

One Earth Solar Farm

Volume 6.0 Environmental Statement [EN010159]

Volume 3: Technical Appendices Supporting ES Volume 2

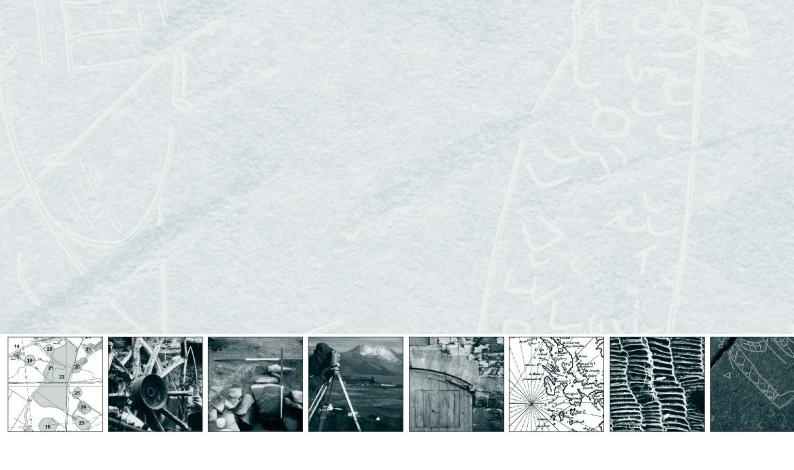
Appendix 9.5: Completion Statements of Trial Trenching Evaluation

February 2025

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ONE EARTH SOLAR FARM

EVALUATION COMPLETION STATEMENT LINCOLNSHIRE AREAS 1 NE, 2 SE, 3 E AND 4 E

Headland Archaeology Scotland 13 Jane St | Edinburgh EH6 5HE

on behalf of PS Renewables

10/01/2025





PROJECT INFORMATION:

PROJECT CODE	OESL24
PROJECT NAME	One Earth Solar Wind
TYPE OF WORK	Evaluation
CLIENT	PS Renewables
PLANNING REF.	EN010159
NGR	Area 1 NE: SK 83433 73026, Area 2 SE: SK 83471 72836, Area 3 E: SK 83575 73211, Area 4 E: SK 83154 72838
EVENT NUMBERS	EN 010159
LOCAL AUTHORITY	Lincolnshire County Council
FIELDWORK DATES	28 August 2024- 29th November 2024

PROJECT TEAM:

PROJECT MANAGER	Candy Hatherley
FIELDWORK SENIOR ARCH.	Armi Utriainen
AUTHORS	Candy Hatherley, Armi Utriainen and Alexis Thouki
GRAPHICS	Beata Wieczorek-Olesky, Marc Zubia-Pons and Tom Watson

Drafted By		Approved By		
SIGN				
PRINT	A. Utriainen	C. Hatherley		



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INTRODUCTION

Headland Archaeology (UK) Ltd. was commissioned by PS Renewables (the client) to undertake a 3% sample archaeological evaluation programme prior to a DCO application for One Earth Solar Farm. This phase of the project consisted of trial trenching across areas of the proposed development in Nottinghamshire and Lincolnshire. This report presents the completion statement for the four areas trenched in Lincolnshire between August and November 2024 (Illus. 1). These areas are Areas 1 NE, 2 SE, 3 E and 4 E (Illus 1). The combined number of trial trenches excavated within these four areas was 191, each trench measuring 50m by 1.8m.

The aim of the trial trench evaluation was to establish the presence, absence, location, extent, nature and date of any sub-surface archaeological features encountered.

This trenching work was informed by a prior programme of geophysical survey undertaken by Headland Archaeology in 2023/24 (Headland Archaeology 2025), which identified potential archaeological features within Areas 1 NE, 2 SE and 3 E (Illus 2).

A watching brief was undertaken on Ground Investigation trial pits excavated by Central Alliance in Area 2 E. No archaeological features were identified during this work.

SUMMARY OF RESULTS

The geophysical survey of the four areas identified a series of interlinked enclosures, ditches and trackways. This linear group of anomalies were clearly located in the eastern side of the western field of Area 3 E and extended southward to the northern edge of Area 1 NE (Illus 2). The geophysical survey results suggested that this land was the location of a Roman ladder settlement on a broadly north-south alignment, with a series of enclosures joined by a N-S trackway running along its western extent.

A pair of co-joining enclosures of this ladder settlement were particularly well defined by the geophysical survey in Area 3 E. These enclosures appeared to be also accessed from the east by a E-W aligned trackway. To the west of the ladder settlement in Area 3 E was a well-defined rectilinear enclosure. A series of possible field boundaries were also putatively located to the north-west of the enclosures. Further south, on the northern edge of Area 1 NE, a further enclosure and linear ditches were identified which also appeared to be associated with the ladder settlement. Two parallel linear ditches were identified running south from these features in Area 1 NE into Area 2 SE. These ditches may have formed a trackway leading to the settlement from the south.

The southern field in Area 3 E did not form part of the geophysical survey. Area 4 E was blank of geophysical anomalies.

The overview of archaeology encountered in each area is presented below.

Area 1 NF

Area 1 NE was 8.86 ha in size and was centred at the NGR SK 83433 73026 (Illus 3). Twenty-six trial trenches were opened, investigated and recorded during the evaluation. Eleven trenches contained archaeological features.

The ditches of the rectilinear enclosure identified by the geophysical survey was not all present on the northern edge of Area 1 NE (Tr 1039 & 1042) but ditches and pits identified within these trenches indicate settlement activity, including possible enclosures, are located in this area. Trench 1043 to the east of the enclosure identified the linear anomalies of a possible eastern extend of the activity and two parallel ditches were identified in Trench 1038 to the west of the putative enclosure.

Previously unseen archaeological features were encountered to the west of this activity. A E-W orientated trackway running to the enclosure to the east was identified in Trenches 1034 to 37 and 1040. Patches of the cobbled surface of the trackway survived in places.



A poorly preserved E-W orientated inhumation burial was located on the northern side of the trackway ditch in Trench 1034. Lines of nails were located either side of the grave cut, suggesting that the burial was within a coffin.

The parallel ditches identified in the geophysical survey running southward from the activity on the northern edge of Area 1 NE was not present in any of the trenches targeting it.

Area 2 SE

Area 2 SE was 10.3 ha in size and was centred on NGR SK 83471 72836 (Illus 4). Thirty-one trial trenches were opened, investigated and recorded during the evaluation. No archaeological features or material culture was identified.

Area 3 E

Area 3 E was 53 ha in size and was centred on NGR SK 83575 73211. In total 117 trial trenches were opened, 57 of which contained archaeological features (Illus 5).

The geophysical data indicated the presence of a series of north-to-south oriented rectilinear enclosures located to the west of Southmoore Lane. The northern enclosure was identified in Trenches 1254 and 1255. It measured roughly 73m by 43m or 0.34 hectares in plan, was bounded to the west by a north-south aligned trackway comprising two parallel ditches (Trench 1240, 1253 & 1255) and an east-west trackway (Trench 1254). Several ditches delineating the northern enclosure showed signs of recutting, suggesting maintenance and re-modelling of this enclosure was undertaken. A circular enclosure was located on its northern side (Trench 1239). The field systems seen to the north-east of the ladder settlement in the geophysical survey were not identified in the trenches.

The southern enclosure was less well defined but ditches and pits were identified in Trenches 1271 and 1272. Archaeological features associated with the Roman ladder settlement were also identified beyond this southern enclosure. This area to the south of the southern enclosure is a separate field which has not undergone a geophysical survey but ditches and pits identified in Trenches 1273, 1274, 1282 and 1283 suggest that the linear settlement continued southward and joined with the enclosures seen in the northern edge of Area 1 NE.

An isolated rectilinear enclosure was located 200m west of the northern and southern enclosures (Trenches 1267 & 68). This enclosure contained with complex multi-phase archaeological activity including occupation layers, pits and ditches. A further enclosure was tentatively identified to its north (Trench 1258).

The eastern field contained a number of undated field boundaries, some narrow ditches of unknown origin and remnants of the postmedieval ridge and furrow system. Archaeological features identified in Trench 1322 may relate to the settlement activity seen to the west.



Area 4 E

Area 4 E was 11.4 ha in size and was centred on NGR SK 83154 72838. Eleven trial trenches were opened, three of which contained archaeological features (Illus 6).

The absence of geophysical anomalies at 4E is reflected in the area's general paucity of archaeological activity. Trial trenching confirmed the presence of an agricultural drainage system in the south half of the site comprising parallel straight-sided narrow ditches (see Tr 1209 & 1211). A series of undated ditches were identified in Trenches 1200, 1201 and 1206. This activity comprised shallow narrow ditches and a wider ditch in TR 1200 which had been recut. No material culture was recovered.

DISCUSSION

The archaeology identified within Areas 1 NE and Area 3 E confirms the location of a probable Roman ladder settlement. The geophysical survey indicates that this settlement continues beyond the southern edge of Area 2 SE, spanning at least 250m in length from north to south. The presence of Roman pottery, worked stone and CBM suggests that at least some of these enclosures functioned as domestic plots. The trackway into the enclosures from the east and the track running parallel to the south may have been used to move livestock, food and people from one area to the next and it is likely that within these linear settlements domestic plots, agricultural land and livestock were in adjacent plots.

In Area 1 NE an east-west aligned trackway, not previously identified from the geophysical survey, was located running eastward to the settlement. The survival of patches of the original metalled surface of the road, and the presence of a roadside inhumation burial, suggests that this was one of the main routes into the settlement.

Further work will be required to refine the dates of the Roman occupation identified in Areas 1 NE and 3 E.

QUANTIFICATION OF THE ARCHIVE

Contexts: 819

Environmental quantification:

Туре	Area 1 NE	Area 2 SE	Area 3 E	Area 4 E
Approx. Weight (g)				
Large Mammal	332	-	4548	-
Small Mammal	-	-	-	-
Unidentifiable bone fragments	-	-	-	-
Unidentifiable bone fragments (burnt)	-	-	-	-
Fish Bone	-	-	-	-



Marine Shell	-	-	-	-		
Snails		-	-	-		
Total	332	0	4548	0		
*excludes environmental evidence retrieved durina sample processina						

Finds quantification:

Finds Type					
Approx. Weight (g)	Area 1 NE	Area 2 SE	Area 3 E	Area 4 E	
Pottery and ceramics	2963	-	2492	-	
Metalwork	193	-	-	-	
Lithics	6	-	-	-	
Other Stone	-	-	121	-	
СТР	2	-		-	
Glass	-	-	-	-	
CBM	-	-	1181	-	
Worked Stone	4551	-	4152	-	
Mortar/plaster	-	-	-	-	
Industrial waste	-	-	-	-	
Fired clay	-	-	33	-	
Total	7715	0	7979	0	

^{*}excludes finds retrieved during sample processing

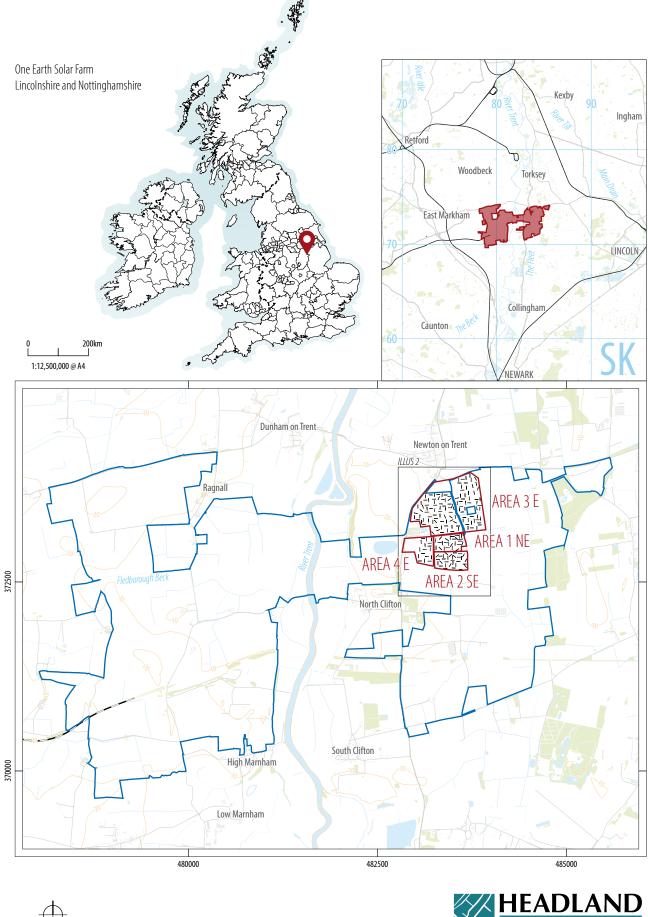
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Headland Archaeology (UK) Ltd 2025 One Earth Solar Farm Geophysical Survey Report. Unpublished client report



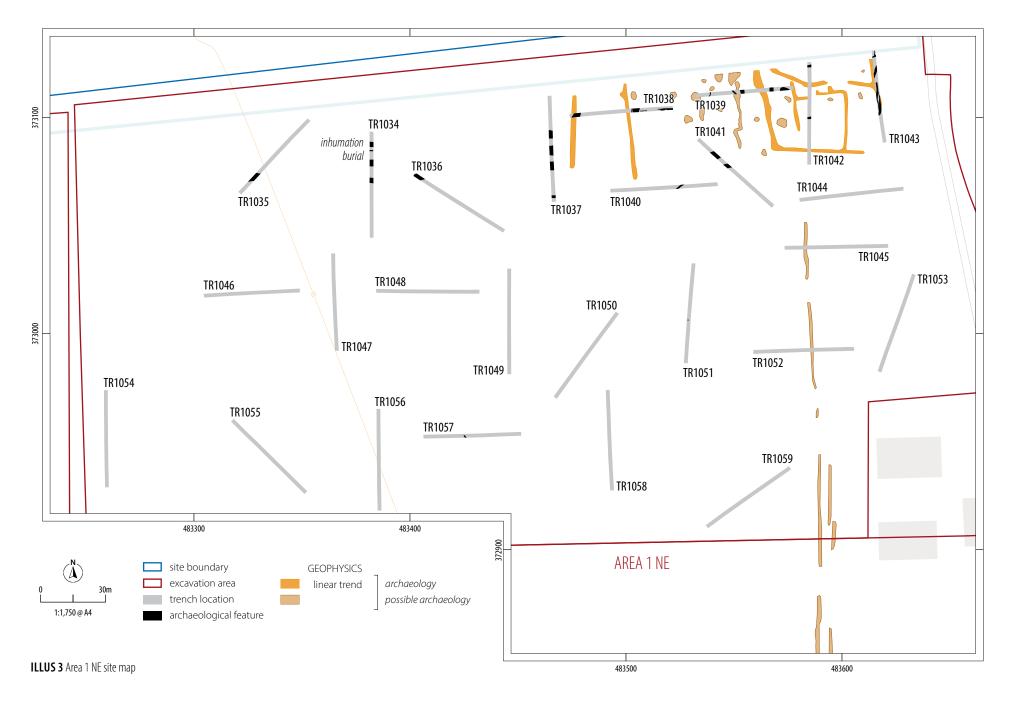


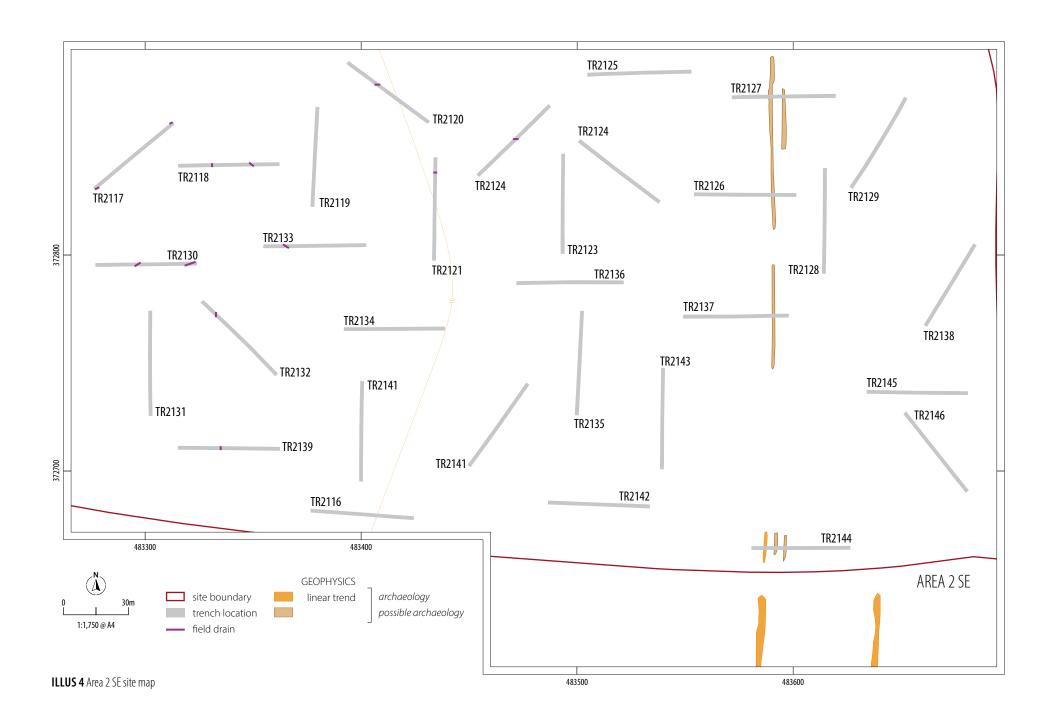


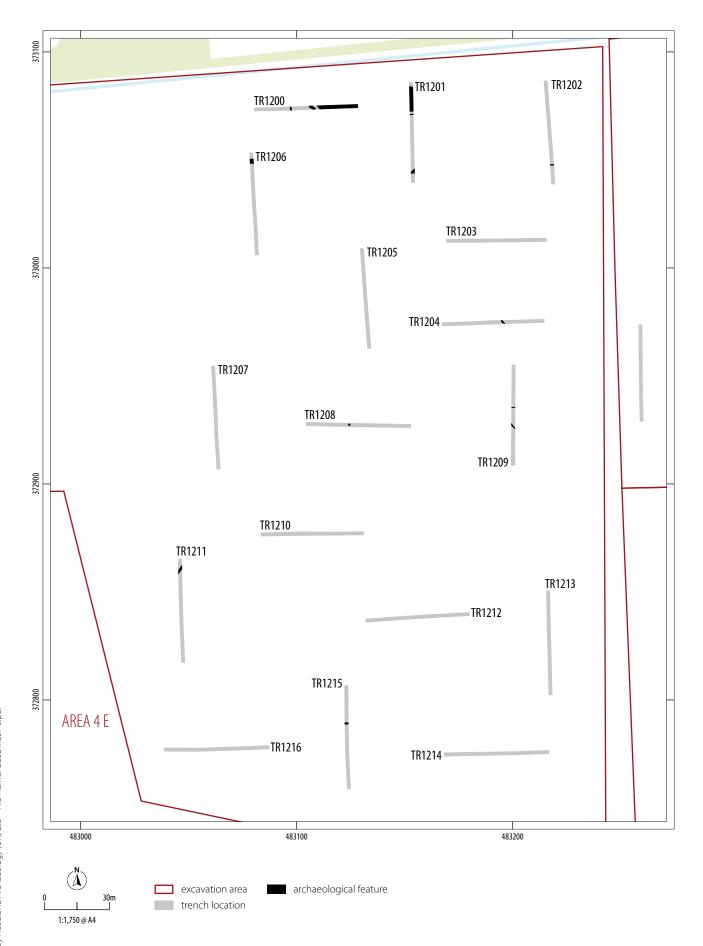
Headland Archaeology Yorkshire & North
Units 23–25 & 15 | Acom Business Centre | Balme Road | Cleckheaton BD19 4EZ t 0127 493 8019

e yorkshireandnorth@headlandarchaeology.com w www.headlandarchaeology.com











ONE EARTH SOLAR FARM

EVALUATION COMPLETION STATEMENT NOTTINGHAMSHIRE AREAS 1 SW, 2 W, 3 W, 4 W AND RAGNALL

Headland Archaeology Scotland 13 Jane St | Edinburgh EH6 5HE

on behalf of PS Renewables

15/01/2025





PROJECT INFORMATION:

PROJECT CODE	OESL24
PROJECT NAME	One Earth Solar Wind
TYPE OF WORK	Evaluation
CLIENT	PS Renewables
PLANNING REF.	EN 010159
NGR	Area 1 SW: SK 79427 72850; Area 2 W: SK 482138 371996; Area 3 W: SK 79570 70739; Area 4 W: SK 79594 70278; Ragnall: SK 80597 72970
EVENT NUMBERS	EN 010159
LOCAL AUTHORITY	Nottinghamshire County Council
FIELDWORK DATES	28th August 2024- 22nd November 2024

PROJECT TEAM:

PROJECT MANAGER	Candy Hatherley
FIELDWORK SENIOR ARCH.	Armi Utriainen
AUTHOR	Armi Utriainen, Daniel Bennett
GRAPHICS	Beata Wieczorek-Olesky, Marc Zubia-Pons and Tom Watson

Drafted By		Approved By		
SIGN				
PRINT	A. Utriainen	C. Hatherley		



LIST OF ILLUSTRATIONS

Illus 1 Site Location

Illus 2 Area plan showing geophysical survey results and location of trenches

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Illus 13 Zones of Archaeological activity in Ragnall



INTRODUCTION

Headland Archaeology (UK) Ltd. was commissioned by PS Renewables, (the client) to undertake a 3% sample archaeological evaluation programme prior to a DCO application for One Eart Solar Farm. This phase of project consisted of trial trenching across areas of proposed development in Nottinghamshire and Lincolnshire. This report presents the completion statements for the five areas trenched in Nottinghamshire between August and November of 2024, referred to as Areas 1 SW, 2 W, 3 W, 4 W and Ragnall (Illus 1). The combined number of trenches was 336. One trench in Area 1 SW was descoped due to flooding. Each trench measured 50m by 1.8m

The aim of the evaluation was to establish the presence, absence, location, extent, nature and date of any subsurface archaeological features encountered.

A watching brief was undertaken on Ground Investigation trial pits excavated by Central Alliance in Area 2 W. No archaeological features were identified during this work.

The work undertaken was informed by a prior programme of geophysical survey undertaken by Headland Archaeology in 2023/24 (Headland Archaeology 2025), which identified potential archaeology or agricultural activity within two of the areas.

SUMMARY OF RESULTS

The geophysical survey identified potential archaeological features in Area 2 W and Ragnall. No geophysical anomalies of potential archaeology were identified in Areas 1 SW, 3 W and 4 W.

Two areas of archaeological activity were identified in Area 2 W. A series of three interlinking enclosures with a central trackway was identified in the central western edge of the field. On the southern edge of the field was another series of three possible enclosures, some which appeared to contain internal features.

At Ragnall four main areas of potential archaeological activity were identified in the geophysical survey, in the western, northern, central and eastern areas of the site. In the western area a series of interconnecting enclosures were identified with two trackways which converge and run into the complex from the south.

In the northern area a rectilinear enclosure, a series of linear ditches and a u-shaped possible enclosure were identified. In the central area a possible rectilinear enclosure was identified in the west, a sub-square enclosure was identified in the north-east and a NE/SW linear spread of interlinked enclosures and a trackway with further enclosures seen to the south-east, was identified in the east.

In the eastern area of Ragnall a large-scale settlement of interconnected enclosures in a grid pattern, transected by trackways, was identified. Each enclosure appeared to form a plot, with mapped internal features suggesting that some contained buildings (Illus 2).



Area 1 SW was 11.32 ha and was centred at NGR SK 79427 72850 (Illus 3). Thirty-seven trial trenches were evenly spread across the field. Trench 1106 was descoped due to flooding. One ditch was excavated and recorded in Trench 1021. No material culture was retrieved from this investigation.

Area 2 W

Area 2 W was 34 ha and was centred at the NGR SK 482138 371996. One hundred and thirteen trial trenches were opened, investigated and recorded (Illus 4 & 5). Twelve trenches contained archaeological features.

The archaeological features identified in the geophysical survey on the central western side of the field were seen in TR2034, TR2035, TR2054, and TR2056 (Illus 4). This activity consisted of two sub-rectangular enclosures, one to the south of the E-W trackway and one to the north, and a pentagonal enclosure to the north. Internal features were identified within the enclosures and several of the enclosure ditches showed signs of recutting. TR2034 contained a spread of dark occupation material containing a significant amount of Roman pottery, suggesting that this enclosure was domestic in function.

Archaeological features were also identified in the southern edge of the field, over the location of the geophysical anomalies identified in this area. TR2098, TR2099, TR2100, TR2108, TR2109, and TR2110 confirmed that at least three interconnected enclosures were extant and were Roman in date (Illus 5).

Area 3 W

Area 3 W was 13.3 ha and was centred at NGR SK 79570 70739. Forty-eight trial trenches were opened, investigated and recorded (Illus 6). Trench 3001 contained a ditch terminus. No material culture was retrieved from this feature.

Area 4 W

Area 4 W was 9.4 ha and was centred on NGR SK 79594 70278. Thirty-two trial trenches were opened, investigated and recorded. No archaeology was identified (Illus 7).

Ragnall

Ragnall was 38.2 ha and was centred on NGR SK 80597 72970. One hundred and six trial trenches were opened investigated and recorded, eighty-five of which contained archaeological features (Illus 8 - 12). These trenches targeted the geophysical survey anomalies that had been identified as potential archaeological features and areas of the site which had been blank of anomalies.

The northern area contained 12 trenches and targeted the rectilinear enclosure and one of the linear features identified in the geophysical survey as 'possible' archaeological features (Illus 9). None of these features identified in the geophysics were observed in this area during trial trenching. Eight trenches contained previously unidentified archaeological features, including ditches on both N-S and NW/SE alignments and a N-S pit alignment of four pits (TR09). Multiple parallel ditches were observed in TR08 and TR05, potentially related to each other due to their alignments. No material culture was recovered during the trenching of the northern area. Given the lack of Roman finds, the different alignment of these ditches from the Roman activity to the south and the pit alignment, it is probable that these features are associated with pre-Roman occupation of this landscape and are likely to be prehistoric in date.

The western area contained 9 trenches, 8 of which had archaeological features (Illus 10). There was evidence that the two trackways seen on the geophysical survey were extant (TR69, 70 and 71) and the interlinked enclosures to the north all appeared to be present (TR37 to 40), some contained internal features including pits and narrow ditches. There was also archaeological features in geophysical 'blank' areas to the north, east and west of the complex (Tr38, 69, 70 and 71). Trench 25 to the north of the complex targeted 'possible' archaeological features identified in the geophysical survey including ditches and a curvilinear arrangement of pits or postholes. The ditches were extant in this area.



This complex of features has been tentatively identified as later prehistoric in date from the recovered pottery assemblage. It also appears that later occupation/activity was taking place in or close to this location as Roman pottery was recovered from TR70.

Forty-nine trenches were located in the central area of Ragnall, thirty-nine of which contained archaeological features (Illus 11). The geophysical survey had identified three main areas of activity, a rectilinear enclosure located in the west (TR26, 27, 29, 41, 43 & 44), a sub-square enclosure in the north-east (TR19, 51 & 52) and an NNE/SSW linear spread of interlinked enclosures and a trackway (TR56-60) with further enclosures in the south-east (TR78-81). A potential corn dryer or oven was identified in TR79. The trenching confirmed that the majority of these anomalies were extant, and areas considered to be blank from the geophysical survey also contained archaeological features, mainly ditches.

Material culture recovered from this area indicated that this activity in the central area was later prehistoric or Roman in date, with the density of prehistoric material recovered decreasing as investigations headed eastward.

The eastern area contained 36 trenches, 30 of which contained archaeological features (Illus 12). Anomalies identified as potentially archaeological in origin were all located, and the overall plan seen in the geophysical survey of a well-organised settlement of interconnected enclosures in a grid pattern aligned NNE/SSW, transected by both WWN/EES and NNE/SSW trackways/ streets, appeared to be extant. The archaeology encountered in this area was complex, with in-situ occupation layers, the wall foundations of buildings, building materials including roof tiles and hypocaust and high-status Roman pottery all identified. The areas containing stratified occupation horizons (assumed to be within the interior of buildings) and other complex archaeological features not suitable for excavation within narrow trenches were planned, photographed and left in situ.

To its south-east are further NNE/SSW enclosures, indicating that the settlement spread to the south-east (TR96 – 98) and to the west (TR56-60; 78-81). Further south 7 further enclosures in a grid pattern were identified on the geophysical survey and confirmed as extant in TR103-106. These were on a slightly different alignment to the settlement to the north and potentially represent the location of fields.

DISCUSSION

This evaluation confirmed the presence of the activity identified in the geophysical survey at Area 2 W. Both these enclosure complexes appeared to be Roman in date.

The archaeology identified at Ragnall confirmed that the archaeology seen in the geophysical survey was present but extended well beyond these mapped features into previously assumed 'blank' areas of the site in the north and central areas (Illus 13). Later prehistoric settlement or agricultural activity may have been identified in the northern area of the site due to lack of Roman material recovered here. This activity was not picked up in the geophysical survey. Bronze Age/Iron Age pottery recovered from the western interlinking enclosures and trackways suggest that this activity may also be later prehistoric in date.

The eastern area of Ragnall appears to be the location of a large well-organised Roman settlement, potentially a planned farm estate or nucleated village settlement, with streets and roadways dividing up individual plots. The archaeology identified here, and the finds recovered, suggest that this settlement contained roofed buildings, a bathhouse and had a level of access to higher-status goods.

Further work will be required to refine the dates of the Roman occupation identified in Area 2 W and at Ragnall.

OUANTIFICATION OF THE ARCHIVE

Contexts: 1465

Environmental Samples: 38

Small Finds: 5



Environmental quantification:

Туре	Area 1 SW	Area 2 W	Area 3 W	Area 4 W	Ragnall
Large Mammal	-	659	-	-	3370
Small Mammal	-	-	-	-	-
Unidentifiable bone fragments	-	4	-	-	-
Unidentifiable bone fragments (burnt)	-	-	-	-	-
Fish bone	-	-	-	-	-
Marine Shell	-	-	-	-	-
Charcoal	-	-	-	-	-
Snails	-	-	-	-	-
Total	0	663	0	0	3370

^{*}excludes environmental evidence retrieved during sample

Finds quantification:

Finds Type					Ragnall
Approx. Weight (g)	Area 1 SW	Area 2 W	Area 3 W	Area 4 W	
Pottery and ceramics	-	5254	61	-	21642
Metalwork	12	-	-	-	13
Other metal	-	-	-	-	22
Cu- alloy	-	-	-	-	2
Lithics	2	-	-	-	46
Other Stone	-	-	-	-	5754
СТР	-	-	-	-	4
Glass	-	-	-	-	3
СВМ	-	1582	-	-	26548
Worked Stone	-	-	589	-	30416
Stone	-	-	-	-	6019
Quern	-	-	-	-	883
Mortar/plaster	-	-	-	-	950
Industrial waste	-	418	-	-	235



Total	14	7254	650	0	93798	117410
Tabl	44	7254	650	•	02700	447440
Fired clay	-	-	-	-	1214	
Worked wood	-	-	-	-	47	

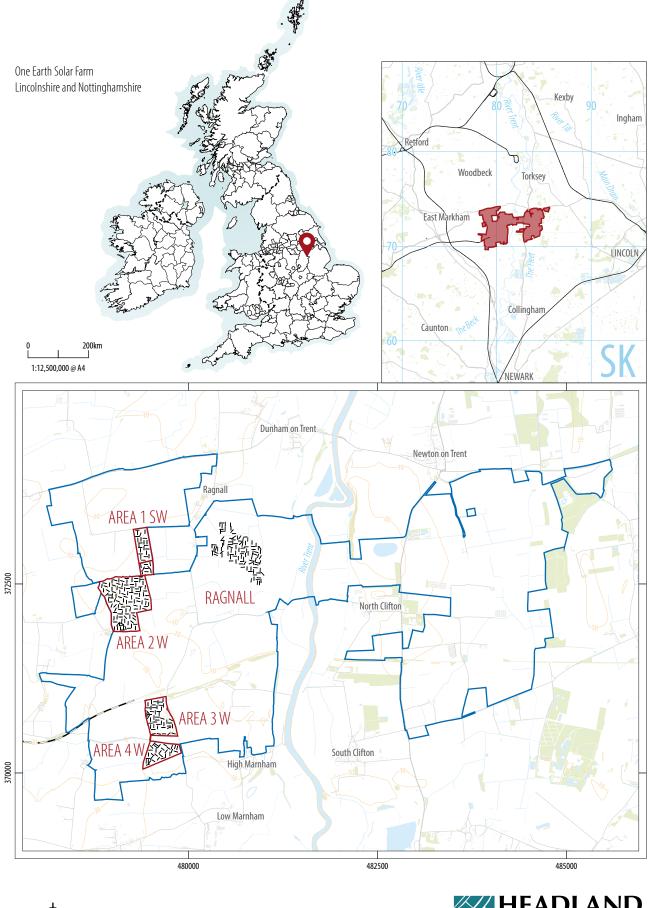
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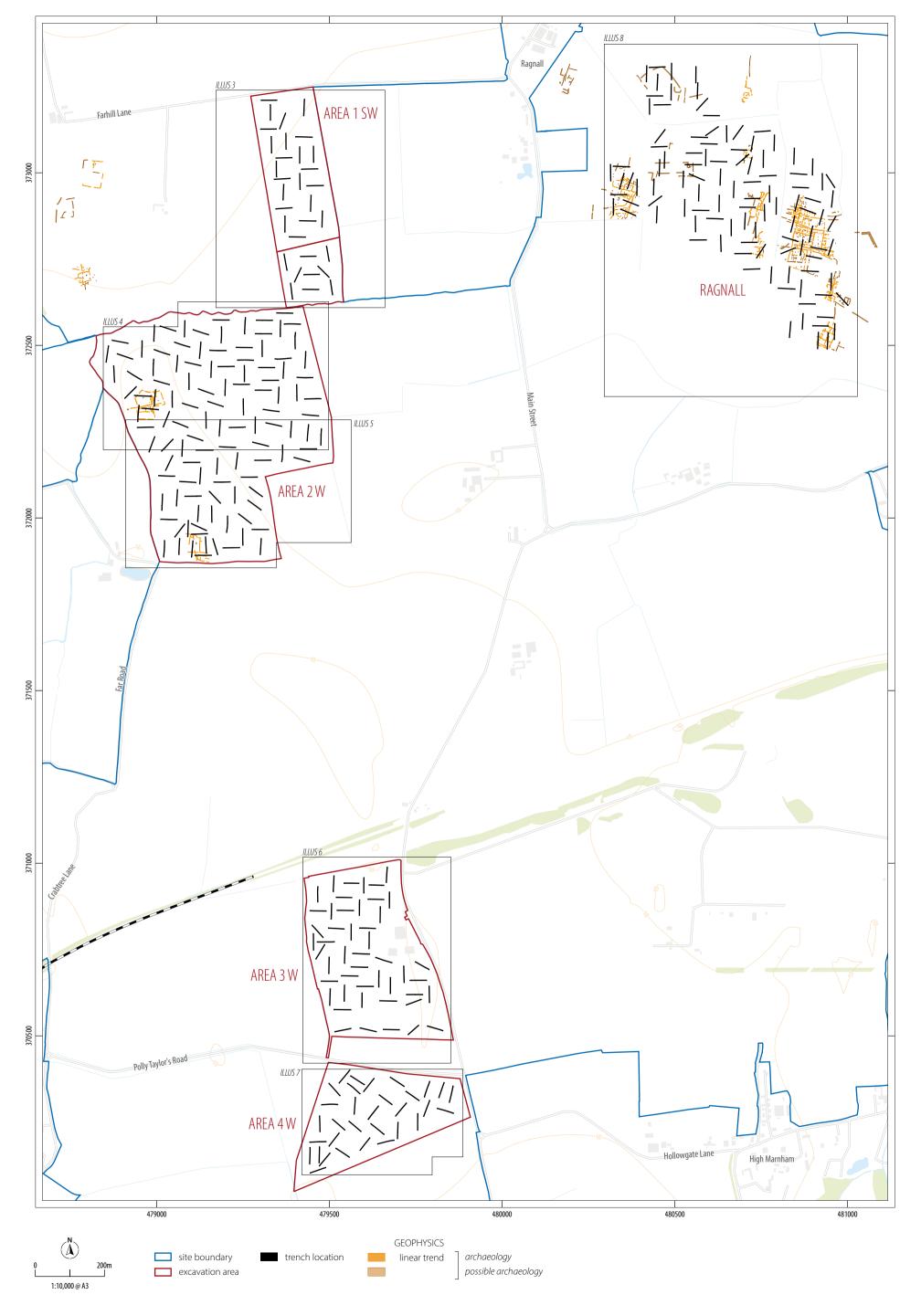






Headland Archaeology Yorkshire & North Units 23–25 & 15 | Acom Business Centre | Balme Road | Cleckheaton BD19 4EZ t 0127 493 8019

e yorkshireandnorth@headlandarchaeology.com w www.headlandarchaeology.com



ILLUS 2 Area plan showing geophysical survey results and location of trenches

