ANNETWELL STREET, CARLISLE, CUMBRIA

RAPID DESK-BASED ASSESSMENT, TRIAL-TRENCH EVALUATION AND WATCHING BRIEF REPORT

CP. NO: 659/10

06/07/2010

NORTH PENNINES ARCHAEOLOGY LTD
NENTHEAD MINES HERITAGE CENTRE,
NENTHEAD,
ALSTON,
CUMBRIA,
CA9 3PD
TEL/FAX: (01434) 382045/043
WWW.NPARCHAEOLOGY.CO.UK

NORTH PENNINES ARCHAEOLOGY LTD

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Quality Assurance

This report covers works as outlined in the brief for the above-named project as issued by the relevant authority, and as outlined in the agreed programme of works. Any deviation to the programme of works has been agreed by all parties. The works have been carried out according to the guidelines set out in the Institute for Archaeologists (IfA) Standards, Policy Statements and Codes of Conduct. The report has been prepared in keeping with the guidance set out by North Pennines Archaeology Ltd on the preparation of reports.

REVISION SCHEDULE			
	01	**02**	**03**
PREPARED BY:	Ailsa Westgarth & David Jackson		
DATE:	05/07/10		
EDITED BY:	Frank Giecco		
POSITION:	Technical Director		
DATE:	05/07/10		
APPROVED BY:	Martin Railton		
POSITION:	Project Manager		
DATE:	05/07/10		

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SUMMARY

North Pennines Archaeology Ltd were commissioned by United Utilities to undertake a rapid desk-based assessment, trial-trench evaluation and archaeological watching brief at Annetwell Street, Carlisle, Cumbria (centered on NGR NY 3970 5607). This work follows a planning application for the installation of a new electricity substation and associated scheme of cable renewal. The proposed scheme of renewal works lie within the Scheduled Monument of the Roman and Medieval towns of Carlisle (SM No. 547). This is an area of extremely high archaeological sensitivity, positioned within the Roman fort of Carlisle and within the heart of the early medieval town. As a result, Andrew Davison of English Heritage requested that a Rapid Desk-Based Assessment and trial-trench evaluation be undertaken prior to, and Archaeological Watching Brief be undertaken during, the scheme of renewal works.

The rapid desk-based assessment involved the examination of all pertinent documents and cartographic sources held in the County Records Office in Carlisle, the local studies section at Carlisle Library, and the consultation of the Historic Environment Record (HER) based in Kendal. The HER includes the locations and settings of Scheduled Ancient Monuments, Listed Buildings, Parks and Gardens and other, non-designated archaeological remains. In addition, a number of published sources were consulted to provide background information, including the Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society.

The research has shown that the development site is within an area of significant Roman, medieval and post-medieval archaeology. Excavations within the vicinity of the development site have amassed a respectable understanding of the sequence of Roman forts, which covered an area now occupied by the medieval castle, Castle Way and Annetwell Street further south. These excavations have revealed two phases of the Flavian fort, a second timber fort and two separate stone forts, as well as an associated gateway and roads. Further discoveries during these archaeological investigations include early medieval remains.

The trial-trench evaluation was undertaken over two consecutive days between the 2nd June and the 3rd of June 2010, and was required in order to evaluate the archaeological potential within the footprint of the proposed substation. The evaluation comprised a single trench which measured 1.5m x 1.5m and was excavated to a maximum depth of 1m. The evaluation trench was heavily disturbed, being largely comprised of modern services and associated backfill deposits. However, at the maximum depth of 1m, the trench revealed a dark organic deposit which contained a fragment of pig pelvis, as well as other environmental remains.

The Archaeological Watching Brief was undertaken over ten days between the 7th June and the 18th June 2010. The watching brief monitored the excavation of all

groundworks associated with the installation of a new electricity cables between the new sub-station at the west end of Annetwell Street and an existing link-box at the west end of Finkle Street, a length of approximately 112m.

Most of the monitored area had been heavily disturbed by modern activity. However, a narrow band of archaeology remained undisturbed at a depth of approximately 20m AOD. The archaeology was comprised of a roughly laid cobbled surface, which measured over 0.35m in width and 23m in length. Significantly, the cobbled surface was sealed by an undisturbed organic deposit. Finds retrieved from this deposit included animal bone, leather and several sherds of pottery dating to the late 13th/early 14th century. This small pottery assemblage strongly indicates that the cobbled surface was deposited at sometime prior to the mid-14th century, possibly representing one of the earliest forms of what is now known as Annetwell Street.

Although several finds of Roman date were retrieved during the archaeological evaluation and watching brief, all of these were from secondary contexts, and no *in-situ* Roman features or deposits were observed during the programme of archaeological work. This suggests that the potential survival of archaeological remains of Roman date is likely to increase beyond a depth of 1.4m (the maximum depth excavated during the evaluation and watching brief). The probability of this survival is high based upon previous archaeological investigations within the vicinity of the monitored area.

Environmental evidence has found that datable deposits with high levels of organic preservation are present in the area of Annetwell Street. These deposits included leather off-cuts, worked wood and animal bones. This type of evidence was particularly prevalent within a secure deposit dated to the 13th/14th centuries. Furthermore, the types of plant remains found within this deposit were consistent with those commonly found during other excavations of medieval sites within Carlisle.

As this evaluation and watching brief was conducted as a condition of groundworks associated with the installation of a new sub-station and electric cables, no further archaeological work is deemed necessary. However, given the significant archaeological remains within the area, it is recommended that any work conducted in the future be subject to a similar programme of archaeological investigation.

ACKNOWLEDGEMENTS

North Pennines Archaeology Ltd would like to thank Linda Young of United Utilities for commissioning the project, and for all assistance throughout the work. NPA Ltd would also like to extend their thanks to Leo Gartland Building Contractors, and all the staff of Murphy's, for their help during this project.

The rapid desk-based assessment was undertaken by Ailsa Westgarth. The trial-trench evaluation was undertaken by David Jackson and Ailsa Westgarth and the archaeological watching brief was undertaken by David Jackson. The report was written by Ailsa Westgarth and David Jackson, who also produced the drawings. The environmental analyses was undertaken by Don O' Meara. The project was managed and edited by Frank Giecco, Technical Director for NPA Ltd.

1 INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

1.1.1 In June 2010, North Pennines Archaeology were invited by Linda Young of United Utilities to undertake a rapid desk-based assessment, trial-trench evaluation and subsequent watching brief at Annetwell Street, Carlisle, Cumbria (centered on NGR NY 3970 5607; Figure 1), following a planning application for the installation of a new electricity substation and associated scheme of cable renewal. The proposed scheme of works lies in a zone of significant archaeological sensitivity, within the Scheduled Monument of the Roman and Medieval towns of Carlisle (SM No. 547). The proposed renewal works are situated within the Roman fort of Carlisle (*Luguvalium*), which was occupied throughout the Roman period, and over the heart of the early medieval town. As a result, Andrew Davison of English Heritage requested that a programme of archaeological work be undertaken prior to, and during the renewal scheme. This is in line with government advice as set out in the DoE Planning Policy Guidance on Archaeology and Planning (PPG 16).

1.1.2 The archaeological work comprised a desk-based assessment, trial-trench evaluation and watching brief undertaken following approved statutory guidelines (IfA 2008), and was consistent with the specification provided by English Heritage and generally accepted best practice.

1.1.3 This report outlines the archaeological works undertaken, the subsequent programme of post-excavation analysis, and the results of this scheme of archaeological works.

2 METHODOLOGY

2.1 PROJECT DESIGN

2.1.1 A project design was submitted by North Pennines Archaeology Ltd in response to a request by United Utilities, for a programme of archaeological work within the study area (Giecco 2008). Following acceptance of the project design by Andrew Davison of English Heritage, North Pennines Archaeology Ltd was commissioned by the client to undertake the work. The project design was adhered to in full, and the work was consistent with the relevant standards and procedures of the Institute for Archaeologists (IfA), and generally accepted best practice.

2.2 RAPID DESK BASED ASSESSMENT

2.2.1 The rapid desk-based assessment involved the consultation of the County Historic Environment Record in Kendal in the first instance. This included the collection of all available information held within the HER database, in order to achieve a full understanding of the nature of the existing resource regarding the geographical, topographical, archaeological and historical context of the site. Aerial photographs for the area were also examined in order to gain an adequate understanding of the context of the archaeological fieldwork.

2.2.2 Following this the County Records Office in Carlisle was consulted in order to study maps and documents relevant to the study area. This included the collection of historic maps, including Tithe maps and early Ordnance Survey maps. Early cartographic evidence, such as surveys and terriers, were consulted in order to achieve an understanding of the medieval and early post medieval landscape. 18th and 19th century mapping was also consulted. Several secondary sources and journals, such as the Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society, were also consulted. Collections also consulted for pertinent references included Directories, Business Records, Miscellaneous Records and Diocesan Records.

2.2.3 The desk-based assessment was undertaken in accordance with the Institute of Field Archaeologists *Standards and Guidance for Archaeological Desk-Based Assessments* (IFA 2008a).

2.3 THE EVALUATION

2.3.1 The trial-trench evaluation comprised a single trench within the footprint of the proposed electricity substation. The trench measured 1.5m x 1.5m and

was excavated to a maximum depth of 1m (1m being the maximum desired depth for the new cables connecting up to the substation).

2.3.2 In summary, the main objectives of the evaluation were :

- to establish the presence/absence, nature, extent and state of preservation of archaeological remains within the footprint of the proposed substation and to record these where they are observed;
- to establish the character of those features in terms of cuts, soil matrices and interfaces;
- to recover artefactual material, especially that useful for dating purposes;
- to recover palaeoenvironmental material where it survives in order to understand site and landscape formation processes.

2.3.3 The trench was excavted by hand and investigated and recorded fully according to the North Pennines Archaeology Ltd standard procedure as set out in the Excavation manual (Giecco 2003).

2.3.4 All fieldwork was carried out in accordance with codes and practices outlined by the Institute of Field Archaeologists regarding archaeological evaluations (IfA 2008b, *Standards and Guidance: Archaeological Evaluation*).

2.3.5 All written records utilised the NPA pro-forma record sheets. Plans and sections were drawn on water resistant permatrace. A full photographic record in monochrome and digital formats was maintained. A combination of multi and single context planning was utilised. The site was levelled with respect to the Ordnance Datum, and the trenches tied into the National Grid.

2.4 THE WATCHING BRIEF

2.4.1 The works involved a structured watching brief to observe, record and excavate any archaeological deposits from the development site. A watching brief is a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons, on a specified area or site on land, inter-tidal zone or underwater, where there is a possibility that archaeological deposits may be disturbed or destroyed (IfA 2008c).

2.4.2 The aims and principal methodology of the watching brief can be summarised as follows:

- to establish the presence/absence, nature, extent and state of preservation of archaeological remains and to record them;
- to carry out further excavation and recording work in adequate time, if intact archaeological remains are uncovered during the project;
- to accurately tie the area watched by the archaeologist into the National Grid at an appropriate scale, with any archaeological deposits and features adequately levelled;
- to sample environmental deposits encountered as required, in line with English Heritage (2002) guidelines;
- to produce a photographic record of all contexts using colour digital, and monochrome formats as applicable, each photograph including a graduated metric scale;
- to recover artefactual material, especially that useful of dating purposes;
- to produce a site archive in accordance with MAP2 (English Heritage 1991) and MoRPHE standards (English Heritage 2006).

2.5 THE ARCHIVE

2.5.1 A full professional archive has been compiled in accordance with the specification, and in line with current UKIC (1990) and English Heritage Guidelines (1991) and according to the Archaeological Archives Forum recommendations (Brown 2007). The archive will be deposited within the Tullie House Museum, Carlisle, with copies of the report sent to the County Historic Environment Record at Kendal, Cumbria, available upon request. The archive can be accessed under the unique project identifier **NPA10**, **ASC-A**, **CP 659/10**.

2.5.2 North Pennines Archaeology, and English Heritage support the **O**nline **A**cces**S** to the **I**ndex of Archaeological Investigation**S** (**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 North Pennines Archaeology, as a part of this national project.

3 BACKGROUND

3.1 LOCATION AND GEOLOGICAL CONTEXT

3.1.1 Annetwell street lies within the city centre of Carlisle, opposite Carlisle Castle. The city of Carlisle was developed on raised land between the Rivers Caldew, Eden and Petteril. The land around the development area has been recently developed as the Radio Cumbria building. To the West the original buildings still stand. The site is separated from Carlisle Castle by Annetwell street and Castle way immediately north. The area is shown in Figure 2.

3.1.2 The underlying geology of the area is Red Sandstone, overlain by glacial deposits of boulder clay (British Geological Survey 2001). The boulder clay has been deposited by ice and is derived from bedrock traversed by glacial movement and is heterogeneous (SSEW 1984). Two rivers run close to the study area, the River Eden and the River Caldew. The Eden is the principal river which passes through the modern city towards the Solway Firth and was an important watercourse throughout the historical development of Carlisle.

3.2 HISTORICAL CONTEXT

3.2.1 ***Prehistoric:*** there is extensive evidence for prehistoric activity within and around Carlisle, including the remains of prehistoric ploughing at Blackfriars Street and Lowther Street. Neolithic and Bronze Age pottery was found at Scotby Road, including Grooved Ware and Beaker pottery, and a collared urn and burnt mound were excavated at Garlands Hospital (Perriam 1992: 3). Two Bronze Age cemeteries and two Bronze Age cist burials were also discovered in the area (Gosling 1976: 171).

3.2.2 ***Romano-British:*** Roman occupation of Carlisle is first indicated by the presence of a turf and timber fort. This fort, dating to the early seventies AD, was possibly centred on the present Castle Green north of the evaluation area. This fort predates the later much richer Roman town of *Luguvalium*, and was post-dated by another fort across the Eden in the Stanwix area. At that time the Romans established a fort at the northern end of the present city centre, and this quickly expanded to become a substantial civilian settlement over 40 acres in area. The withdrawal by the Romans from Scotland in the AD 80's, and the building of Hadrian's Wall from AD 122, probably had a substantial impact on the settlement.

3.2.3 By *c*.AD 200 Carlisle, known as Luguvalium, seems to have been granted special status, and it continued to flourish, with a large number of houses,

shops, administrative and other public buildings, until the end of the Roman occupation around AD 400.

3.2.4 The Roman roads which have been located through archaeological investigation may not form the total extent of the traffic system, as seen by the discovery of the street found at Tullie House which failed to fit into any grid system yet devised. This suggests the Roman civil town had a different alignment to the earlier fort. Evidence for the existence of a post 2nd century ditch may relate to urban defences of the Roman civil town. The uncovering of the Roman cemeteries outside the civil town boundaries indicates that Roman Carlisle was similar in size to its medieval counterpart (Ferguson, 1890: 101), and there has been some debate over the years as to whether the boundaries of the Roman city actually formed a precursor for medieval Carlisle.

3.2.5 Several discoveries of Roman date have been found close to the evaluation area. These include portions of sepulchral monuments and a large urn full of ashes (Ferguson 1893: 365-374), and a number of Roman coins have been discovered in the immediate vicinity (Caruana *et al* 1994). Other finds include mortaria fragments and wasters of late second century design.

3.2.6 ***Medieval Period:*** following the withdrawal of the Legions in the early part of the 5th century, Carlisle probably continued to be occupied and it housed an important monastic community from the 7th century, although one Anglo-Saxon Chronicle suggests that Carlisle remained deserted for 200 years after being attacked by the '*Pagan Danes*' (Garmonsway 1986). Hutchinson (1797) says that *"several persons speaking of St. Cuthberts life, tell us he founded, A.D 686, a convent of monks, a school and an abbey of nuns, but from Bede's Life of that faint chap, it appears the nunnery here, to which Queen Emenburga retired, was existing before St. Cuthbert's visiting the Castle"*.

3.2.7 The arrival of the Normans in 1092 heralded a period of major change within the Carlisle area. Cumbria was added as a province to the English Kingdom by William II, the second son of William the Conqueror, after forcing King Malcolm III of Scotland to pay homage to him in 1091. In 1093 William began construction of Carlisle Castle in timber and this stood until 1122 when Henry I (William's younger brother), promoted a major period of rebuilding and the foundation of an Augustinian priory in 1133 (McCarthy 1990). The thirteenth century saw the foundation of two monastic establishments by the Dominicans (Black Friars) and Franciscans. The Blackfriars monastery was located within the city walls in the west of the city (Summerson, 1993, 103).

3.2.8 During the 13th century Carlisle saw an extended period of peace after the Scottish siege of 1216, as the city benefited from increased trade with Scotland. (McCarthy 1990). The ever-present threat of war however, also had a negative effect on the city. Developing suburbs beyond the city walls were abandoned during times of war, due to defence strategies or destruction by the raiding Scots. The city of the period suffered from a series of damaging fires and outbreaks of plague, and there are reports of the city walls being in need of constant repair, often being subsidised by the citizens themselves (Summerson 1993).

3.2.9 Towards the end of the 15th century the population of Carlisle was growing and the defences were repaired and strengthened. The bishopric and associated clergy and friars also aided the economic strength of the city at this time (McCord & Thompson 1998). Accounts of St Cuthbert's church, in the city, begun in 1603, summarise the condition of the city at that time. They state *'Carlisle then fell, from being one of the most important garrison towns in the kingdom, to a mere country town without commerce or manufacturers'* (Ferguson 1883). During the Civil war Carlisle was held by the Royalists before being recaptured by Parliamentary forces in 1645 (McCarthy *et al*, 1990).

3.2.10 ***Post-Medieval – Modern:*** by the mid-16th century, the condition of the city walls was such that the decision was taken by Henry VIII to extensively remodel Carlisle castle at the northern end of the city, and to build a new fortress, the citadel, at the southern end. This new double fortress design was intended to make it untenable for any enemy able to breach the crumbling city walls (McCarthy *et al* 1990: 171). In November 1745 the city surrendered to the Jacobite Prince Charles, however the city was retaken by the Duke of Cumberland in December 1745. This was the last act of violence in the city's history (Hutchinson 1797). The Church of St Cuthberts had become so ruinous by the 1700's that it was pulled down and rebuilt in 1778 (Hutchinson, 1797).

3.2.11 A the start of the 18th century Hutchinson (1797) says*"Carlisle, at the beginning of the present century, exhibited no marks of modern convenience and elegance. The buildings, mostly of wood, clay and laths, bespoke the poverty and bad taste of the inhabitants"* and that the city was small and not very populated. This changed after the 1745 rebellion when a company of Hamburg merchants decided Carlisle was an ideal location for Cotton mills. The milling industry brought change to the city, bringing people from all over the country to work. Textiles and biscuits led to the development of industrial areas such as English Damside and Caldewgate (Whellan, 1860).

3.2.12 The north side of Annetwell street was demolished in the 1970's to allow for the construction of Castle Way. The south side of Annetwell Street has been largely redeveloped in recent years, including the construction of the BBC Radio Cumbria building immediately south of the watching brief area. A vast amount of evidence has been uncovered for the Roman fort during the redevelopment of the south side of Annetwell Street, including the south gateway and several phases of rebuilding (see Paragraph 3.3.2 below).

3.3 PREVIOUS WORK

3.3.1 There have been a number of archaeological investigations within the area defined as the City of Carlisle Hazard Area (SMR No. 3560). These include major excavations at The Lanes (McCarthy, 2000, McCarthy, Padley and Henig, 1982) and Botchergate (Zant, 1997, Giecco, 2001, Lancaster University Archaeology Unit, 2000).

3.3.2 Several archaeological investigations have also been conducted within the vicinity of the study area in recent years. These excavations have amassed a detailed understanding of the sequence of Roman forts, which covered an area now occupied by the medieval castle, Castle Way and Annetwell Street further south. These excavations have revealed two phases of the Flavian fort, a second timber fort and two separate stone forts, as well as an associated gateway and roads. Further discoveries during these archaeological investigations include early medieval remains. Some of the more prolific excavations are listed below.

- Excavations carried out in the 1970's by Dorothy Charlesworth on Annetwell Street (Charlesworth 1978, 1980).
- Excavations undertaken by Carlisle Archaeology Unit near the Annetwell Street frontage between 1980 and 1984 (Caruana 1986).
- Excavations undertaken by Carlisle Archaeology Unit during the Tullie House extension in 1989 (Caruana 1989).
- Excavations carried out by Carlisle Archaeology Unit during the construction of the BBC Radio Cumbria building on Annetwell Street in 1990 (Caruana 1991).
- The millennium excavations on Castle Green, immediately north of the study area, conducted during 1998-2001 (Zant, 2004).

3.4 CARTOGRAPHIC SOURCES

3.4.1 A search of maps recording the development area was carried out at Carlisle County Record Office and Carlisle Library. Only those that reveal the area around the development site and of direct relevance have been included.

3.4.2 ***Sir Thomas Wharton's Map of Carlisle, 1541, Plate 1:*** the earliest map of Carlisle is the 1541 map by Sir Thomas Wharton, it shows Carlisle to be largely confined by the city walls with relatively small numbers of buildings. Annetwell street runs east – west across the city next to the Castle, linking to Irish gate on the west end of the street. The street has a row of houses on either side, with garden plots to the rear.

Plate 1: Engraving of Sir Thomas Wharton's Map of Carlisle, 1541

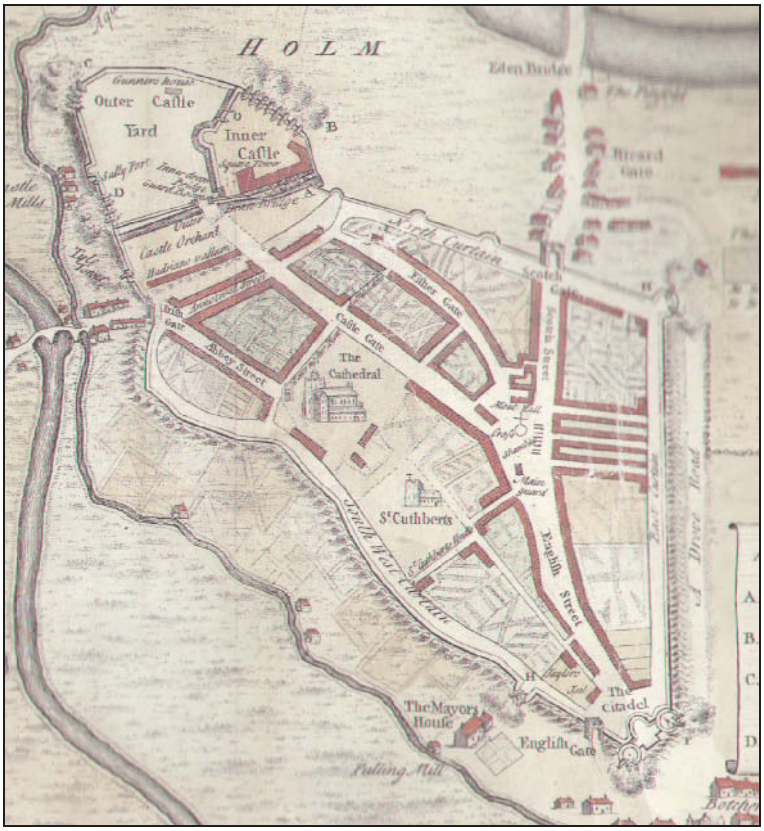

Plate 2: Smith's Siege Map of Carlisle, 1746

3.4.3 ***Smith's Siege map of Carlisle, 1746, Plate 2:*** the 1746 map shows Carlisle developing slightly outside the city walls. Annetwell street is still shown with housing on either side, the north side gardens backing onto the Castle Orchard and the south side onto gardens.

Plate 3: Board of Ordnance Map, 1749

3.4.4 ***Board of Ordnance map, 1749, Plate 3:*** Annetwell street remains built up by 1749, however very little detail is shown on this map to indicate land use at this time.

Plate 4: Woods Map of Carlisle, 1821

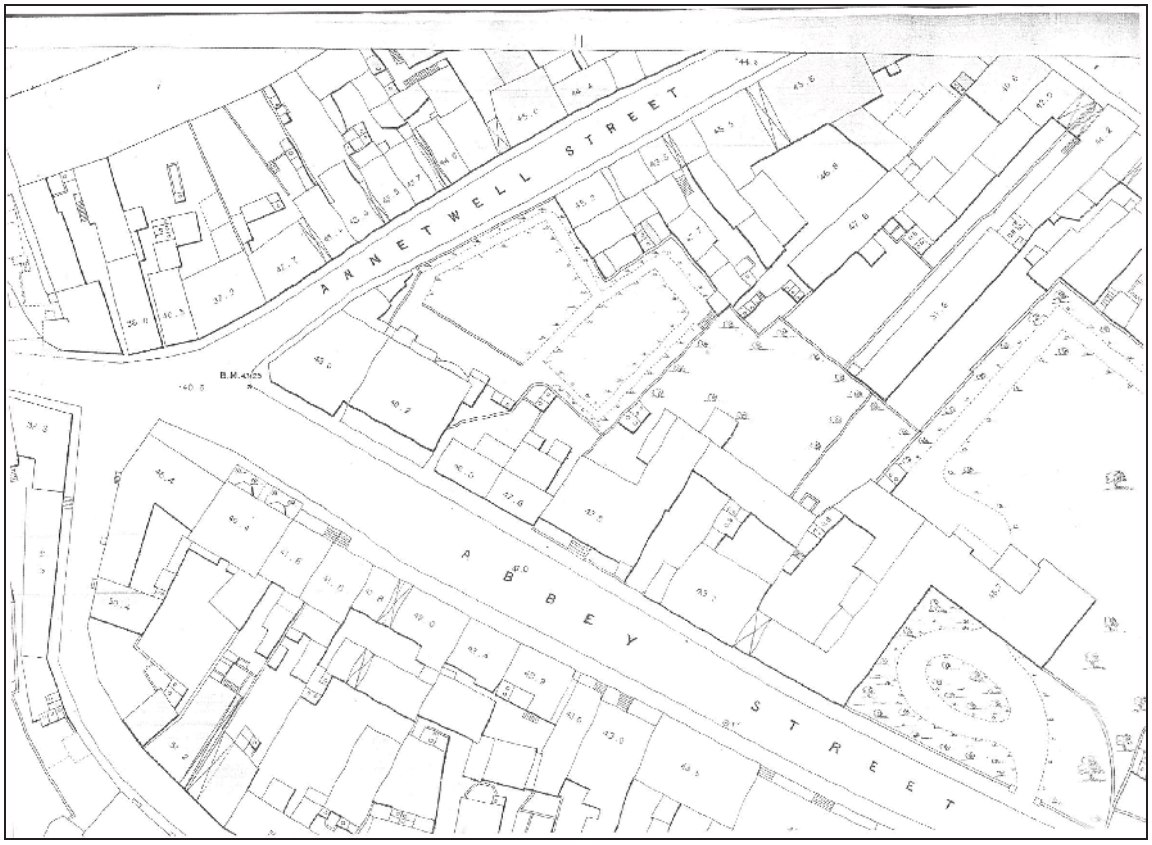

Plate 5: Board of Health Map, 1854

3.4.6 ***Board Of Health Map, 1854 (Plate 5):*** by 1854 the southern side of Annetwell street is largely the same as in 1821. The areas that are not built up are shown to be gardens.

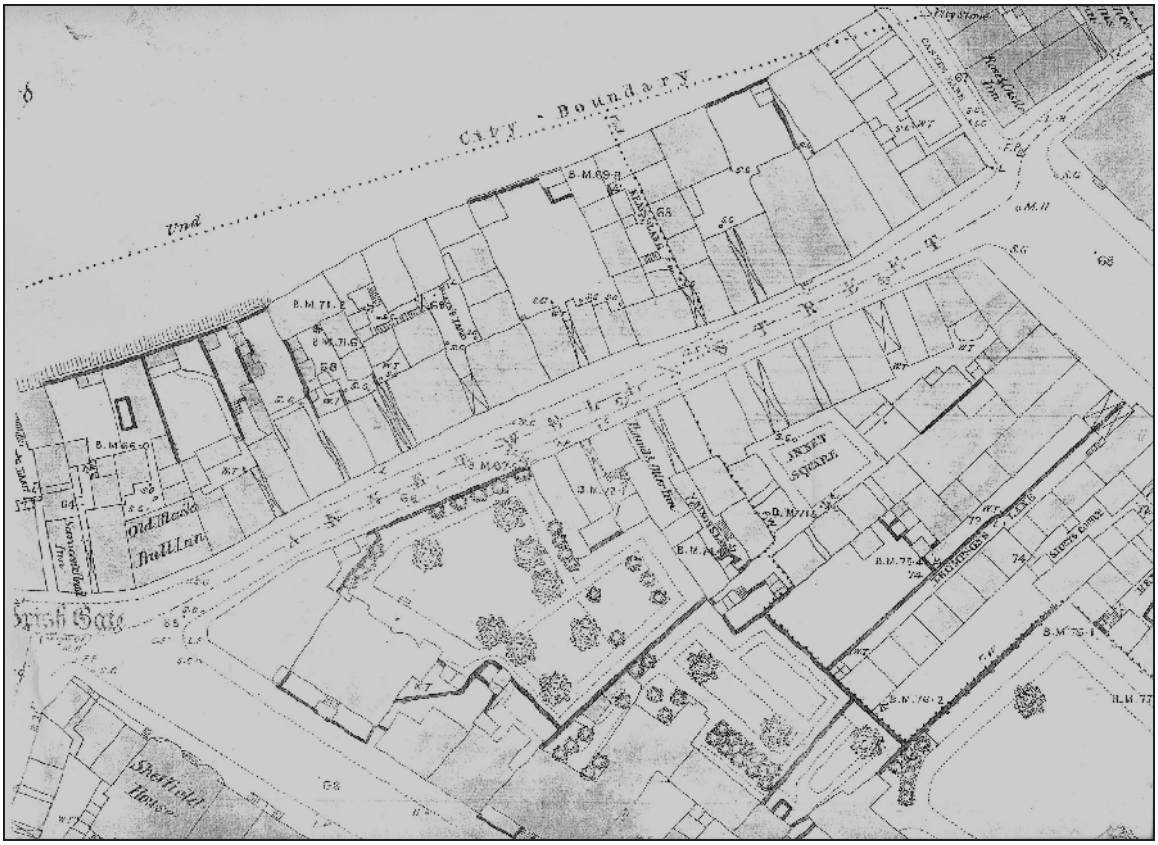

Plate 6: First Edition OS Map, 10ft to 1 mile, 1874

3.4.6 ***First Edition OS Map, 25", 1874, Plate 6:*** in 1874 Annetwell Street remains unchanged from the earlier maps.

Plate 7: Second Edition OS Map 1901

3.4.7 ***Second Edition OS Map, 25", 1901, Plate 7:*** by 1901 Annetwell Street has been entirely built on. The earlier gardens are now shown to be long narrow buildings fronting onto the street. There is much less open or unused space shown by 1901, indicating further development of Carlisle as a city.

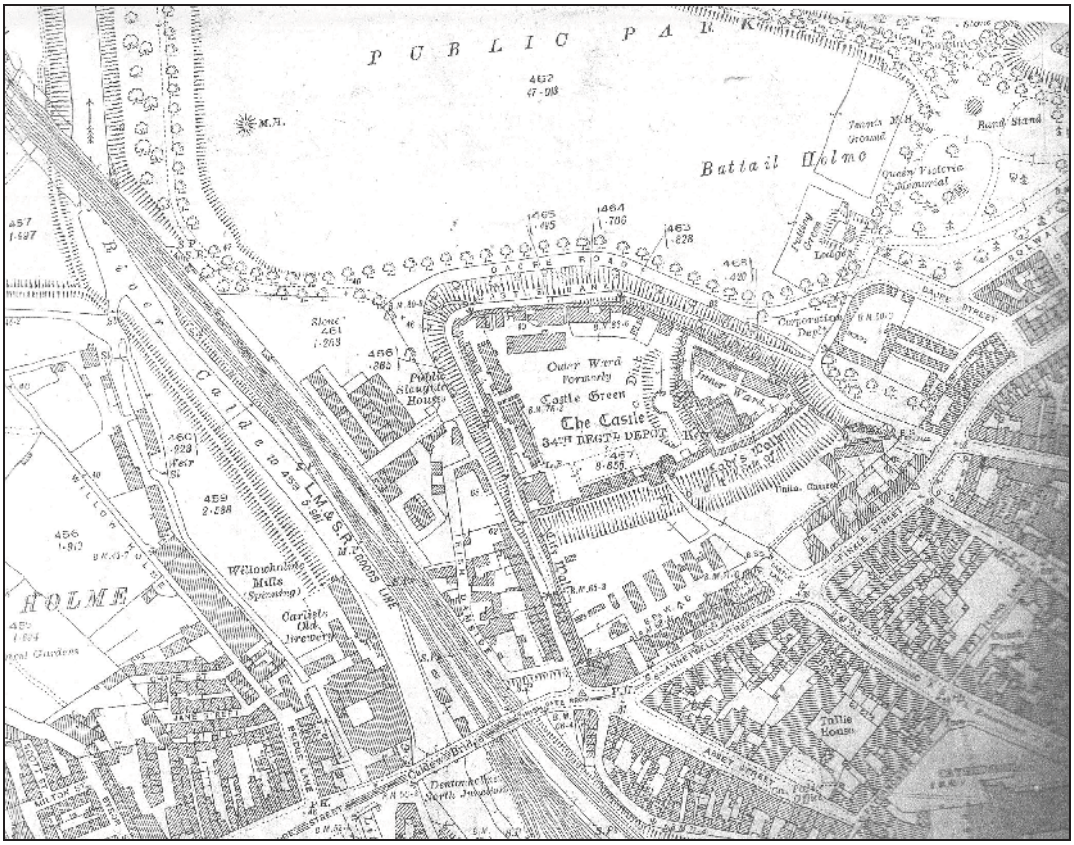

Plate 8: Third Edition OS Map 1925

3.4.8 ***Third Edition OS Map, 25", 1925, Plate 8:*** by 1925 Annetwell Street is still shown to be built up on both sides of the road.

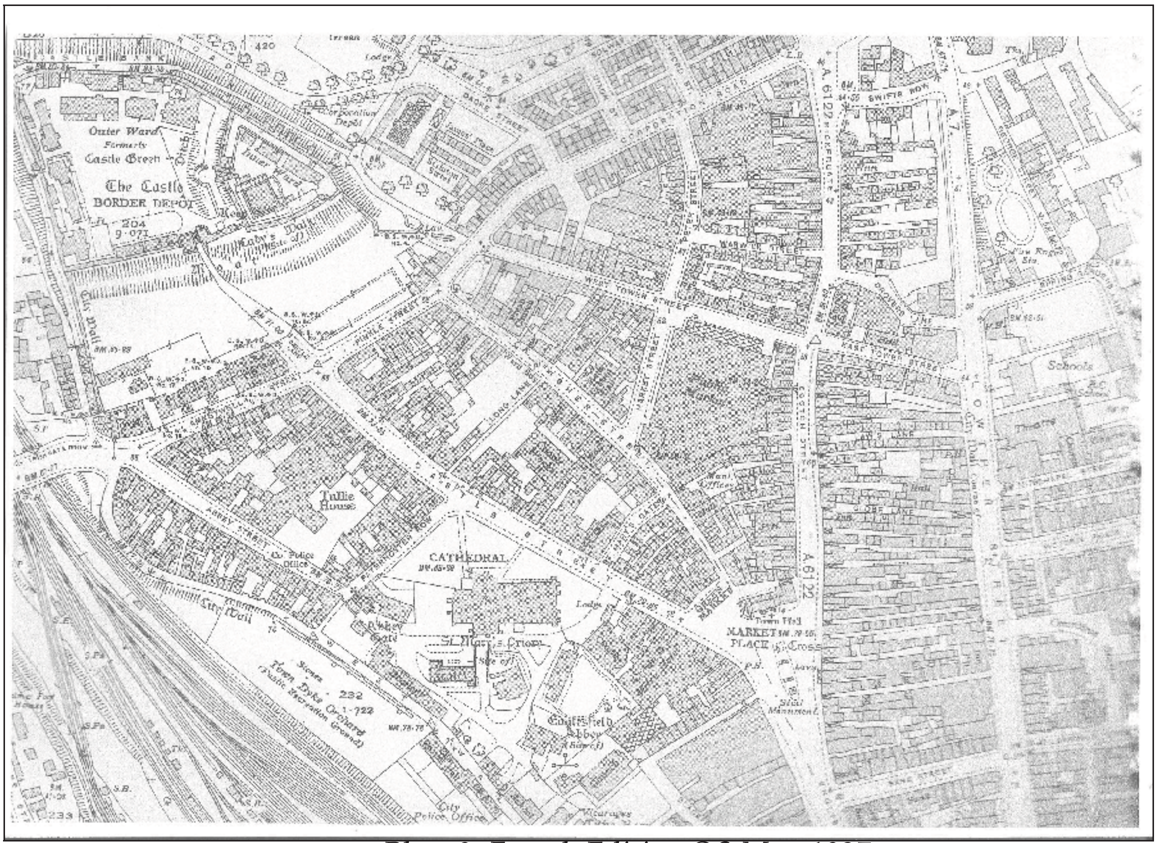

Plate 9: Fourth Edition OS Map 1937

3.4.9 ***Fourth Edition OS Map, 25", 1937, Plate 9:*** the 1937 OS map shows that Annetwell Street has not changed since the earlier Os map editions.

4 TRIAL-TRENCH EVALUATION

4.1 INTRODUCTION

4.1.1 The archaeological trial-trench evaluation was undertaken over two consecutive days between the 2nd June and the 3rd of June 2010, and was required in order to evaluate the archaeological potential within the footprint of the proposed electricity substation. The evaluation comprised a single trench located on a parcel of waste ground within a small recess between two buildings, toward the west end of Annetwell Street (Figure 2).

4.1.2 The evaluation trench was excavated by hand and investigated and recorded fully. The results of the trial-trench evaluation are outlined below.

4.2 RESULTS

4.2.1 The evaluation trench measured 1.5m x 1.5m and was excavated to a maximum depth of 1 metre (1m being the desired maximum depth for the new cables connecting up to the substation). At this maximum depth, the trench revealed a deposit of dark brown/grey silt **(105)**, which measured over 0.1m in depth and contained a fragment of a pig pelvis (Figure 3). The dark silt deposit was sealed by a *c*.0.3m deposit of compact mid-grey/brown sandy gravel and pebbles with pink clay inclusions **(104)**. Although several sherds of Roman pottery were retrieved from the compact gravel **(104)**, both this deposit and the dark silt **(105)** had been heavily disturbed by modern services. The modern services had been backfilled by a compact deposit of dark grey/brown sandy silt and gravel **(103)**, which measured 0.23m in depth. This was further sealed by a *c*.0.2m demolition layer **(102)**, which was comprised of dark grey/brown sandy silt with frequent brick and rubble inclusions. The demolition layer **(102)** was sealed by a 0.25m deposit of mid-brown silty clay topsoil **(100)** (Figure 8).

Plate 10: Southwest facing section of evaluation trench

Plate 11: Northwest facing section of evaluation trench

5 ARCHAEOLOGICAL WATCHING BRIEF

5.1 INTRODUCTION

5.1.1 The discussion presented below comprises the results of the archaeological watching brief undertaken at Annetwell Street, Carlisle. The watching brief was undertaken over ten days between the 7th June and the 18th June 2010 and comprised two separate phases.

5.1.2 The first phase of the watching brief monitored the excavation by hand, of the area for the new sub-station within the immediate vicinity of the evaluation trench. The second phase of the watching brief was concerned with the excavation of a cable trench which connected the new electricity sub-station at the west end of Annetwell Street to an existing link-box at the west end of Finkle Street (approx. 112m, Figure 2).

5.1.3 The cable trench was excavated with a Volvo EC15B using a 0.3m wide ditching bucket. All archaeological features and deposits were further investigated by hand.

5.2 RESULTS

5.2.1 ***Phase 1:*** The first phase of the watching brief monitored the excavation of a patch of waste-ground within a small recess toward the west end of Annetwell Street (Figure 2). All excavation within this area was undertaken by hand. The work involved the extension of the 1.5m^2 evaluation trench excavated prior to the watching brief. The trench for the new sub-station was extended to a maximum length of 2.6m and a maximum width of 2.3m, and was excavated to a maximum depth of 0.7m exposing a deposit of compact gravels **(104)** which measured over 0.2m in depth. The compact gravels **(104)** were sealed by a 0.23m deposit of modern backfill **(103)**. This was further sealed by a *c*.0.2m rubble layer **(102)** and *c*.0.25m of topsoil **(100)** respectively (Plate 12). As the sub-station trench was only excavated to a maximum depth of 0.7m, no evidence of the organic silt **(105)** (noted during the evaluation at a depth of 1m) was observed during the watching brief.

5.2.2 ***Phase 2:*** The second phase of the watching brief comprised the observation and investigation of all ground-works associated with the new cable trench. The trench measured approximately 112m in length, connecting the new sub-station at the western end of Annetwell Street to an existing link-box at the west end of Finkle Street (Figure 2). The cable trench was initially extended from the sub-station trench in a northeast direction through the

pavement at a width of 0.8m and a depth of 0.8m, revealing a deposit of mid-brown silty gravel backfill **(108)** (Figure 3), which measured over 0.5m in depth, below a 0.22m bed of fine gravel **(107)** and the sandstone slab pavement **(106)**. However, this route for the trench had to be abandoned after approximately 5m due to the frequency of existing services (Plate 13).

Plate 12: View east of trench for new sub-station

5.2.3 Following the abandonment of the initial route of the cable trench, the new route was extended in a northeast direction through the existing road, *c*.4.5m north of the sub-station trench (Figure 2). The new trench measured *c*.0.65m in width and 1m in depth, revealing a roughly laid cobbled surface **(111)** within the southern half of the trench, which was comprised of small-moderately sized river worn cobbles and measured over 0.35m in width (Figure 3, Plate 14). Unfortunately, the cobbled surface had been heavily truncated by a modern sewerage system, which largely dominated the southwestern most 55m of the cable trench (Figures 3-5). However, the cobbled surface was observed in several areas for a further 23m (Figure 3).

Plate 13: View northeast of abandoned section of trench

5.2.4 The gravel backfill **(113)** for the sewer measured over 0.7m in depth and was directly below *c*.0.25m of sub-base **(109)** and 0.1m of tarmac road surface **(110)**. However, the cobbled surface **(111)** had been sealed by a deposit of black/dark brown organic silty clay **(114)** which measured *c*.0.3m in depth. Finds retrieved from the organic silty clay **(114)** indicate a 13th/14th century date for the deposit. Furthermore, the stratigraphical sequence of this deposit, directly above the cobbled surface **(111)**, strongly suggests that the surface can be no later than this date. The organic silty clay **(114)** was sealed by a *c*.0.2m deposit of mid-brown compact sandy gravels **(104)**, which was below a *c*.0.2m deposit of silty gravel backfill **(108)**. This was further below *c*.0.25m of sub-base **(109)** and 0.1m of tarmac road surface **(110)** (Figure 9, Plate 15). This sequence of deposits remained consistent throughout the southwestern most 23m of the trench.

5.2.5 At approximately 23m northeast along the cable trench, the cobbled surface **(111)** was no longer visible, although several dispersed cobbles suggest that the surface may have been severely disturbed by modern services within this area. However, the cobbled surface **(111)** was not observed again after this point. The trench was also excavated to a depth of 1.4m at this point, exposing a deposit of dark brown/orange silty clay **(118)** which measured

over 0.35m in depth (Figures 3 & 4, Plate 16). Most of the datable finds retrieved from this deposit were from the Roman period, probably all of 2nd century date. However, the deposit also included several sherds of pottery dating from the late 12th/early 13th century highlighting the severe disturbance that has occurred in the area in recent years (Plate 16).

Plate 14: View northeast of cobbled surface (111)

5.2.6 At approximately 28m northeast along the trench, the depth of the excavation was once again reduced to 1m, revealing the dark brown/orange silty clay **(118)** which measured over 0.1m in depth (Figure 4). This was sealed by a *c*.0.4m deposit of mid-brown silty clay with orange clay and black silt inclusions **(115)**, which was further sealed by a 0.16m deposit of firm black clay **(116)**. The black clay **(116)** was below *c*.0.35m of sub-base **(109)** and tarmac surface **(110)** (Plate 17). This sequence of deposits continued northeast for a further *c*.13m.

Plate 15: Northwest facing section of cable trench showing deposit (114)

5.2.6 At approximately 41m northeast along the cable trench, all previously noted deposits were replaced by the gravel backfill **(113)** of a sewage pipe, which measured over 0.75m in depth. However, a small section of trench, which measured *c*.5m in length, branched south from the main northeast to southwest-aligned trench (Figures 2 & 4). This small section of trench was excavated to a maximum depth of 1.3m, revealing a heavily disturbed area comprised of redeposited silty clay **(120)**, which measured over 0.4m in depth and was sealed by a *c*.0.35m deposit of mid-brown silty gravel backfill **(108)**. This was further below *c*.0.55m of sub-base **(109)** and pavement **(106)** (Plate 18). The main cable trench continued to be excavated in a northeast direction, exposing the gravel backfill **(113)** for a further *c*.15m, until existing cable ducts were located (Figure 5).

Plate 16: Northwest facing section of cable trench showing black deposit (118) below modern disturbance.

Plate 17: Northwest facing section of cable trench

Plate 18: Northeast facing section of cable trench showing modern disturbance

5.2.7 Once the western end of the existing cable ducts were located, the excavation of the trench ceased and was started again approximately 18m further northeast, in order to locate the eastern end of the existing cable ducts (Figure 2). The trench at this point was extended east to northeast at an average width of 0.8m and to a maximum depth of 1m, exposing *c*.0.7m of silty gravel backfill **(108)** below *c*.0.3m of gravel bedding **(107)** and pavement **(106)** (Plate 19). The cable trench continued to expose the modern gravel backfill **(108)** and service backfill **(113)** for a further *c*.23m, until the trench crossed the northern end of Castle Street (Figures 6 & 7). At this point, the trench was excavated to a maximum depth of 1.1m, exposing a deposit of black silty clay **(119)**, which contained brick fragments and residual Roman pottery and measured over 0.6m in depth. The black silty clay was sealed by *c*.0.4m of sub-base **(109)** and tarmac surface **(110)**/pavement **(106)** (Plate 20). This sequence of deposits remained consistent throughout the remaining *c*.14.5m of the cable trench at which point the existing link box, located at the west end of Finkle Street, was reached (Figure 7).

Plate 19: Cable trench looking east towards Castle Street

Plate 20: Cable trench looking northeast showing deposit (119)

6 FINDS

6.1 FINDS ASSESSMENT

6.1.1 A total of 80 finds from 9 different contexts were recovered during the archaeological evaluation and watching brief. The finds were cleaned and packaged according to standard guidelines, and recorded under the supervision of F.Giecco (NPA Ltd Technical Director). The metalwork was placed in a stable environment and was monitored for corrosion.

6.2 ROMAN CERAMIC VESSELS

6.2.1 In total 8 fragments of Roman ceramic vessels were recovered; of these three sherds derived from coarse greywares from contexts **(111)** and **(118)**, a single sherd was of a colour coated ware from an unstratified context, and four sherds of samian ware from contexts **(118)** and **(119)**. All of the sherds of samian were of Central Gaulish type, which included a rim sherd derived from vessel form Drag 30 or Drag 37, and a rim sherd, base fragment and a decorated body sherd from unidentified vessels. This type of samian ware was produced from the late 1st century AD, but was particularly prevalent in Britain during the 2nd century AD. A piece of fragmentary Roman roof tile and floor tile were also recovered from contexts **(103)** and **(118)** respectively, both of which had no identifiable dating aids.

6.2.2 Of all the finds retrieved which can be dated to the Roman period, it is probable that most, if not all were retrieved from non-Roman residual contexts.

6.3 MEDIEVAL CERAMIC VESSELS

6.3.1 A total of 16 sherds of medieval pottery were recovered during the archaeological evaluation and watching brief. Twelve of these sherds derived from red gritty wares which were primarily used as cooking vessels during the late 12th and early 13th centuries. However, these sherds were retrieved from contexts **(104)** and **(119)** which were both heavily disturbed by modern services.

6.3.2 A total of four sherds of reduced greenware were also recovered during the watching brief. This type of pottery was common in Northern Britain during the 13th/14th centuries. Significantly, the reduced greenware was the only datable artefact recovered from context **(114)**, which was believed to be a

secure deposit. Furthermore, context **(114)** sealed the remains of a cobbled surface **(111)**, strongly suggesting that the surface is at least *c*.700 years old

6.4 POST-MEDIEVAL CERAMIC VESSELS

6.4.1 The remainder of the pottery assemblage dated to the 19th century and included tin-glazed red earthenware, porcelain with a blue transfer print and several stoneware vessels from the Carlisle Old Brewery. All of the post-medieval pottery was recovered from disturbed contexts.

6.5 METAL OBJECTS

6.5.1 A total of 20 metal objects were recovered during the archaeological evaluation and watching brief. This assemblage included 15 Fe objects form contexts **(114)**, **(118)**, **(119)**, and from an unstratified context. The Fe assemblage was largely unidentifiable, although three nails were included. A single Cu alloy object was recovered from an unstratified context, and two pieces of Pb were recovered from contexts **(103)** and **(114)**, all of which were unidentifiable. Two fragments of unidentifiable metal were also recovered from context **(114)** during the watching brief.

6.5.2 All metal finds were recovered using a metal detector.

6.6 GLASS

6.6.1 A total of five shards of glass were recovered, which included three fragments of possible modern tumblers from context **(112)** and two fragments of bottle glass from context **(102)**. The bottle glass included a neck fragment and a base fragment which retained the lettering 'Nattall & Co. St. Helens… 1820).

6.7 OTHER

6.7.1 Other finds retrieved during the archaeological evaluation and watching brief included 10 post-medieval clay pipe fragments from context **(112)** and a fragment of whetstone from an unstratified context.

Context	Material	Quantity	Weight (kg)	Period
U/S	Pottery	2	0.055	C.19th
U/S	Pottery	1	0.01	Roman
U/S	Clay Pipe	1	0.006	Post-Med
U/S	CBM	2	0.09	Post-Med
U/S	Fe	3	0.192	Unknown
U/S	Cu Alloy	1	/	Unknown
U/S	Whetstone	1	0.158	Unknown
U/S	Shell	1	0.001	Unknown
102	Bottle Glass	2	0.113	C.19th
102	Pottery	11	0.537	C.19th
103	Ceramic Roof Tile	1	0.107	Roman
103	Pb	1	0.018	Unknown
104	Pottery	9	0.021	C.12th/13th
111	Pottery	2	0.02	Roman
112	Clay Pipe	9	0.023	Post-Med
112	Glass	3	0.041	Post-Med
114	Fe	6	0.357	Unknown
114	Unidentified Metal	2	0.028	Unknown
114	Pb	1	0.062	Unknown
114	Pottery	4	0.043	C.13th/14th
118	Fe	5	0.137	Unknown
118	Ceramic Floor Tile	1	0.145	Roman
118	Pottery	5	0.043	Roman
119	Pottery	1	0.019	Roman
119	Pottery	3	0.07	C.12th/13th
119	Pottery	1	0.007	C.19th
119	Fe	1	0.017	Unknown

Table 1: Finds Table of Artefacts Recovered during the Evaluation and Watching Brief.

7 ENVIRONMENTAL ANALYSES

7.1 INTRODUCTION

7.1.1 During the course of an archaeological evaluation 3 soil samples were taken. Samples were taken to extract material which may be pertinent to understanding the development of these contexts. This could include evidence of human activity which may have left preserved archaeological material during the prehistoric or historic periods. In particular, due to the artefactual assemblage collected from this area, evidence of activity during the Roman to medieval period was possible in the soil samples processed.

7.1.2 The methodology employed in the processing of these samples required that the whole earth samples be broken down and split into their various different components. All samples were fully processed by being manually floated and sieved through a 'Siraf' style flotation tank. The residue from each sample was retained, described and scanned using a magnet for ferrous fragments. The flot was dried slowly and scanned at x40 magnification for charred and uncharred botanical remains. Identification of these was undertaken by comparison with modern reference material held in the Environmental Laboratory at North Pennines Archaeology. Plant taxonomic nomenclature follows Stace (1997).

7.1.3 The retent, like the residue from wet sieving, will contain any larger items of bone, heavy (e.g. waterlogged) ecofacts or artefacts. The flot or floating fraction will generally contain organic material such as plant matter, fine bones, cloth, leather and insect remains. A rapid scan at this stage was done to allow further recommendations to be made as to the potential for further study by entomologists or palaeobotanists, with a view to retrieving vital economic information from the samples. The retent samples were also scanned with a hand magnet to retrieve forms of magnetic material, as well as any artefactual material, such as pottery or metal objects which may be present.

7.1.4 Favourable preservation conditions can lead to the retrieval of organic remains that may produce a valuable suite of information, in respect of the depositional environment of the material, thus enabling assessment of anthropogenic activity, seasonality and climate and elements of the economy associated with the features from which the samples are removed. In this case the sandy, well drained, base rich nature of the soil would be suitable for the preservation of charred plant remains and bone (should

mineral replacement occur to offset the leeching of calcium from deposited bones material).

7.1.5 Sample numbers appear in brackets thus < >, whilst context numbers appear in brackets thus ( ) for all analysis and discussion below. Results will be presented by Plot number numerically. Reference to seeds in the text is made using the richness scale of 1 = present, 2 = frequent and 3 = abundant, as seen in the tabular results attached.

7.2 ASSESSMENT RESULTS

7.2.1 Sample **(105) <1>** came from a dark organic deposit. It contained low amounts of wood fragments, as well as two fragments of hazelnut shell. The bulk of the heavy residue consisted of stones, mainly coarse and sub-rounded sandstones and limestone. The flot matrix consisted of high amounts of herbaceous plant material, with low amounts of charcoal, moss "leaves" and insect fragments. Moderate numbers of seeds of *Ranunculus repens* (creeping buttercup) and *Stellaria media* (common chickweed) were recovered, with lower numbers of *Galeopsis tetrahit* (common hemp-nettle), *Cirsium arvense* (creeping thistle), *Polygonum maculosa* (redshank), *Polygonum lapathifolia* (pale-persicaria), *Rumex acetostella* (sheep sorrel) and *Thlaspi arvense* (field-pennycress).

7.2.2 Sample **(114) <2>** came from a black organic deposit. It contained moderate amounts of wood and coal fragments, as well as low amounts of bone fragments, magnetic residue, egg shell fragment and leather fragments. 31 hazelnut shell fragments were recovered. A moderate amount of the heavy residue consisted of small to medium stones, sandstones and limestone. A small (> 1cm x 1cm) fragment of medieval brown glazed pottery was recovered. The magnetic material was recovered in low amounts, but did not appear to reflect a specific metal working activity, though it was interpreted as anthropogenically derived. One of the wood fragments appeared to be worked by sawing or chopping the base, possibly to be used as a post/stake. The leather appeared to be off-cuts from leather working. The flot matrix consisted of high amounts of herbaceous plant material, with moderate amounts of wood fragments and low amounts of charcoal, moss "leaves", artificial fibers and insect fragments. A charred grain of wheat, a seed of Prunus (probably P. spinoss blackthorn or sloe) and charred bean fragments were recovered from the flot. The wild seeds recovered from the flot represent a particularly diverse range of plants, with at least 20 different plants represented in this sample. High numbers of seeds of *Chrysanthemum segetum* (corn-marigold), moderate numbers of seeds of *Ranunculus repens*

(creeping buttercup), *Stellaria media* (common chickweed), *Galeopsis tetrahit* (common hemp-nettle), *Chenopodium album* (fat-hen), *Lapsana communis* (nipple-wort), *Polygonum maculosa* (redshank), *Polygonum lapathifolia* (pale-persicaria), *Rumex acetosella* (sheep sorrel) and unidentified members of the genus *Polygonum* were recovered. Lower numbers of *Brassica* seeds (possibly mustard), a *Sambucus* species (elder, but badly abraded and cracked therefore exact identification could not be undertaken), *Aethusa cynapium* (fool's parsley) *Cirsium arvense* (creeping thistle), a *Rumex* species (docks), a *Rubus* species (bramble berry) and *Linium usitatissimum* (flax) were also recovered.

7.2.3 Sample **(118) <3>** came from a mixed silty clay deposit. It contained low amounts of wood fragments, as well as two fragments of hazelnut shell, two fragment of pottery and a fragment of glass. The bulk of the heavy residue consisted of stones, mainly sub-rounded sandstones and limestone. The pottery consisted of a fragment of medieval green glazed ware and a fragment of Roman black burnished ware. The glass was a single flat piece of clear glass (>2cm x 2cm). The flot matrix consisted of high amounts of herbaceous plant material, with low amounts of charcoal, moss "leaves" and insect fragments. High numbers of unidentified members of the genus *Polygonum* were recovered. Moderate numbers of seeds of *Ranunculus repens* (creeping buttercup), *Polygonum persicaria* and Polygonum lapathifolia (pale-persicaria) were recovered. Low numbers of *Stellaria media* (common chickweed), *Galeopsis tetrahit* (common hemp-nettle), *Lapsana communis* (nipple-wort), *Chrysanthemum segetum* (corn-marigold) and *Rumex acetostella* (sheep sorrel).

7.3 DISCUSSION

7.3.1 ***Cereals:*** Finds of cereal grains were restricted to the single grain of wheat recovered from (114) <2>.

7.3.2 The other plant remains recovered from the samples represent a general picture of an open damp area with waysides or waste areas supporting a wide plant community. The preservation conditions which allowed the preservation of the leather off-cuts would suggest that the damp, acidic sandy deposit which characterizes the archaeological deposits was also the environment which existed during the medieval period, when it is suggested that these deposits were formed. The highly diverse range of plant material suggests that this was an area of urban waste ground, which allowed a range of different plants to establish themselves. However, the total absence of nettle seeds is something of an anomaly. As well as this

Rubus seeds were present but in very low numbers. This may suggest that this was not an area of totally abandoned open ground. The rich organic nature of medieval city deposits are ideal for the growth of certain plants and thus the plants found growing in urban context may be found in contexts which on the surface are not directly comparative with their wild environments. It should be remembered also that in an urban settling plants grow along the horizontal (the 'walking' surface) as well as the vertical building surfaces, as can be seen by some of the niches which can be occupied by plants in modern cities. Also, material such as hay fodder which may be brought to cities will introduce large volumes of material from plants which would otherwise not be found in an urban city (Monckton 1996. McCarthy 2000, 72-3). The buttercup and fat-hen seeds (among others) found on these samples may be introduced in this manner. The presence of sloe berries, charred wheat and beans from sample (114) <2> offers some insight into the medieval diet, in this case all plant food which one would commonly expect from a medieval British city (Kenward and Hall 1995). Seeds of corn-marigold were particularly common in sample (114) <2>. This has been noted in samples from other excavations in Carlisle (McCarthy 2000, 71) where these seeds were particularly dominant in one medieval pit. Excavations from the Southern Lanes in Carlisle also noted high numbers of Chenopodium and Polygonum species, numbers that were also noted in samples from this area.

7.3.3 ***Magnetic Material:*** All of the heavy residues from the flotting procedure were checked with a hand magnet to search for residues and objects, which may reflect metal working activity on or near the deposits sampled here. Samples (105) <1> and (118) <3> did not produce residues in a quantity of note (both produced c. less than 20 fragments of material from the whole sample, an amount so low it is notable in itself considering how common this material can be). The magnetic material from (114) <2> consisted of fragments did appear to consist of anthropogenically derived material but this was not identified to a specific process such as primary smithing or metal-working.

7.3.4 ***Bone:*** Both mammal bone and fish bone were found during the work at this site. Fish bone was recovered from the soil samples, though this was limited to fragments of rib. Mammal bone was found in a number of contexts from the works undertaken here. The following contexts produced identifiable bone

- (**Unstratified contexts**): sheep metatarsal, sheep metacarpal, sheep mandible, sheep radius and 5 unidentified fragments.

- **(105)**: pig pelvis.
- **(114)**: sheep maxilla, sheep mandible, cattle metatarsal, cattle tibia, sheep radius, sheep tibia 5 unidentified fragments.
- **(118)**: A fragment of sheep skull (frontal and occipital), 2 cattle vertebra, two rib fragments.
- **(120)**: two fragments of cattle metapodial.

7.3.5 ***Taphonomic inferences:*** The presence of Roman and medieval pottery in sample (114) <2> suggests that a certain amount of disturbance has occurred in these deposits from the time of their original deposition until the time of their excavation. The abraded nature of the bone suggests that it was exposed to a period of sub-aerial weathering before they entered the archaeological contexts from which they were excavated. The cracked nature of the bone suggests that they were exposed to trampling after they were disposed of in the medieval period.

7.4 CONCLUSIONS AND RECOMMENDATIONS

7.4.1 These samples allow several inferences to be made regarding the deposits encountered during the works at this site. They show that datable archaeological deposits with high levels of organic preservation are present in the area of Annetwell Street. The narrow area exposed by the works at this site does not allow complex interpretations to be made as to the exact nature of the seeds from this site and thus the interpretations discussed above are merely suggestions. However, should further work be undertaken then it could be borne in mind that this area offers particularly rich sampling opportunities.

7.4.2 It is not recommended that further work be undertaken on the material from this site. However, the results of this study should be borne in mind should further ground disturbance be undertaken in the area in the future.

8 CONCLUSIONS AND RECOMMENDATIONS

8.1 CONCLUSIONS

8.1.1 The rapid desk-based assessment has shown that the development site is within an area of significant Roman, medieval and post-medieval archaeology. Excavations within the vicinity of the development site have amassed a respectable understanding of the sequence of Roman forts, which covered an area now occupied by the medieval castle, Castle Way and Annetwell Street further south. These excavations have revealed two phases of the Flavian fort, a second timber fort and two separate stone forts, as well as an associated gateway and roads. Further discoveries during these archaeological investigations include early medieval remains.

8.1.2 The desk-based assessment has also shown that Annetwell Street has continued to be redeveloped from at least 1541 up until the present day, and is likely to date well into the 13th century.

8.1.3 During the archaeological evaluation and watching brief, an area of Annetwell Street equating to approximately 86m^2 was monitored and investigated. Most of the monitored area had been heavily disturbed by modern activity. However, a narrow band of archaeology remained undisturbed at a depth of approximately 20m AOD.

8.1.4 The archaeology was comprised of a roughly laid cobbled surface, which measured over 0.35m in width and 23m in length. Significantly, the cobbled surface was sealed by an undisturbed organic deposit. Finds retrieved from this deposit included animal bone, leather and several sherds of pottery dating to the late 13th/early 14th century. This small pottery assemblage strongly indicates that the cobbled surface was deposited at sometime prior to the mid-14th century, possibly representing one of the earliest forms of what is now known as Annetwell Street.

8.1.5 Although several finds of Roman date were retrieved during the archaeological evaluation and watching brief, all of these were from secondary contexts, and no *in-situ* Roman features or deposits were observed during the programme of archaeological work. This suggests that the potential survival of archaeological remains of Roman date is likely to increase beyond a depth of 1.4m (the maximum depth excavated during the evaluation and watching brief). The probability of this survival is high based upon previous archaeological investigations within the vicinity of the monitored area.

8.1.6 Environmental evidence has found that datable deposits with high levels of organic preservation are present in the area of Annetwell Street. These deposits included leather off-cuts, worked wood and animal bones. This type of evidence was particularly prevalent within a secure deposit dated to the 13th/14th centuries. Furthermore, the types of plant remains found within this deposit were consistent with those commonly found during other excavations of medieval sites within Carlisle.

8.2 RECOMMENDATIONS

8.2.1 As this evaluation and watching brief was conducted as a condition of groundworks associated with the installation of a new sub-station and electric cables, no further archaeological work is deemed necessary. However, given the significant archaeological remains within the area, it is recommended that any work conducted in the future be subject to a similar programme of archaeological investigation.

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APPENDIX 1: CONTEXT TABLE

Context Number	Context Type	Description
100	Deposit	Topsoil
101	Geological	Natural Substrate (not encountered)
102	Deposit	Rubble Layer
103	Deposit	Backfill Deposit
104	Deposit	Compact Gravels
105	Deposit	Dark Organic Deposit
106	Deposit	Flagged Pavement
107	Deposit	Gravel Bed
108	Deposit	Silty Gravel Backfill
109	Deposit	Sub-Base
110	Deposit	Tarmac Surface
111	Deposit	Cobbled Surface
112	Deposit	Ash Deposit
113	Deposit	Backfill for Sewer Pipe
114	Deposit	Black Organic Deposit
115	Deposit	Mid-Brown Silty Clay
116	Deposit	Black Clay
*117	VOID	VOID*
118	Deposit	Dark Brown/Black/Orange Silty Clay
119	Deposit	Black Silty Clay
120	Deposit	Redeposited Silty Clay

Table 4: List of Contexts issued during Evaluation/Watching Brief

APPENDIX 2: FIGURES

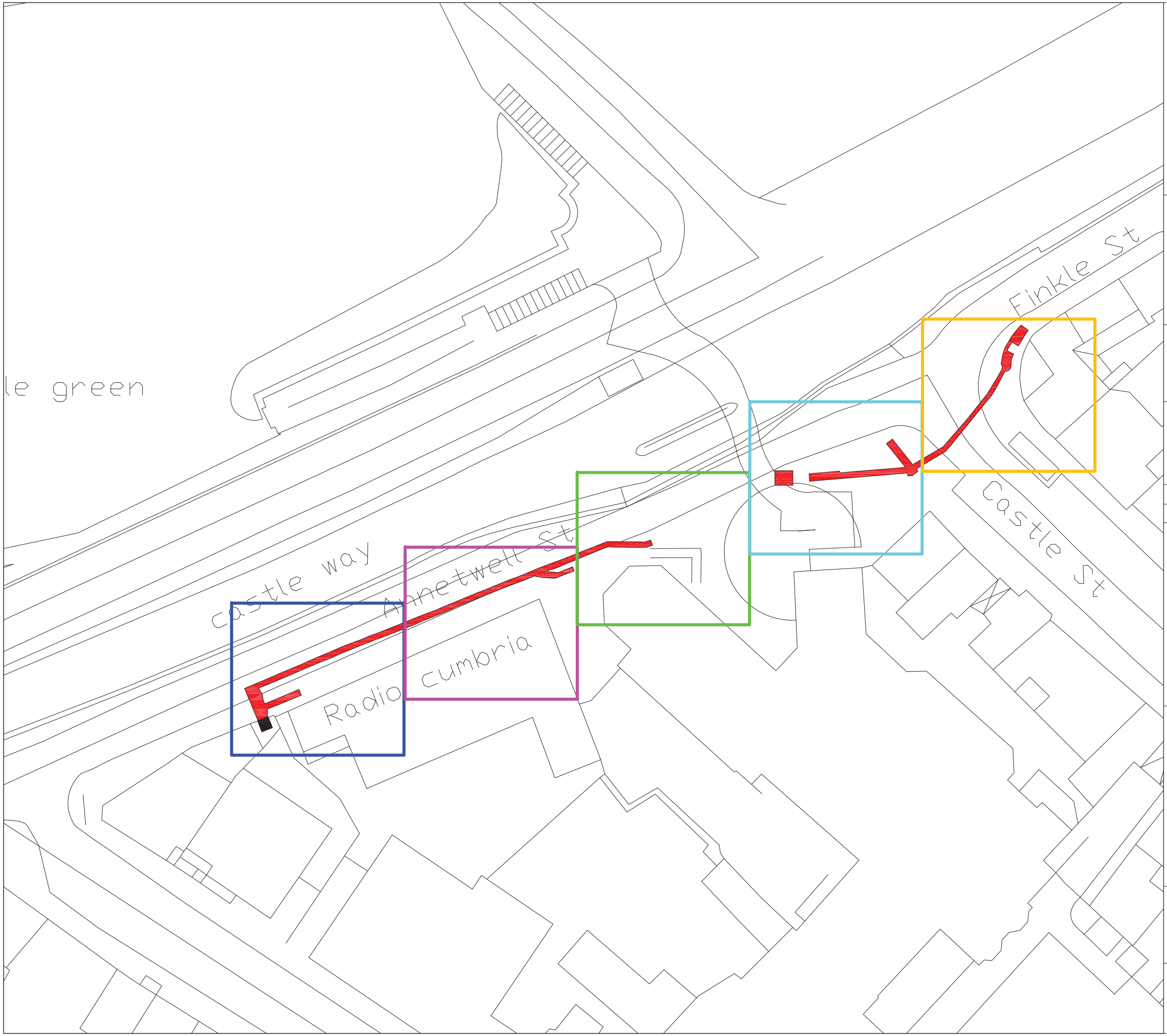
PROJECT:	Annetwell Street, Carlisle
SCALE:	1:25,000 at A4
REPORT No:	CP659
CLIENT	United Utilities
DRAWN BY:	DJ
DATE:	July 2010
FIGURE:	1

KEY:

site location

North Pennines Archaeology Ltd 2010

Figure 1: Site location



NORTH PENNINES ARCHAEOLOGY LIMITED

North Pennines Archaeology Ltd
2010
Annetwell Street, Carlisle

CLIENT: United Utilities

SCALE: 1:500 at A3

DRAWN BY: DJ

DATE: July 2010

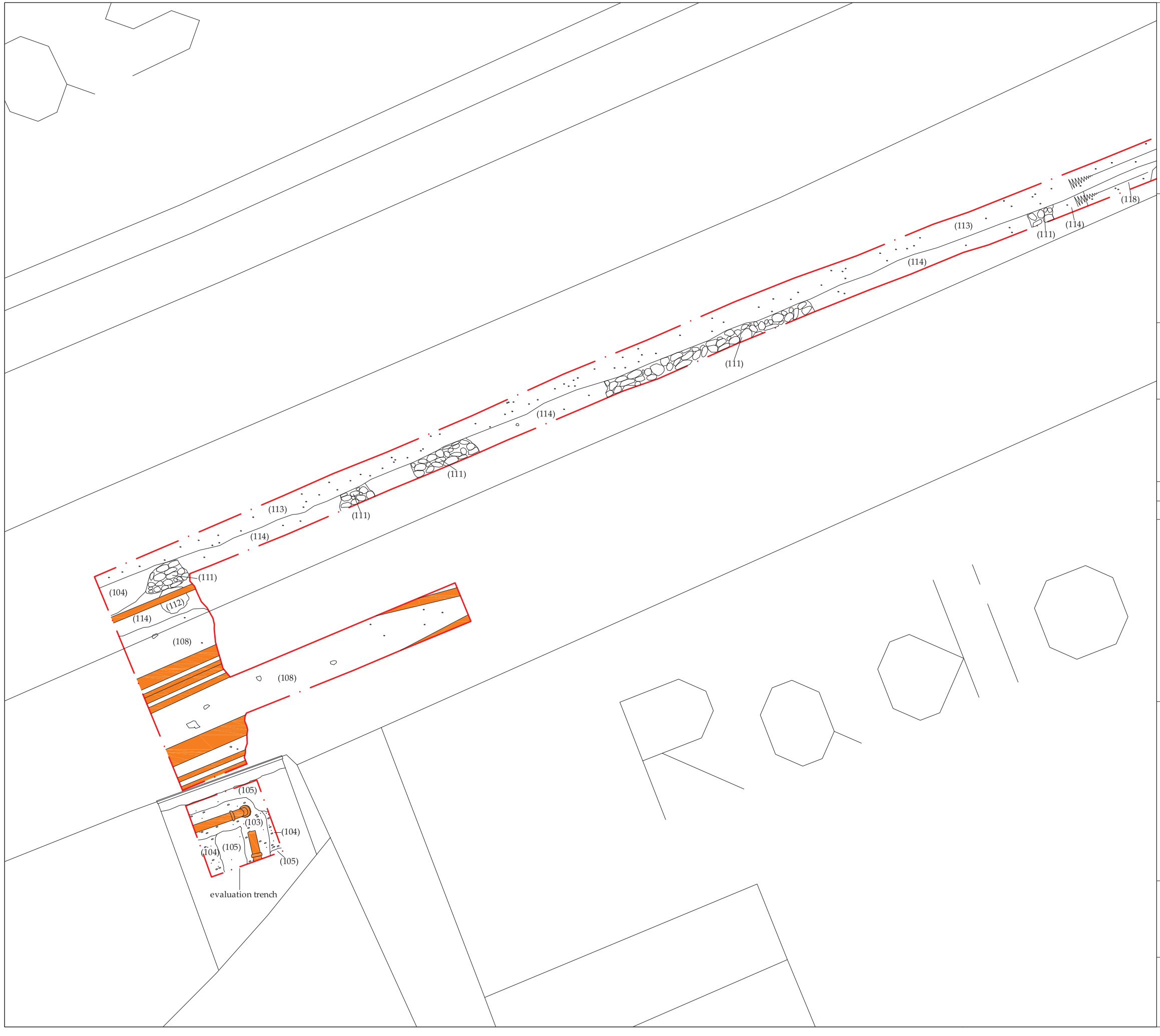
KEY:

- area of watching brief
- area of evaluation
- Plot 1 (see Fig. 3)
- Plot 2 (see Fig. 4)
- Plot 3 (see Fig. 5)
- Plot 4 (see Fig. 6)
- Plot 5 (see Fig. 7)

REPORT No: CP659

FIGURE: 2

Figure 2: Location of evaluation and watching brief



NORTH PENNINES ARCHAEOLOGY LIMITED

North Pennines Archaeology Ltd
2010
Annetwell Street, Carlisle

CLIENT: United Utilities

SCALE: 1:75 at A3

DRAWN BY: DJ

DATE: July 2010

KEY:

edge of excavation

service pipe

(114) context number

REPORT No: CP659

FIGURE: 3

Figure 3: Plot 1 trench plan

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North Pennines Archaeology Ltd
2010
Annetwell Street, Carlisle

CLIENT: United Utilities

SCALE: 1:75 at A3

DRAWN BY: DJ

DATE: July 2010

KEY:

edge of excavation

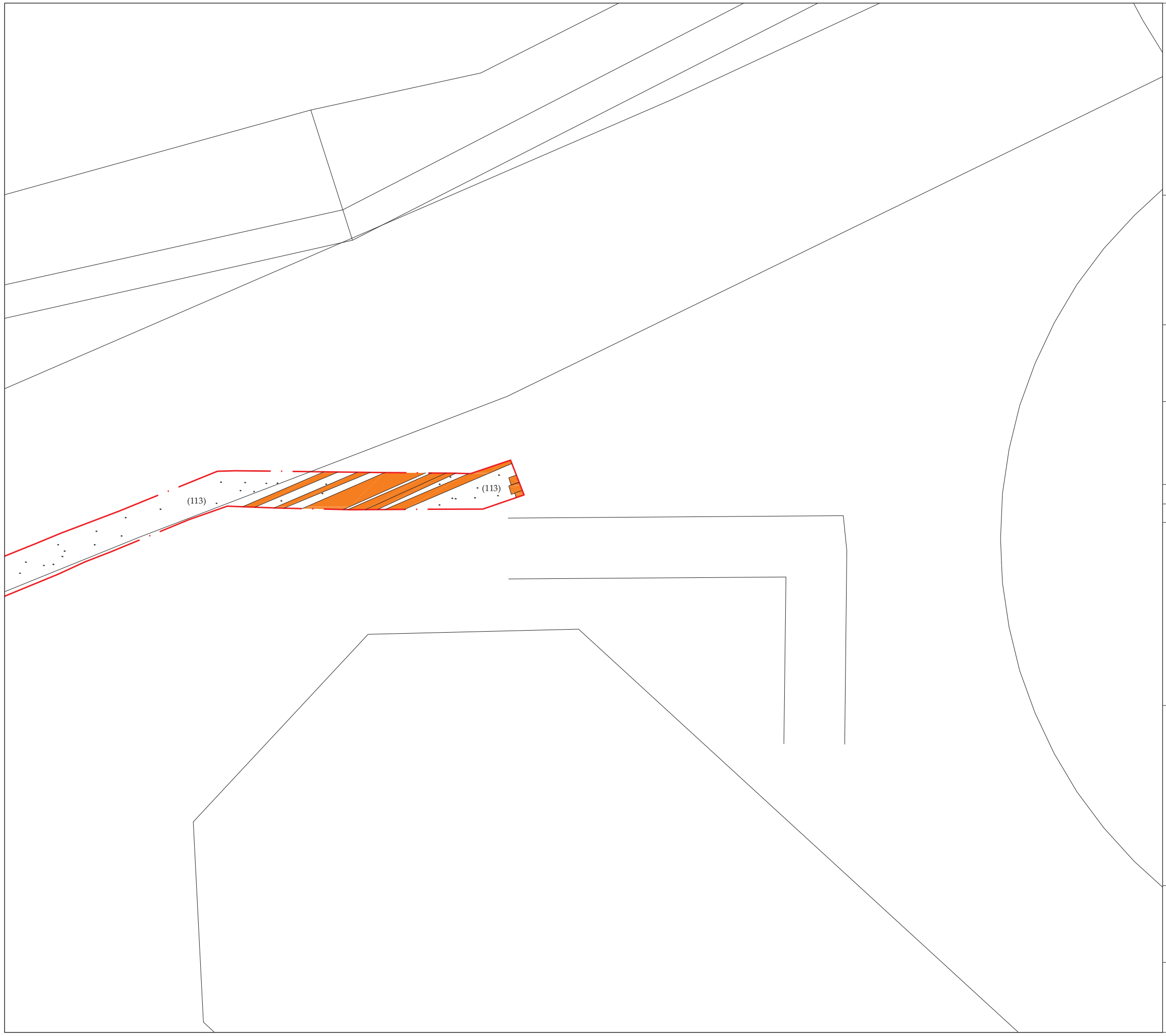
service pipe

(118) context number

REPORT No: CP659

FIGURE: 4

Figure 4: Plot 2 trench plan



NORTH PENNINES ARCHAEOLOGY LIMITED

North Pennines Archaeology Ltd
2010
Annetwell Street, Carlisle

CLIENT: United Utilities

SCALE: 1:75 at A3

DRAWN BY: DJ

DATE: July 2010

KEY:

edge of excavation

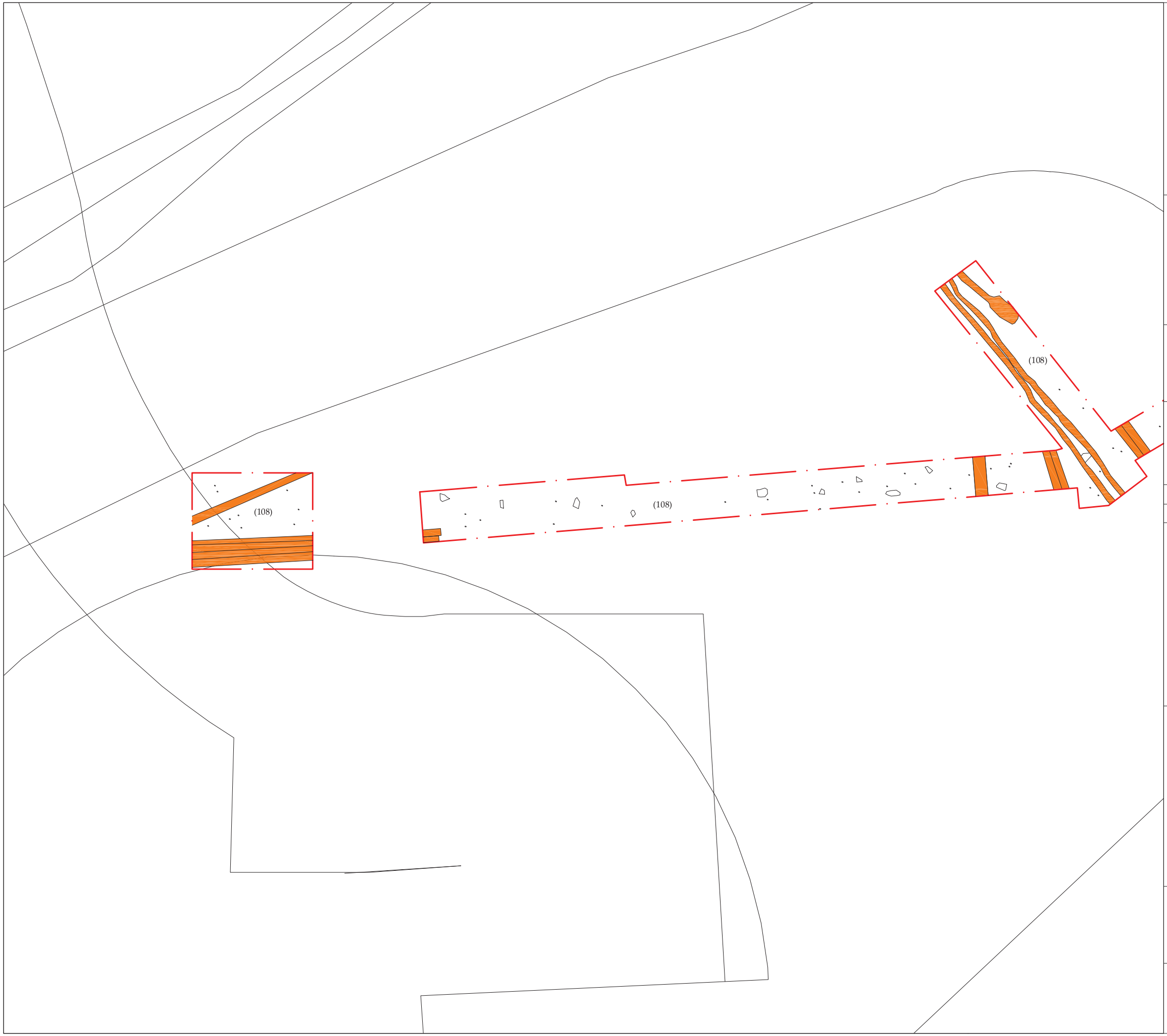
service pipe

(113) context number

REPORT No: CP659

FIGURE: 5

Figure 5: Plot 3 trench plan



NORTH PENNINES ARCHAEOLOGY LIMITED

North Pennines Archaeology Ltd
2010
Annetwell Street, Carlisle

CLIENT: United Utilities

SCALE: 1:75 at A3

DRAWN BY: DJ

DATE: July 2010

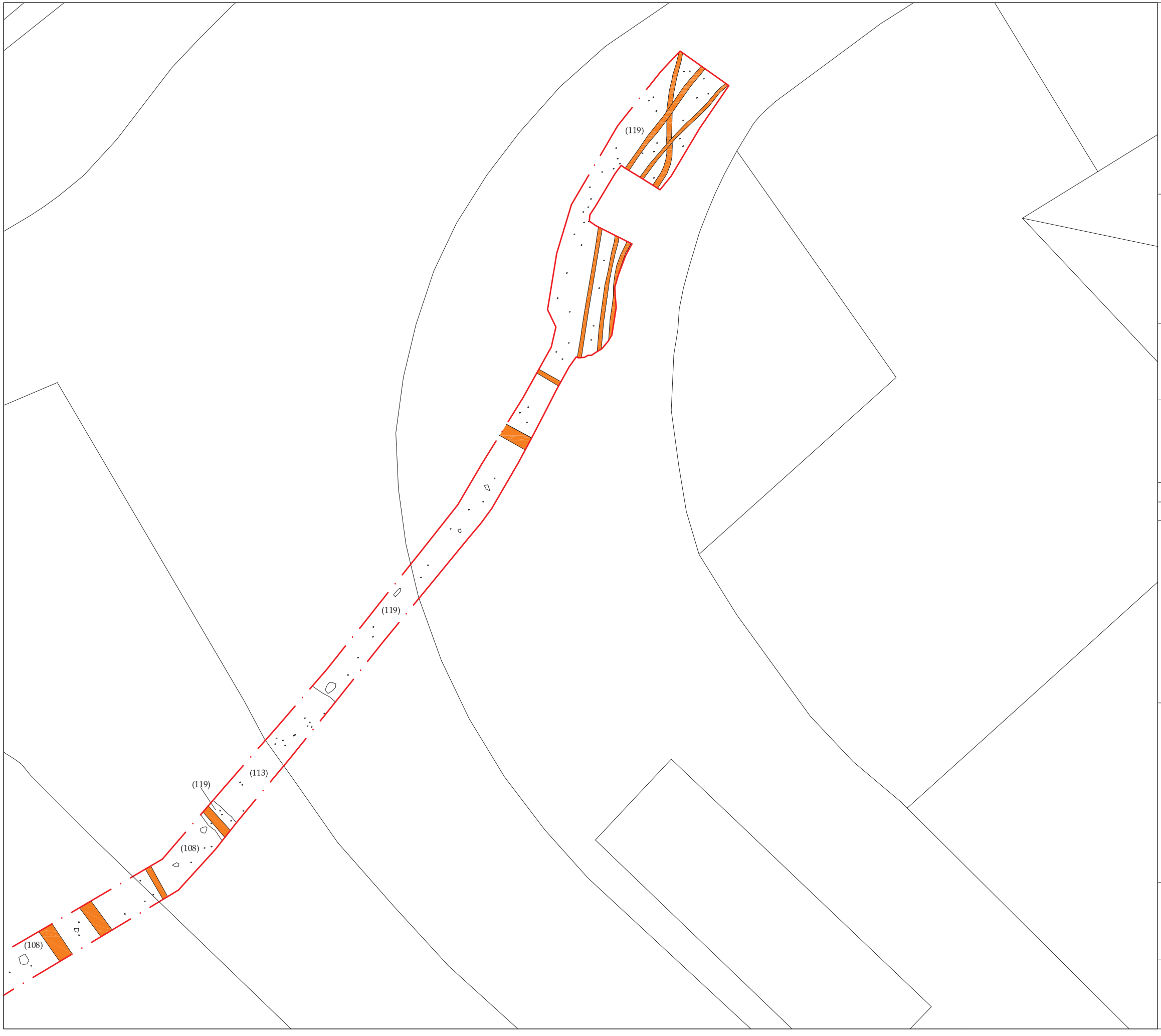
KEY:

- edge of excavation
- service pipe
- (108) context number

REPORT No: CP659

FIGURE: 6

Figure 6: Plot 4 trench plan



NORTH PENNINES ARCHAEOLOGY LIMITED

North Pennines Archaeology Ltd
2010
Annetwell Street, Carlisle

CLIENT: United Utilities

SCALE: 1:75 at A3

DRAWN BY: DJ

DATE: July 2010

KEY:

edge of excavation

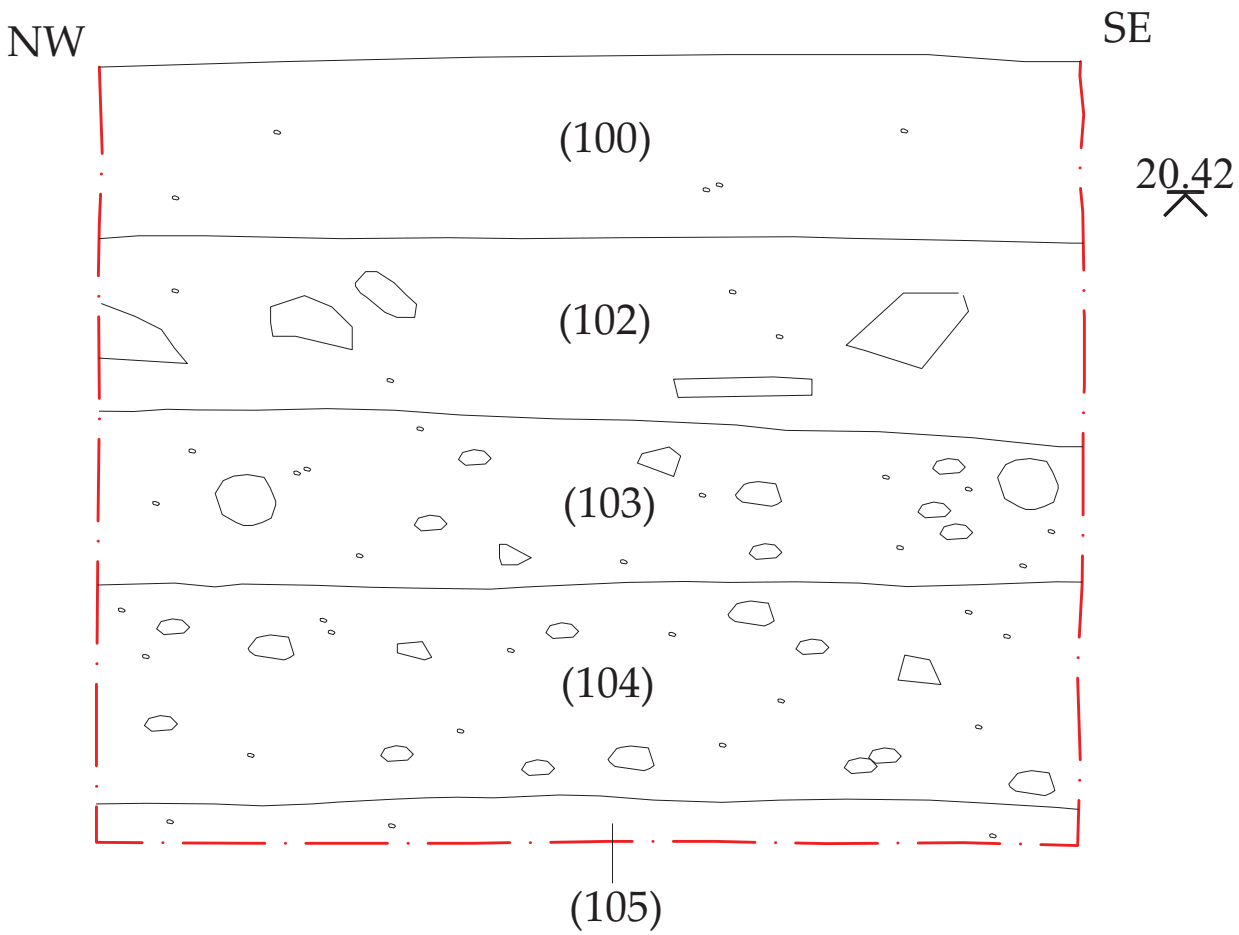
service pipe

(119) context number

REPORT No: CP659

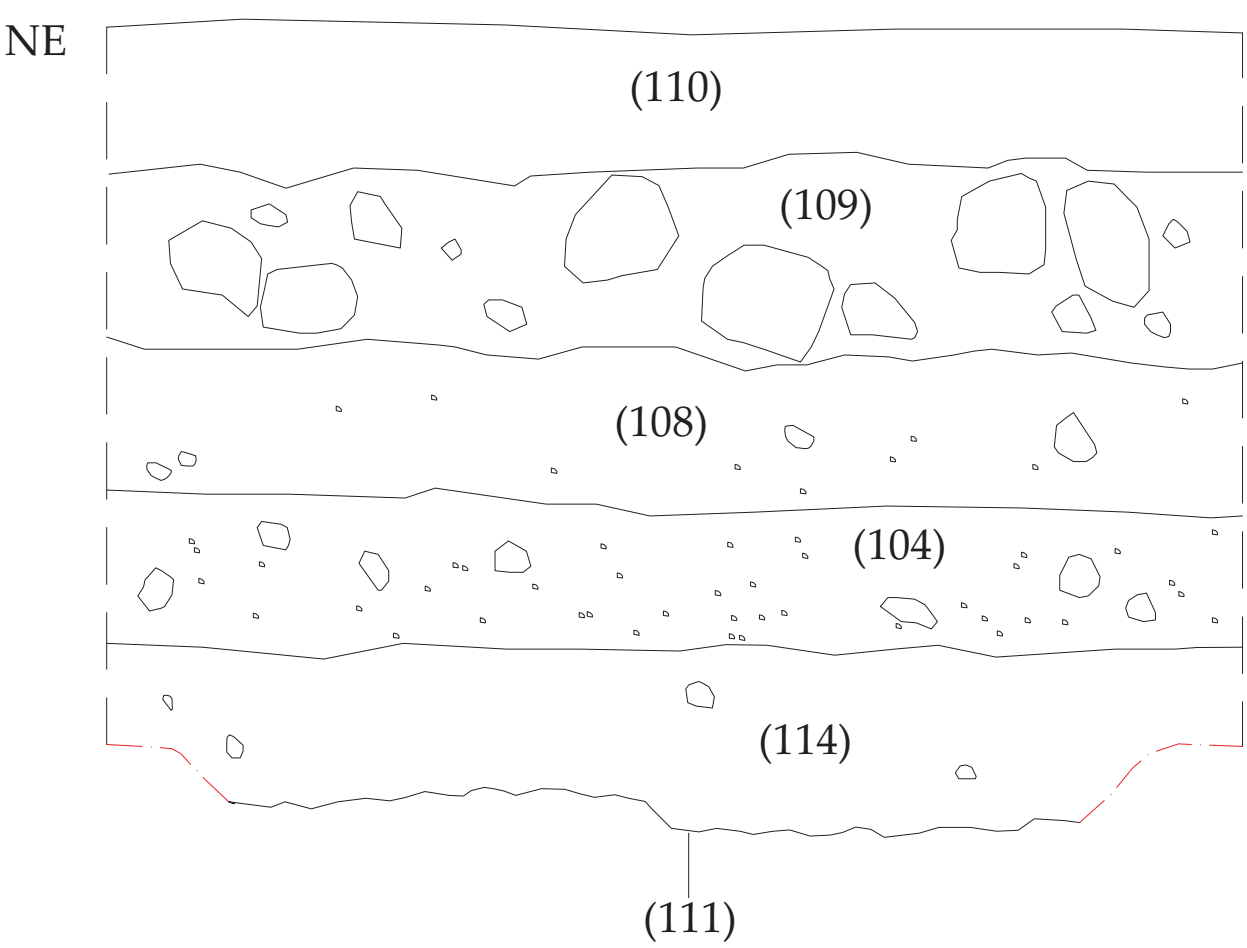
FIGURE: 7

Figure 7: Plot 5 trench plan



North Pennines Archaeology Ltd 2010	PROJECT: Annetwell Street, Carlisle, Cumbria SCALE: 1:10 at A4 REPORT No: CP659 CLIENT United Utilities DRAWN BY: DJ DATE: July 2010 FIGURE: 8	KEY: edge of excavation (105) context number

Figure 8: Southwest facing section of evaluation trench



North Pennines Archaeology Ltd 2010	PROJECT: Annetwell Street, Carlisle SCALE: 1:10 at A4 REPORT No: CP659 CLIENT United Utilities DRAWN BY: DJ DATE: July 2010 FIGURE: 9	KEY: edge of excavation limit of recorded section (114) context number

Figure 9: Northwest facing section of cable trench