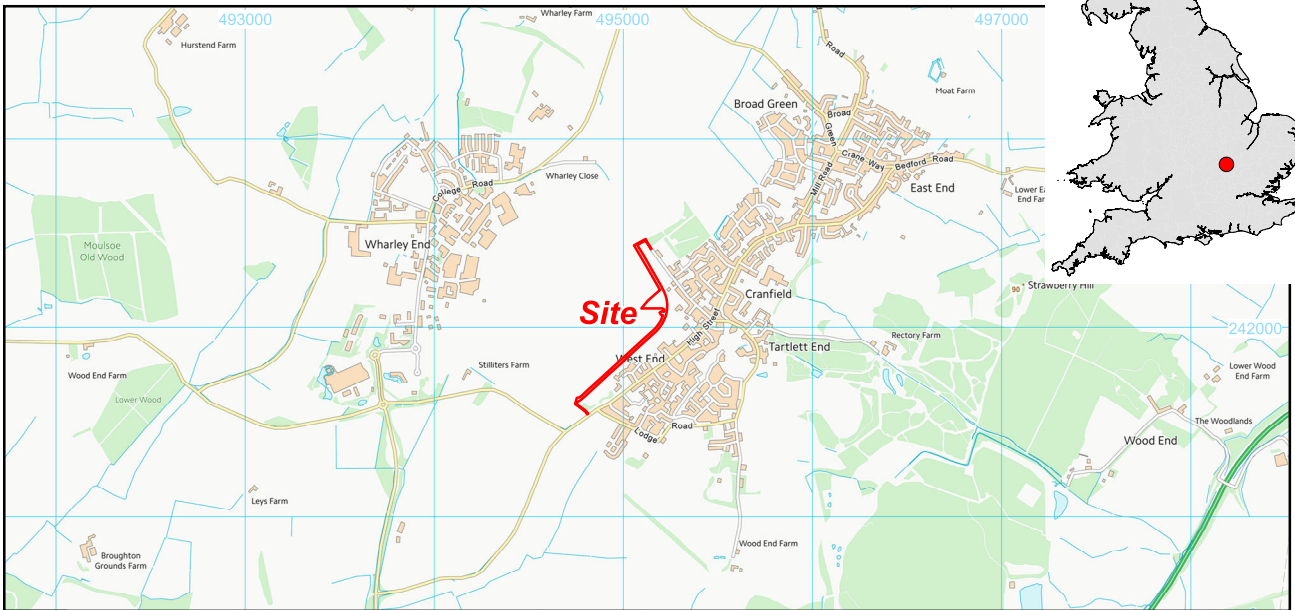
2 BACKGROUND

2.1 Location, geology and topography

The site is located on the eastern side of Cranfield Airport, Bedford, (Fig 1). The site falls within the historic parish of Cranfield, within the administration of Central Bedfordshire Council. The village of Cranfield, 100m south-east of the site, occupies the top of a north-south aligned ridge, dropping away steeply to the south-east and gently towards the north-west, north and west towards the site.

The south-eastern part of the site lies at 111.8m above Ordnance Datum (aOD). It then slopes down to the north-east where it lies at 106.6m aOD and at 103.8m aOD in the north-western part of the site.

The underlying geology of the site and surrounding area is comprised of Oadby member glacial till/Boulder Clay overlying Oxford Clay Formation (BGS 2021). The soils in the area derive from the boulder clay, which tends to be heavy and poorly drained.



- ▭ Site location
- Trench

OS OpenData contains Ordnance Survey data © Crown copyright and database right 2021

Scale 1:7500

Site location Fig 1

2.2 Historical and archaeological background

The following is a precis of the material produced in the desk-based assessment (Thomas 2021). This collated data from the Central Bedfordshire Council Historic Environment Record (CBCHER) and the East Bedfordshire District. The search reference for the HER data is 202021/188. Other archaeological reports of work completed in the area were also consulted.

Prehistoric: Mesolithic, Neolithic, Bronze Age and Iron Age

There is limited recorded evidence for the early prehistoric periods and what does exist relates to artefacts. An evaluation to the south-east of the site found flint artefacts dating to the late Neolithic or early Bronze Age and one sherd of pottery of similar date (MoLAS 2005, 37).

By contrast the Iron Age is well represented. The activity generally comprises small, scattered rural settlements within a wider pattern of field systems. Trial trench evaluation within the application area recorded Iron Age activity (EBD717). A geophysical survey was carried out to the south-east of the site and the subsequent evaluation recorded evidence for Iron Age settlement and funerary activity (MoLAS 2005). Geophysical survey and trial trench evaluation on land at the Central Garage, High Street, Cranfield (EBD1143), located to the east of the site, recorded ditches and two pits dating to the mid-late Iron Age. Further evidence of Iron Age activity was found in Cranfield Village to the south of the site (EBD1219) and at Home Farm, Cranfield, south-east of the site (EBD124).

Roman

During the Roman period, the site is likely to have been located within an agricultural landscape interspersed with farms and hamlets (Thomas 2021). This is supported by the results of an archaeological evaluation at Home Farm, south-east of the site. There were structures, boundary ditches and possible bedding trenches. Other evidence derived from the HER relates to find spots.

Medieval

Throughout the early medieval period the site was within agricultural fields or woodland and there is very low potential for archaeological features that relate to this period.

The later medieval core of Cranfield (HER16931) is mainly located in the southern part of the present village, which is situated south-east of the site. It was centred on the church and an adjoining green from at least the early 12th century. In addition, there was probably a number of secondary settlements in the form of scattered farmsteads.

Most of the evidence of medieval activity from the study area relates to medieval cultivation (ridge and furrow). A geophysical survey has identified remnants of medieval open field system with the site area (EBD1646). The HER has identified crop marks relating to pre and post-enclosure boundaries within the central portion of the site (HER 8725).

Post-medieval

During the post-medieval period, Cranfield village expanded along the High Street. The site continued to lie within agricultural land to the north-west of Cranfield. The parish was enclosed in 1840 and the open fields were separated into smaller rectangular blocks of land.

Modern

The greatest impact on the landscape was the development of the aerodrome. During a period of inter-war expansion, the RAF obtained the land and began work on construction in 1935 and in 1937 the aerodrome was opened with its headquarters at Wharley End (HER 1504). RAF Cranfield's grass strip was replaced in the winter 1939 to spring 1940 with hard runways. Mines, bombs and incendiaries were dropped on the airfield and nearby village during World War 2.

Previous archaeological works

Geophysical survey on land to the south-east of the present site located anomalies interpreted as ditches and trackways. An archaeological evaluation followed carried out by MoLAS in 2005 prior to construction of the original Solar Farm site. This comprised 59 trenches measuring in length between 25 and 50m long and 2m wide. The evaluation uncovered Iron Age settlement evidence and field systems. There was also post-medieval furrows and boundary ditches probably related to agriculture. Modern field drains, buried electricity cables and drains caused some truncation to features.

3 AIMS AND OBJECTIVES

3.1 Project aims

The principal aim of the watching brief works was to record the archaeological resource during the development within the site, determine and understand the nature, function, extent, date, character, condition, significance, and quality of any surviving archaeological remains. The investigations specifically aimed to:

- Establish and record the date, extent, character, state of preservation and depth of burial of all archaeological deposits at the development site;
- Establish the date, nature and extent of archaeological activity or occupation at the site;
- Establish the relationship of any archaeological deposits within the wider contemporary landscape;
- Recover any artefacts that may assist in the development of type series within the region;
- Recover palaeo-environmental remains that may assist in determining the local environmental conditions, and to;
- Create a permanent archive and record of the archaeological information collected during the course of the fieldwork and analysis.

The programme of archaeological investigation was conducted within the general research parameters and objectives established by the *East of England Regional Research Framework* (ALGAO 2021).

- 3.2** As no archaeological features, deposits or finds were recovered during this archaeological watching brief work, no wider regional or national objectives or frameworks could be explored further.

4 METHODOLOGY

The archaeological works comprised the observation, investigation and recording of below ground works which comprised the machine excavation of a service trench for solar panel cables. The service trench was machine excavated with 0.5m wide toothless bucket.

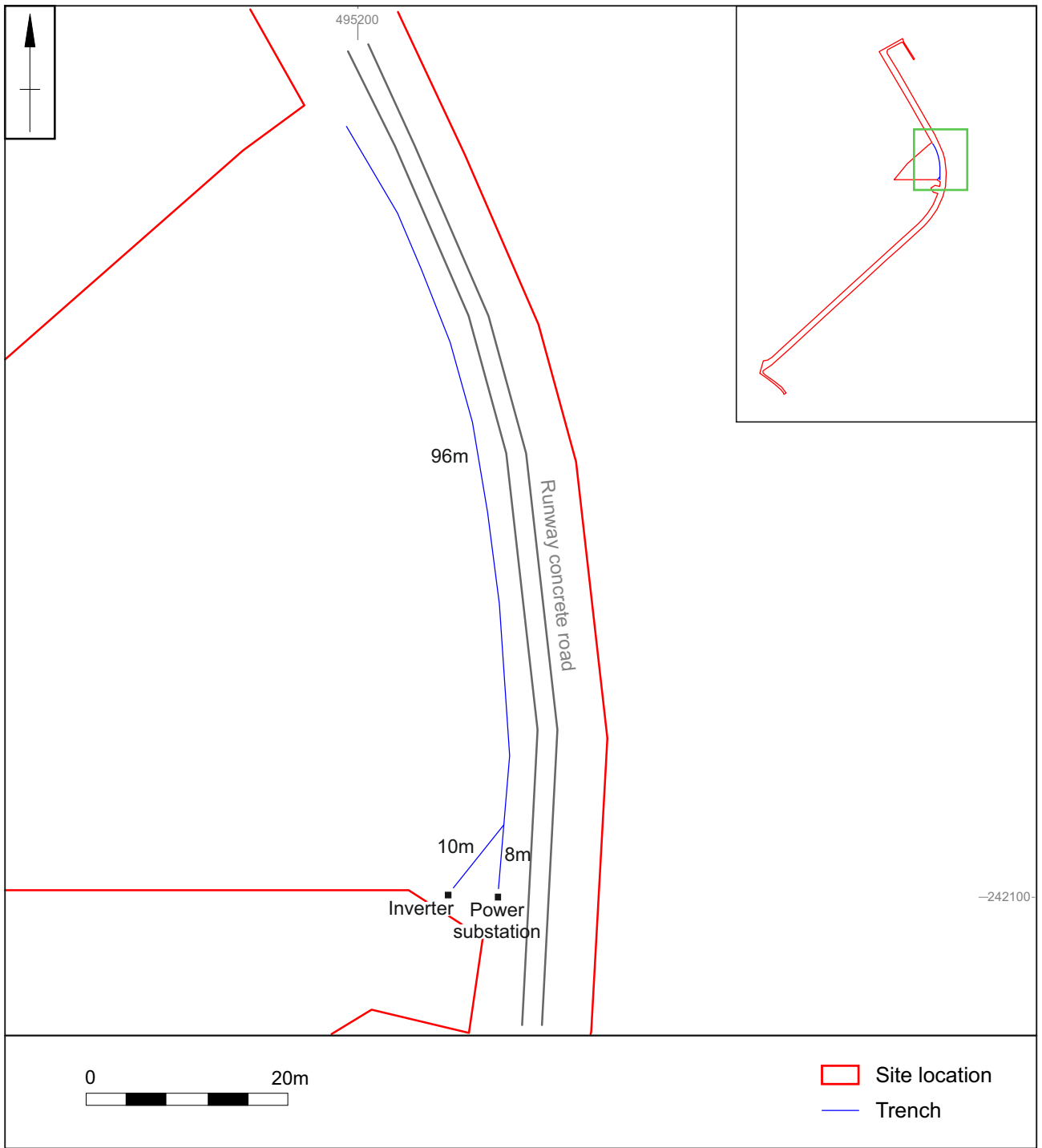
The setting out of areas of work was undertaken by the client/Principal Contractor. Leica Survey Grade RTK GPS operating to an accuracy of +/-0.05m to Ordnance Survey National Grid and Datum.

No archaeological features were identified. If they had they would have been excavated by hand and all deposits encountered during the excavation were fully recorded, following standard MOLA procedures (MOLA 2014). All deposits were given a separate context number in a sequence. They were described on pro-forma context sheets to include details of the context, its relationships and interpretation.

A full digital photographic record was maintained. No archaeological features were encountered however if they had been present, then the archaeological features would be planned at a scale of 1:50 and section drawings at either 1:10 or 1:20 if appropriate. The field data from the excavations has been compiled into a site archive with appropriate cross-referencing.

The works were carried out in accordance with the approved Written Scheme of Investigation (WSI) (MOLA 2021), as well as with national standards given by the Chartered Institute for Archaeologists' *Code of Conduct* (2019a) and *Standard and Guidance for Archaeological Watching brief* (CIfA 2020) and the MOLA *Fieldwork Manual* (2014).

Following completion of the fieldwork and reporting, born-digital data, such as this report, digital photographs, database and GIS data, with appropriate metadata, will be deposited with a CoreTrustSeal Repository, currently the Archaeology Data Service (ADS), making the archive publicly accessible. Each report, once approved, is subsequently made available for inclusion and publication by digital means through the Archaeological Data Service (ADS) via OASIS V. Archiving will follow the requirements of the Bedford Museum Archaeological Archives Standards (Bedford Museum 2010) Version 2.8 and guidelines outlined in MOLA's *Digital Data Management Policy and Procedures* (MOLA forthcoming). Once the archive has been accepted by ADS, the unique DOI will be sent to the Archaeology Team at CBC.



Scale 1:750

Trench plan Fig 2

5 EXCAVATION RESULTS

5.1 Summary of excavation results

The service trench was 96m in length, 0.50m wide and to the required depth of c0.8m below current ground level. The natural geology (03) comprised light buff brown clay which contained 1-3% flint, chert and chalk nodules. There were additional occasional sub-linear patches within the clay of orange-brown gravel, which comprised sub-rounded and angular flint, chert and chalk stones up to 1cm diameter.

Overlying the natural clay (03) was a subsoil layer (02) which had a consistent depth of 0.16 to 0.18m. This layer consisted of grey-brown clayey loam with occasional small sub rounded and sub angular stones, flint, chert and chalk fragments.

Capping the subsoil across the entire trench was a topsoil layer (01) which was uniformly 0.15m in thickness. This comprised dark brown to grey-brown loam, with occasional small stones.



Trench section showing typical stratigraphy observed throughout, looking south-east
Fig 2



Trench section length displaying typical, consistent and uniform stratigraphy throughout, looking north-east Fig 3

6 CONCLUSION

These investigations comprised the machine excavation using a toothless bucket of a c0.5m wide service trench to lay cables for extracting energy from the sun via the solar panels. The stratigraphic sequence encountered was consistent throughout both the main trench and the extension trench linking the Inverter apparatus (Fig 1). No archaeological features, deposits or finds were encountered.

BIBLIOGRAPHY

- ALGAO 2021 *East of England Regional Research Framework*, available online at: <https://researchframeworks.org/eoe/> (last accessed 14th September 2021)
- Bedford Museum, 2010 *Procedure for preparing Archaeological Archives for deposition with registered museums in Bedfordshire*, Version 2.8
- BGS 2021 British Geological Survey GeolIndex, available at online <http://bgs.ac.uk/geoindex> (last accessed 13th September 2021)
- CIfA 2019 *Code of Conduct*, Chartered Institute for Archaeologists
- CIfA 2020 *Standard and Guidance: Archaeological Watching Brief*, Chartered Institute for Archaeologists
- HE 2015 *Management of Research Projects in the Historic Environment (MoRPHE)*, Historic England
- MHCLG 2019 *National Planning Policy Framework*, Ministry of Housing, Communities & Local Government (Section 16)
- MOLA (forthcoming) *Data Management Procedures*, Museum of London Archaeology
- MOLA 2014 *Archaeological Fieldwork Manual*, Museum of London Archaeology
- MOLA 2021 *Written Scheme of Investigation for archaeological Watching Brief at Cranfield, Solar Farm, Cranfield Airport, Bedfordshire, June 2021*, MOLA Northampton

MOLA

November 2021

APPENDIX 1: CONTEXT INVENTORY

Context	Context type	Description	Dimensions	Artefacts/Samples
01	Layer	Topsoil Firm dark brown to grey-brown loam, 10% small grit and stones up to 1cm diameter sub rounded and irregular.	0.15m deep	Half-brick fragments and occasional land drain-not retained
02	Layer	Subsoil Firm mid grey-brown clayey loam with c8% grit and small stones up to 1cm diameter sub rounded and sub angular. 2% small to medium flint, chert and chalk stones subrounded and sub angular up to 5cm diameter and well distributed throughout.	0.16 to 0.18m deep	None
03	Layer	Natural Firm light buff brown clay containing 1-3% flint, chert and chalk nodules up to 3cm diameter although rare isolated examples were up to 12cm diameter. Sub angular, rounded and irregular shaped. Occasional patches of small grit and gravel, ginger brown 20-25% sub rounded and angular flint, chert and chalk stones up to 1cm diameter.	0.50m excavated depth	None



Typical trench section, looking north-west Fig 4



MOLA
Kent House
30 Billing Road
Northampton
NN1 5DQ
01604 809800
www.mola.org.uk
business@mola.org.uk