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ARCHAEOLOGICAL EVALUATION
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HISTORIC BUILDING RECORDING
EIA AND HERITAGE CONSULTANCY



UNITED UTILITIES WATER PLC

**WILLIAMSGATE, COCKERMOUTH
CUMBRIA – PHASE 2**

ARCHAEOLOGICAL EVALUATION REPORT

February 2017



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UNITED UTILITIES WATER PLC

Williamsgate, Cockermouth, Cumbria – Phase 2

Archaeological Evaluation Report

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SUMMARY

Wardell Armstrong Ltd (WA) was commissioned by United Utilities Water PLC, to undertake an archaeological evaluation by trial trenching on land at Williamsgate, Cumbria (centered on NGR: NY 1339 3429). The evaluation was required to inform upon the potential archaeological resource and the impact upon that resource from the construction of a proposed water treatment works. As a result, the Local Planning Authority requested a programme of archaeological evaluation within the proposed development boundaries, in the form of trial-trenches ahead of the main development.

The archaeological work was undertaken in three phases between November 2016 and February 2017 and comprised the excavation of 19 trenches, each measuring approx. 35-30m in length by 1m-2m in width. The trenches were positioned in such a way as to provide a representative sample of the proposed development area, but also targeting geophysical anomalies of potential archaeological interest.

ACKNOWLEDGEMENTS

Wardell Armstrong Ltd (WA) thanks Anna Smith and Neil White of United Utilities Water PLC for all their assistance throughout the project. WA Ltd also thank Jeremy Parsons, Historic Environment Officer at Cumbria County Council for his assistance.

Wardell Armstrong Ltd are also grateful to Alan James for his help during the project.

The evaluation was undertaken by Ed Johnson, David Jackson and Maria Spathi. The report was written by Maria Spathi and the figures produced by Adrian Bailey. The project was managed by Frank Giecco, Technical Director for WA Ltd and the report was edited by Richard Newman, Post-Excavation Manager for WA Ltd.

1. INTRODUCTION

1.1 Project Circumstances

1.1.1 Between November 2016 and February 2017 Wardell Armstrong Ltd (WA) undertook an archaeological evaluation on land at Williamsgate, Cumbria (centered on NGR: NY 1339 3429; Figure 1). The work was commissioned by United Utilities Water PLC in advance of a proposed water treatment work on the site.

1.1.2 Archaeological work was required as the proposed development was likely to affect below ground archaeological remains and the Local Planning Authority required a programme of archaeological evaluation by trial trenching to be undertaken ahead to the main development.

1.1.3 The evaluation was undertaken in accordance with a written scheme of investigation (WSI), which was produced following discussions with Jeremy Parsons acting as the archaeological planning advisor on behalf of Cumbria County Council Historic Environment Service.

1.2 Project Documentation

1.2.1 A WSI (WAA 2016) was produced to provide a specific methodology for the archaeological evaluation, in accordance with discussions held between Wardell Armstrong Ltd and Jeremy Parsons of Cumbria County Council Historic Environment Service (CCCHES). The WSI was approved by the archaeological planning advisor prior to the fieldwork taking place. This is in line with government advice as set out in Section 12 of the National Planning Policy Framework (NPPF 2012).

1.2.2 This report outlines the work undertaken on site, the subsequent programme of post-fieldwork analysis, and the results of this scheme of archaeological evaluation.

2. METHODOLOGY

2.1 Standards and guidance

2.1.1 The archaeological evaluation was undertaken following the Chartered Institute for Archaeologists *Standard and Guidance for archaeological field evaluation* (2014a), and in accordance with the WA fieldwork manual (2017).

2.1.2 The fieldwork programme was followed by an assessment of the data as set out in the *Standard and Guidance for archaeological field evaluation* (ClfA 2014a) and the *Standard and Guidance for the collection, documentation, conservation and research of archaeological materials* (ClfA 2014b).

2.2 The Field Evaluation

2.2.1 The evaluation comprised the excavation of 19 trenches, each measuring approx. 35-30m in length by 1m-2m in width (Figure 2). The trenches were located evenly throughout the investigation area, targeting both geophysical anomalies and apparently sterile areas. The results of the evaluation are intended to inform the Local Planning Authority and allow an informed decision to be made regarding the requirement for any further archaeological work.

2.2.2 The general aims of these investigations were:

- to determine the presence or absence of buried archaeological remains within the proposed development site;
- to determine the character, date, extent and distribution of any archaeological deposits and their potential significance;
- to determine levels of disturbance to any archaeological deposits from industrial practices or any later activities;
- to investigate and record all deposits and features of archaeological interest within the areas to be disturbed by the proposed development;
- to determine the likely impact on archaeological deposits from the proposed development.

2.2.3 All areas of investigation were excavated to the level of the natural substrate by mechanical excavator with a toothless ditching bucket, under close archaeological supervision. The investigation areas were subsequently cleaned by hand and investigated and recorded fully according to the WA standard procedure as set out in the Excavation Manual (WA 2017).

- 2.2.4 Finds of potential archaeological interest were retained on site and returned to the Carlisle office where they were identified, quantified and dated to period. On completion of this project, the finds were cleaned and packaged according to standard guidelines (*Ibid*). Please note, the following categories of material will be discarded after a period of six months following the submission of this report, unless there is a specific request to retain them (and subject to the collection policy of the relevant depository):
- unstratified material;
 - modern pottery;
 - material that has been assessed as having no obvious grounds for retention.
- 2.2.5 On completion, the evaluation trenches were reinstated by replacing the excavated material which had been stored separately to prevent mixing of topsoil and subsoil and backfilled in sequence.
- 2.2.6 A full professional archive has been compiled in accordance with the specification, and according to the Archaeological Archives Forum recommendations (Brown 2011). The archive will be deposited in Tullie House Museum, with copies of the report sent to the Cumbria County Council Historic Environment Service (CCCHES) in Kendal, Cumbria, available upon request. The archive can be accessed under the unique project identifier **WCC-B, CL11926**.
- 2.2.7 Wardell Armstrong Ltd supports the Online AccesS to the Index of Archaeological InvestigationS (OASIS) project. This project aims to provide an on-line index and access to the extensive and expanding body of grey literature, created as a result of developer-funded archaeological work. As a result, details of the results of this project will be made available by WAA as a part of this national project. The OASIS reference for the project is: **wardella2-276870**.

3. BACKGROUND

3.1 Location and Geological Context

3.1.1 The proposed water treatment works site is located within pasture land northeast of Bridekirk, at Williamsgate, which lies approximately 3km north of the town of Cockermouth, Cumbria. The survey sites lie immediately to the northwest of the A595, centred on Ordnance Survey grid reference NY 1339 3429. The River Derwent runs to the south of the site.

3.1.2 The underlying solid geology of the area consists of Sixth limestone (Cumbria) deposited during the Carboniferous Period (331-335 million years ago). The superficial deposits consist of Devensian-Diamicton Till that formed during the Quaternary Period (up to 2 million years ago) (BGS 2015).

3.2 Historical Context

3.2.1 **Introduction:** this background is compiled mostly from secondary sources, and the records consulted during the desk-based assessment that was undertaken by Wardell Armstrong in 2015 (WAA 2015). It is intended only as a summary of historical developments around the study area, in order to assess the archaeological potential.

3.2.2 **Prehistoric (up to c.AD 72):** No prehistoric remains are known from within the study area. Evidence for prehistoric activity in the wider area includes a small cast copper alloy unlooped palstave axe with a very short, flared blade, dating from the Middle Bronze Age. This was found in the Bridekirk area in 2010 and was recorded by the Portable Antiquities Scheme (LANCUM-D724A4).

3.2.3 **Romano-British (c.AD 72 – c.410):** No Roman remains are known from within the study area. Evidence in the wider area relates to Roman infrastructure with the modern A595 built on the route of the Roman road, which linked forts at Carlisle, Old Carlisle (near Wigton) and at Papcastle. Numerous finds of Roman date have been discovered in the Papcastle area.

3.2.4 **Medieval (c.410 – c.1540):** Several finds of medieval date have been encountered in the Bridekirk area, indicating that this was an established settlement in this period (WAA 2014).

3.2.5 **Post-Medieval and Modern (c.1540 – present):** The First Edition Ordnance Survey map of 1867 shows a similar layout of fields as today at both survey sites. Later historic mapping indicates that the field systems have remained unchanged until the present

day. A disused quarry, known as Williamsgate Quarry (HER 11050), is shown on the 1898 Edition Ordnance Survey 25" map of Cumberland to the south of the survey area. Limekilns are recorded to the southwest of the Moota Hill site on the First Edition Ordnance Survey map and are superseded by Moota quarry on later maps. A guide post is also recorded on the road immediately to the south of the survey area.

3.2.6 **Previous Work:** A geophysical survey of the Williamsgate site was undertaken by Wardell Armstrong (WAA 2015a) and indicated significant previous agricultural activity, including evidence for former ridge and furrow cultivation, a former field boundary and a possible network of land drains. This was followed by a programme of limited trial trenching which covered part of the site and which involved 12 trenches across three fields in Areas 1, 8 and 10. No features of archaeological significance were recorded during this work (WAA 2015b).

4. ARCHAEOLOGICAL EVALUATION RESULTS

4.1 Introduction

4.1.1 Due to land access issues the archaeological investigation was undertaken in three phases between November 2016 and February 2017. The investigation comprised the excavation of 19 trenches, each measuring approx. 30m in length by 1m-2m in width (Figure 2). The trenches were positioned in such a way as to provide a representative sample of the proposed development area but also targeting geophysical anomalies of potential archaeological interest.

4.1.2 All trenches were excavated to the level of the natural substrate or first archaeological horizon by mechanical excavator with a toothless ditching bucket, under close archaeological supervision. The trenches were subsequently cleaned by hand and investigated and recorded fully.

4.2 Results

4.2.1 **Trench 1, 2, 3:** Trenches 1, 2 and 3 were located near the east outline of the development site in Area 10 and were aligned northwest to southeast. They were excavated to depths of between 0.3m and 0.5m, revealing the natural substrate, which was comprised of yellowish brown clay (Group Nos. **101, 201, 301**). This was sealed by c.0.2m of greyish brown silty clay topsoil (Group Nos. **100, 200, 300**). All were devoid of any archaeological features. However, all three included modern land drains (Plate 1), which account for several geophysical anomalies within the area.

4.2.2 **Trench 12-19:** Trenches 12-19 were located near the north west outline in Area 8. Trenches 13, 14, 18 and 19 were aligned northwest to southeast, trenches 16 and 17 east to west and finally 12 and 15 southwest to northeast. They were excavated to a maximum depth of 0.56m, revealing yellowish brown natural clay with small stones (Group nos. **1201, 1301, 1401, 1501, 1601, 1701, 1801, 1901**). This was sealed by c. 0.3m of greyish brown silty clay topsoil (Group nos. **1200, 1300, 1400, 1500, 1600, 1700, 1800, 1900**). All trenches were devoid of any archaeological features. Very little evidence for the cause of the geophysical anomalies was revealed within the area, although the natural substrate was noted to be variable within several trenches, which may provide an explanation for some of the anomalies. In addition, a single fragment of Roman mortarium was recovered from the topsoil (**1600**) within Trench 16 (see Para 4.3.2 below), although it is unclear what this fragment of pottery relates to.

- 4.2.3 **Trench 8:** Trench 8 was located near the north west outline within Area 9 and was aligned northwest to southeast. It was excavated to a maximum depth of 0.65m, revealing dark brown firm natural clay (**802**) sealed by c.0.35m of orange brown loose silty clay subsoil (**801**) and eventually by c.0.10m orange brown loose silty clay topsoil (**800**). At a distance of 3.0m from the SW edge of the trench, part of a wall foundation (**803**), probably a post-medieval field boundary was revealed (max. H. 0.38m, max. W. 0.45m). It was aligned southwest to northeast and consisted of medium sized unbounded dry stones, constructed irregularly (Plates 2 & 3). The wall corresponds with a long linear anomaly identified during the previous geophysical survey (WAA 2015b; see Figure 2). It was not however, included in the boundaries shown on earlier maps, when the area was divided into long strip plots (Redmain Tithe Award of 1837/8 (CRO CC) DRC 8/160) and does not appear on any later mapping.
- 4.2.4 **Trenches 9, 10, 11:** Trenches 9-11 were also located near the north west outline in Area 9. Trench 10, aligned west to east, was excavated to a maximum depth of 0.80m, revealing the orange brown firm natural clay (**1002**) sealed by c.0.40m of light orange brown loose silty clay subsoil (**1001**) and by the 0.30m loose greyish brown silty clay topsoil (**1002**). The subsoil in trench 10 consisted of a silty clay with a lot of gravel inclusions which is likely to relate to a former paleochannel (Plate 4). The probable paleochannel relates to a number of magnetic anomalies observed during the geophysical survey in 2015 and which were interpreted as geological or fluvial features (WAA 2015). Trenches 9 and 11, aligned northwest to southeast, were excavated to a maximum depth of 0.63m, revealed the same deposits as in trench 10 (Group nos. **902, 1102, 901, 1101, 900, 1100**). A similar paleochannel was revealed in trench 9 but no evidence of it was found in trench 11. All trenches were devoid of any archaeological features.
- 4.2.5 **Trenches 4, 5, 6, 7:** Trenches 4-7, located within Area 9, revealed identical deposits consisting of a brown firm natural clay (Group nos **402, 502, 602, 702**), overlaid by c.0.36-0.16m orange brown loose silty clay subsoil (Group nos **401, 501, 601, 701**) and covered by c.0.10m mid-brown loose silty clay topsoil (Group nos **400, 500, 600, 700**). Trench 4, aligned southeast to northwest, was excavated to a maximum depth of 0.44m. A stone land drain was revealed 12.90m from its northwest edge, possibly causing the geophysical anomalies identified within this area. Trench 5, also aligned southeast to northwest, was excavated to a maximum depth of 0.60m. Trench 6, aligned northeast to southwest, was excavated to a maximum depth of 0.50m. Finally, trench 7, aligned northeast to southwest, was excavated to a depth of 0.45m. The

natural consisted of the fragmented bedrock mixed with clay. All the above trenches were devoid of any archaeological features.

4.3 Environmental Sampling & Archaeological Finds

4.3.1 All deposits were considered unsuitable for environmental sampling, therefore no samples were taken

4.3.2 A single fragment of Roman mortarium was recovered from the topsoil (**1600**) within Trench 16. The fragment weighed 0.86g and displayed clear signs of heavy abrasion, highlighting that it had undergone significant post-depositional movement. Whilst the presence of the pottery fragment indicates that there may have been some level of Roman activity within the vicinity, it is unclear what this activity may have been. Furthermore, the condition of the fragment suggests that it may have travelled some distance before being deposited within in its final depositional context.

5. CONCLUSIONS

- 5.1 The investigation comprised the excavation of 19 trenches, each measuring 30m in length by 1.0m-2.0m in width. The trenches were positioned in such a way as to provide a representative sample of the proposed development area but also targeting geophysical anomalies of potential archaeological interest.
- 5.2 Trench 8 revealed the foundation of an undated field boundary. Traces of a paleochannel were identified within trenches 9 and 10, probably caused by the flooding in the area. Finally, trenches 1, 2, 3 and 4 included modern land drains. All the above features were identified as geophysical anomalies during the geophysical survey in 2015 (WAA 2015b). A single fragment of Roman mortarium was recovered from the topsoil within Trench 16, although it is unclear what this pottery relates to. The fragment may suggest some level of Roman activity within the vicinity, although the condition of the fragment also indicates that it may have travelled some distance before being deposited within its final post-depositional context.
- 5.3 With the exception of the probable post-medieval foundation of a field boundary within Trench 8 and the fragment of Roman pottery within Trench 16, all other trenches were devoid of any finds or features of archaeological significance.

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UK Soil Observatory online (UKSO) 2016:

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APPENDIX 1: TRENCH DESCRIPTIONS

Trench 1

Length: 30m Width: 1.6m Orientation: Northwest-Southeast
 Min Depth: 0.35m Max Depth: 0.56m

Context #	Context Type	Description	Height/Depth
100	Topsoil	Soft greyish brown silty clay	0.25m
101	Natural Substrate	Weakly cemented orangey brown clay	0.1m+

Trench 2

Length: 30m Width: 1.6m Orientation: Northwest-Southeast
 Min Depth: 0.25m Max Depth: 0.46m

Context #	Context Type	Description	Height/Depth
200	Topsoil	Soft greyish brown silty clay	0.22m
201	Natural Substrate	Weakly cemented orangey brown clay	0.24m+

Trench 3

Length: 30m Width: 1.6m Orientation: Northwest-Southeast
 Min Depth: 0.35m Max Depth: 0.5m

Context #	Context Type	Description	Height/Depth
300	Topsoil	Loose greyish brown silty clay	0.2m
301	Natural Substrate	Firm yellow brown clay	0.1m+

Trench 4

Length: 30m Width: 1m Orientation: Southeast-Northwest
 Min Depth: 0.28m Max Depth: 0.44m

Context #	Context Type	Description	Height/Depth
400	Topsoil	Loose orangey brown silty clay	0.16m
401	Subsoil	Loose orange silty clay	0.16m
402	Natural Substrate	Firm greyish brown clay	0.14m+

Trench 5

Length: 30m Width: 1m Orientation: Southeast - Northwest
 Min Depth: 0.40m Max Depth: 0.60m

Context #	Context Type	Description	Height/Depth
500	Topsoil	Loose mid-brown silty clay	0.10m
501	Subsoil	Loose orange brown silty clay	0.35m
502	Natural Substrate	Firm brownish brown clay	0.20m+

Trench 6

Length: 30m Width: 1m Orientation: Northeast-Southwest
 Min Depth: 0.47m Max Depth: 0.50m

Context #	Context Type	Description	Height/Depth
600	Topsoil	Loose mid-brown silty clay	0.8m
601	Subsoil	Loose mid-brown silty clay	0.30m
602	Natural Substrate	Firm brownish brown clay	0.10m+

Trench 7

Length: 30m Width: 1m Orientation: Northeast-Southwest
 Min Depth: 0.23m Max Depth: 0.45m

Context #	Context Type	Description	Height/Depth
700	Topsoil	Loose mid-brown silty clay	0.10m
701	Subsoil	Loose orange brown silty clay	0.36m
702	Natural Substrate	Fragmented bedrock mixed with orange clay	0.2m+

Trench 8

Length: 30m Width: 1m Orientation: Southeast-Northwest
 Min Depth: 0.44m Max Depth: 0.65m

Context #	Context Type	Description	Height/Depth
800	Topsoil	Loose orange brown silty clay	0.10m
801	Subsoil	Loose orange brown silty clay	0.35m
802	Natural Substrate	Firm dark-brown clay	0.18m+

Trench 9

Length: 30m Width: 1m Orientation: Northwest-Southeast
 Min Depth: 0.37m Max Depth: 0.56m

Context #	Context Type	Description	Height/Depth
900	Topsoil	Loose orangey brown silty clay	0.27m
901	Subsoil	Loose orangey brown silty clay	0.25m
902	Natural Substrate	Firm dark-brown clay	0.2m+

Trench 10

Length: 30m Width: 1m Orientation: East-West
 Min Depth: 0.66m Max Depth: 0.80m

Context #	Context Type	Description	Height/Depth
1000	Topsoil	Loose greyish brown silty clay	0.30m
1001	Subsoil	Loose orangey brown silty clay with gravel inclusions	0.40m
1002	Natural Substrate	Firm orangey brown clay	0.10m+

Trench 11

Length: 30m Width: 1m Orientation: North-South
 Min Depth: 0.52m Max Depth: 0.63m

Context #	Context Type	Description	Height/Depth
1100	Topsoil	Loose mid- brown silty clay	0.12m
1101	Subsoil	Loose orange brown silty clay with gravel inclusions	0.43m
1102	Natural Substrate	Firm orange brown clay	0.8m+

Trench 12

Length: 35m Width: 1m Orientation: Northeast-Southwest
 Min Depth: 0.39m Max Depth: 0.45m

Context #	Context Type	Description	Height/Depth
1200	Topsoil	Soft greyish brown silty clay	0.25m
1201	Natural Substrate	Compact yellow brown clay with small amount of stones	0.15m+

Trench 13

Length: 35m Width: 1m Orientation: North-South
 Min Depth: 0.30m Max Depth: 0.35m

Context #	Context Type	Description	Height/Depth
1300	Topsoil	Loose brown silty clay	0.35m
1301	Natural Substrate	Firm mixed greyish brown and pinkish orange clay with occasional manganese	-

Trench 14

Length: 35m Width: 1m Orientation: North-South
 Min Depth: 0.30m Max Depth: 0.40m

Context #	Context Type	Description	Height/Depth
1400	Topsoil	Loose greyish brown silty clay	0.22m
1401	Natural Substrate	Compact yellow brown clay with stony inclusions	0.17m+

Trench 15

Length: 35m Width: 1m Orientation: Northeast-Southwest
 Min Depth: 0.30m Max Depth: 0.45m

Context #	Context Type	Description	Height/Depth
1500	Topsoil	Soft greyish brown silty clay	0.25m
1501	Natural Substrate	Firm yellow brown clay	0.1m+

Trench 16

Length: 30m Width: 2m Orientation: East-West
 Min Depth: 0.36m Max Depth: 0.56m

Context #	Context Type	Description	Height/Depth
1600	Topsoil	Soft brown silty clay	0.25m
1601	Natural Substrate	Loose brown clay with frequent small pebbles	0.1m+

Trench 17

Length: 30m Width: 2m Orientation: Northwest-Southeast
 Min Depth: 0.38m Max Depth: 0.45m

Context #	Context Type	Description	Height/Depth
1700	Topsoil	Soft greyish brown silty sand	0.25m

1701	Natural Substrate	Loose orange sand/gravel	0.1m+
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Trench 18

Length: 30m Width: 2m Orientation: North-South

Min Depth: 0.40m Max Depth: 0.44m

Context #	Context Type	Description	Height/Depth
1800	Topsoil	Soft brown silty clay	0.30m
1801	Natural Substrate	Soft yellowish brown clay with some pebbles	0.13m+

Trench 19

Length: 30m Width: 2m Orientation: North-South

Min Depth: 0.28m Max Depth: 0.46m

Context #	Context Type	Description	Height/Depth
1900	Topsoil	Loose brown silty clay	0.30m
1901	Natural Substrate	Firm light brown clay	-

APPENDIX 2: PLATES



Plate 1; View northwest of Trench 1 (2 x 1m scale)



Plate 2; View northwest of Trench 8 (1 x 1m scale)

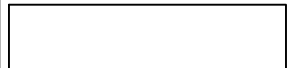
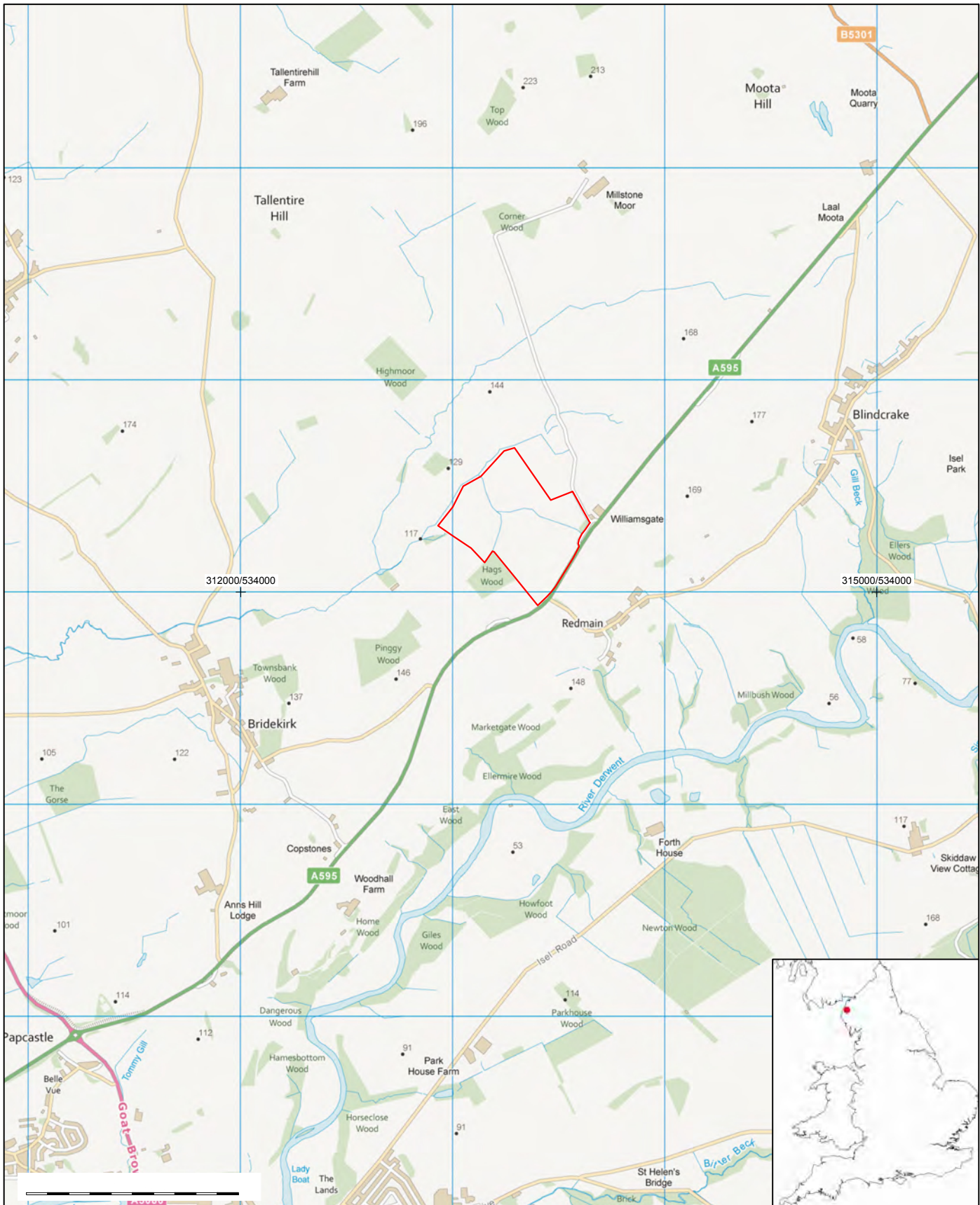


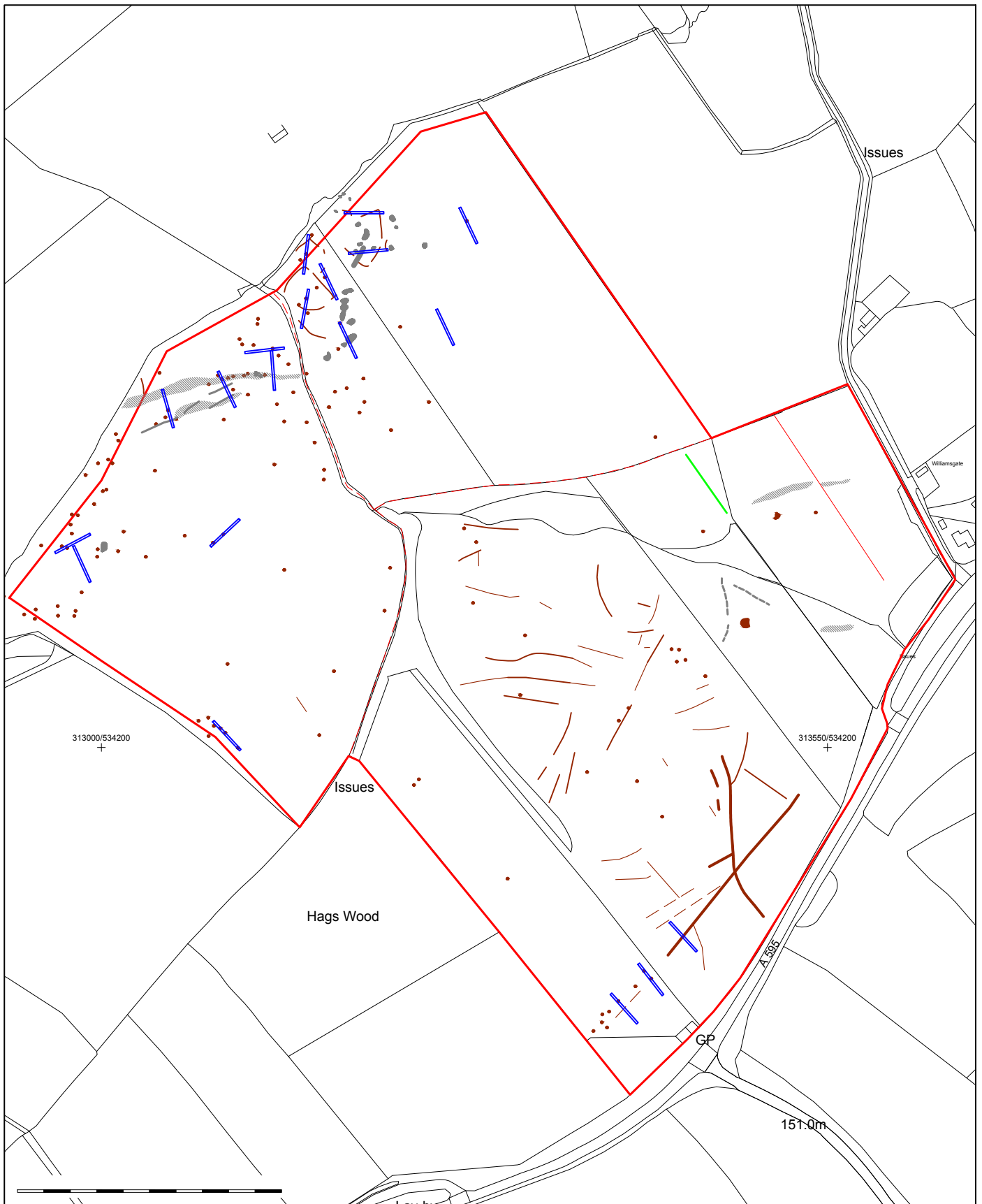
Plate 3; View east of Trench 8, undated field boundary (1 x 1m scale)









Plate 4; South view of Trench 10 with the paleochannel (1 x 1m scale)

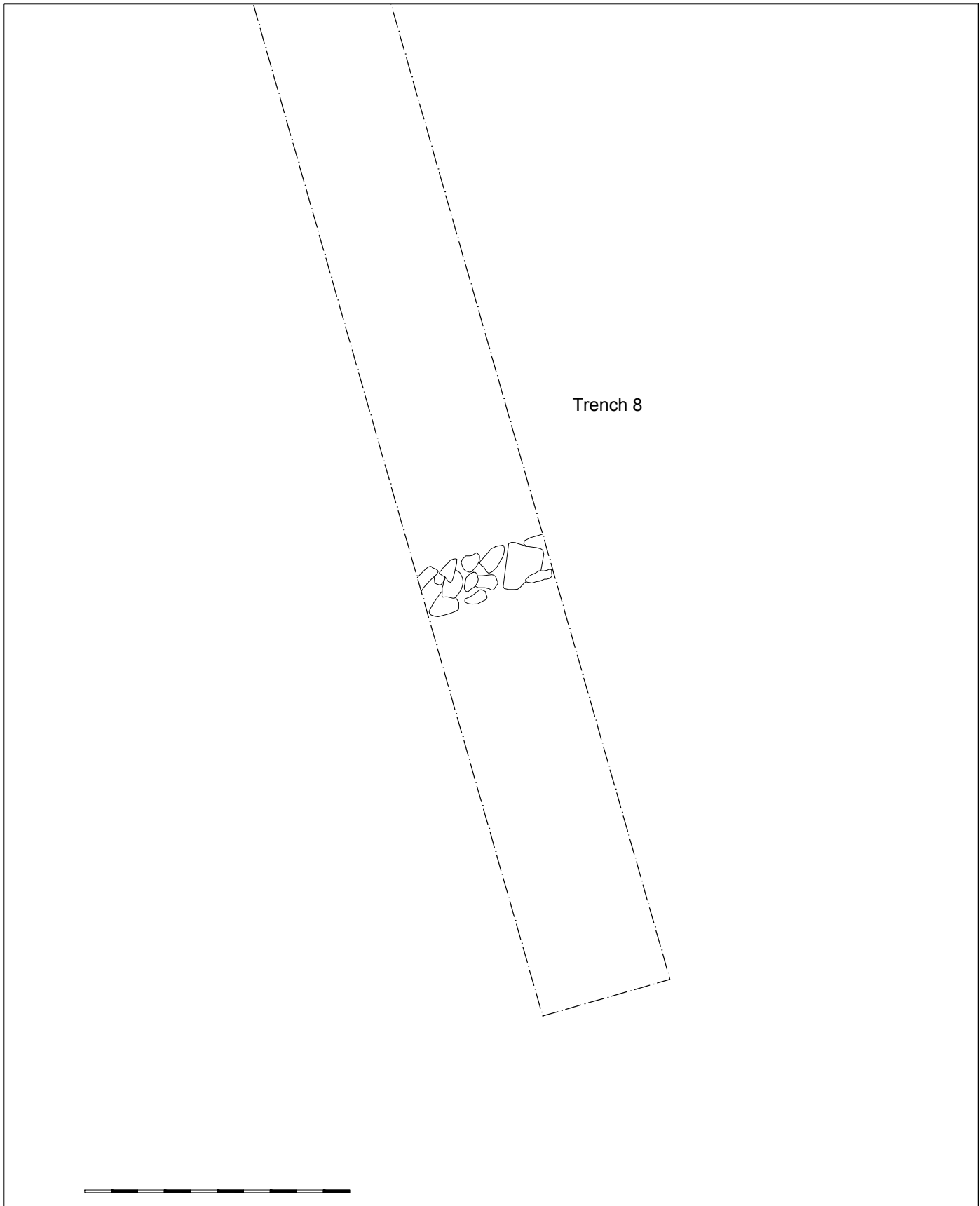
APPENDIX 3: FIGURES





-  Site boundary
-  Evaluation trenches
-  Possible soil-filled features
-  Probable geological features
-  Possible fluvial features
-  Possible former field boundary





- {803} Context number
- Limit of excavation



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