

CARLISLE CATHEDRAL, CARLISLE, CUMBRIA



WATCHING BRIEF REPORT

CP. No: 1505/11

07/10/2011



NENTHEAD MINES HERITAGE CENTRE,
NENTHEAD,
ALSTON,
CUMBRIA,
CA9 3PD

TEL/FAX: (01434) 382045/043
WWW.NPARCHAEOLOGY.CO.UK

NP ARCHAEOLOGY LTD.

DOCUMENT TITLE: Carlisle Cathedral, Carlisle, Cumbria
DOCUMENT TYPE: Watching Brief Report
CLIENT: RSK/Northern Gas Networks
CP NUMBER: 1505/11
SITE CODE: CAT/A
PLANNING APP. NO: -
OASIS REFERENCE: Nparchae1-111545
PRINT DATE: 07/10/2011
GRID REFERENCE: NY 3900 5596

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 NP Archaeology Ltd. on the preparation of reports.

REVISION SCHEDULE			
	01	02	03
PREPARED BY:	David Jackson		
POSITION:	Project Supervisor		
DATE:	07/10/11		
EDITED BY:	Matt Town		
POSITION:	Project Manager		
DATE:	07/10/11		
APPROVED BY:	Frank Giecco		
POSITION:	Technical Director		
DATE:	07/10/11		

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SUMMARY

NP Archaeology Ltd were invited by RSK Environment Ltd, on behalf of their clients, Northern Gas Networks, to undertake an archaeological watching brief during investigative gas works at Carlisle Cathedral, Carlisle, Cumbria (centred on Ordnance Survey grid reference NY 3985 5590).

The Cathedral is the seat of the Anglican Bishop of Carlisle. It was founded as the church to St Mary's Priory by Henry I in 1122, a house of Augustinian Canons, and became a cathedral in 1133. The building was refurbished in the 13th and 14th centuries, receiving impetus from the presence of the court of Edward I in 1307. In the 15th and early 16th centuries, the monastic buildings were renewed. Carlisle Cathedral is also believed to lie within the the Roman civil settlement associated to the Roman Fort of Luguwallium, and an Anglo-Saxon monastery, founded by St Cuthbert in AD 685.

The precinct of Carlisle Cathedral is a Scheduled Ancient Monument (CU 546). A watching brief was agreed to be an appropriate level of mitigation for any disturbance to archaeological deposits caused by the gas works, in accordance with the Scheduled Monument Consent (SMC) received for the proposed works. However, during these initial works, several gas leaks were identified within the cathedral grounds. As a result, a new gas connection was installed to a listed building and several test-pits were excavated within the western end of the cathedral precinct, which were not covered by the existing SMC. Following this work, an amended SMC was granted which covered further work, including the installation of a new gas connection to Abbey Gate House, further investigation test-pits and the reinstatement of all disturbed surfaces.

The archaeological watching brief was undertaken intermittently over 13 days between the 25th July and 1st September 2011. The watching brief monitored the groundworks associated with locating an existing gas supply pipe within the western part of the cathedral precinct, which included excavation for repairing the supply pipe within the scheduled area and the reinstatement of disturbed surfaces.

Only limited archaeological remains were noted during the watching brief. These included the remains of a sandstone slab surface and probable garden wall immediately northeast of the Prior's Tower, a 19th century brick-lined culvert and access chamber immediately east of No. 10 The Abbey and a buried cobbled surface to the rear of Abbey Gate House. It is also possible that a single undisturbed deposit was revealed which, based upon a single sherd of pottery, probably dates to the 13th/14th century. However, not enough of the deposit was revealed to confirm this. The finds assemblage retrieved during the watching brief included medieval pottery, a Roman amphora handle, a Romano-British bronze mount depicting a human face and a mid-4th century coin. However, most of these were retrieved from disturbed contexts.

As this archaeological watching brief was conducted as part of a recommendation to observe groundworks in association with gas works at the west end of the precinct, no further work is deemed necessary. However, given the high archaeological potential of the area, it is recommended that any future work be subject to a programme of archaeological investigation.

ACKNOWLEDGEMENTS

NP Archaeology Ltd would like to thank RSK Environment Ltd and Northern Gas Networks for commissioning the project, and for all assistance throughout the work. NPA Ltd would also like to thank the staff of Northern Gas Networks for all assistance throughout the project.

NP Archaeology Ltd would also like to extend their thanks to David Weston and all staff at the Carlisle Cathedral, for their help during this project. Grateful appreciation is also due to Alan James for providing the metal detector survey.

The archaeological watching brief was undertaken by Damion Churchill, David Jackson and Jocelyn Strickland. The report was written by David Jackson, who also produced the drawings. The project was managed by Matt Town, Project Manager for NPA Ltd, who also edited the report.

1 INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

- 1.1.1 In July 2011, NP Archaeology Ltd were invited by RSK Environment Ltd, on behalf of their clients, Northern Gas Networks, to undertake an archaeological watching brief during investigative gas works at Carlisle Cathedral, Carlisle, Cumbria (centred on Ordnance Survey grid reference NY 3985 5590). The proposed works lie within the immediate vicinity of the Cathedral, which is part of an Ancient Scheduled Monument (CU 546). A watching brief was agreed to be an appropriate level of mitigation for any disturbance to archaeological deposits caused by the gas works, in accordance with the Scheduled Monument Consent (SMC) received for the proposed works. However, during these initial works, several gas leaks were identified within the cathedral grounds. As a result, a new gas connection was installed to a listed building and several test-pits were excavated within the western end of the cathedral precinct, which were not covered by the existing SMC. Following this work, an amended SMC was granted which covered further work, including the installation of a new gas connection to Abbey Gate House, further investigation test-pits and the reinstatement of all disturbed surfaces. This is in line with government advice as set out in the DCMS' Planning Policy Statement on the conservation of the historic environment (PPS 5).
- 1.1.2 All groundworks associated with gas works had to be excavated under full archaeological supervision and all stages of the archaeological work were undertaken following approved statutory guidelines (IfA 2008), and were consistent with the project design provided by NP Archaeology (Town 2011) and generally accepted best practice.
- 1.1.3 This report outlines the monitoring works undertaken on-site, the subsequent programme of post-fieldwork 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 NP Archaeology Ltd in response to a request by RSK Environment Ltd, for an archaeological watching brief of the study area (Town 2011). Following acceptance of the project design by Andrew Davison, Inspector of Ancient Monuments Team Leader (North), English Heritage, NP 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 THE WATCHING BRIEF

2.2.1 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 2008).

2.2.2 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, including before and after shots of the disturbed areas;
- to recover artefactual material, especially that useful of dating purposes;

- to monitor the reinstatement of all disturbed surfaces;
- to produce a site archive in accordance with MAP2 (English Heritage 1991) and MoRPHE standards (English Heritage 2006).

2.2.3 Test pits were excavated to establish the location of the gas supply pipe, and where necessary to repair it. A total of 16 were excavated of varying size and depth dependant upon the success of locating the pipe, and whether repair was necessary. The most easterly of the test pits was located immediately east of No. 10 The Abbey, whilst the most westerly was positioned at the western gatehouse of the Cathedral grounds, where Abbey Street and Paternoster Row converge. The archaeological monitoring and supervision of groundworks commenced on the 25th July 2011. A summary of the findings of the watching brief is included within this report.

2.3 THE ARCHIVE

2.3.1 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 Tullie House Museum, 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 **NPA11, CAT/A, CP/1505/11**.

2.3.2 NP Archaeology 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 North Pennines Archaeology, as a part of this national project.

3 BACKGROUND

3.1 LOCATION & GEOLOGICAL CONTEXT

3.1.1 Carlisle Cathedral is situated to the east of the River Caldew and southeast of Carlisle Castle within the heart of the historic centre of Carlisle (Figure 1). The precinct is bound by Castle Street to the northeast, Paternoster Row to the northwest, West Walls to the southwest, with St Cuthbert's Church and the Crown and Mitre Hotel to the south and east.

3.1.2 The underlying geology of the study 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 BACKGROUND

3.2.1 Carlisle Cathedral is part of an Ancient Scheduled Monument (CU 546) in Carlisle City centre. The Cathedral is the seat of the Anglican Bishop of Carlisle. It was founded as the church to St Mary's Priory for the Augustinian Priors by Henry I in 1122. It was granted Cathedral status in 1133 and was refurbished in 1307 by Edward I, during his Scottish campaign. During the 15th and 16th centuries the monastic buildings were renewed and in the 17th century houses were built in the grounds. Carlisle Cathedral is also believed to lie within the Roman civil settlement associated with the Roman Fort of Luguwallium, and an Anglo-Saxon monastery, founded by St Cuthbert in AD 685.

3.2.2 Carlisle Cathedral Precinct has been the subject of a number of previous archaeological investigations, many of which remain unpublished. Small scale excavation works were conducted by Carlisle Archaeological Unit during works to examine the foundations of the Cathedral in 1985. Six small trenches were excavated to the west and south of the building, which revealed Roman deposits overlain by 'dark-earth' deposits, as well as residual Roman coins, pottery and tile. A burial, radiocarbon dated to ad 750+/-70 was also revealed, which may be associated with the Anglo-Saxon monastery founded by St Cuthbert in AD 685 (McCarthy 1987).

- 3.2.3 Most significantly, in 1988, a rescue excavation was undertaken by Carlisle Archaeological Unit ahead of the construction of the Treasury building at Carlisle Cathedral, which revealed significant Roman remains and Anglian burials relating to an unknown monastic settlement (*pers comm.* Frank Giecco, NP Archaeology). Excavations at the cathedral have produced artefacts from this period including silver pins, strap-ends, a silver garter hook and a 10th century silver coin known as a *sceat* (McCarthy 1993).
- 3.2.4 A watching brief was carried out by North Pennines Archaeology Ltd on behalf of Carlisle Renaissance in November 2010 within the northern part of the cathedral precinct. No notable archaeological remains were observed. The earliest artefacts identified were of Roman date, but they were found in the topsoil and were not from secure archaeological contexts (Beaty 2010). The remainder of the artefacts recovered were post-medieval in date, which would coincide with the use of the graveyard where the watching brief occurred. During the watching brief a small number of human bone fragments were observed in the topsoil, which had previously been disturbed. These were not retained as they were deemed to have no archaeological value and were very fragmentary (*ibid*).
- 3.2.5 Carlisle Cathedral is steeped in history, with the cathedral being built on the civil settlement of a Roman fort and a 7th century Priory being founded by St Cuthbert, and burials of a Viking date all of which pre-date the Norman building of the cathedral. The archaeological potential is therefore very high in this area, and the present project provided an opportunity to obtain further evidence for the early history of Carlisle Cathedral Precinct, and the opportunity to recover further chronological information for the occupation of the site.

4 ARCHAEOLOGICAL WATCHING BRIEF

4.1 INTRODUCTION

- 4.1.1 The watching brief monitoring was undertaken in three phases. The first phase related to the hand-excavation of test pits locating the gas supply pipe, whilst the second phase related to groundworks required for the potential repair of the gas supply pipe following the report of a gas leak. The final phase of the watching brief monitored the reinstatement of all disturbed surfaces.
- 4.1.2 All excavation work was conducted by hand and was subsequently investigated and recorded fully. The results of the watching brief are outlined below.

4.2 PHASE 1: LOCATING THE SUPPLY PIPE

- 4.2.1 The First phase of the watching brief covered the hand excavation of four test-pits to locate the gas supply pipe. The trenches varied in size and depth, and archaeological features were present in two of the test-pits. No finds were recovered during Phase 1.
- 4.2.2 *Test-pit 1:* Test pit 1 was a “T” shaped pit aligned roughly northwest to southeast in the lawn of No. 5 Cathedral Precinct and measured 3m long by up to 0.45m at its widest point (Figure 2). The purpose of the trial pit was to establish the location of the gas pipe possibly supplying the property. The pit was excavated to a maximum depth of 0.33m revealing part of a wall (103), which was sealed by 0.13m of grey brown gravelly sand with occasional post-medieval brick inclusions (102). This was further below a c.0.2m deposit of dark brown silty clay topsoil (100). The limits of the wall were not observed as it was present in the entirety of the test pit. It consisted of grey limestone blocks with two bricks bonded by yellow sandy mortar (Plate 1). It is probable that this wall represents the remains of a garden wall of post-medieval date.
- 4.2.3 *Test-pit 2:* Test pit 2 was positioned against the front, northeast facing wall of No. 5 and measured 0.62m in length and 0.47m in width (Figure 2). The northwest to southeast aligned trench was excavated to a maximum depth of 0.24m, revealing a solid surface which was comprised of yellow sandstone blocks bonded with lime mortar (106) and lined with red brick foundations. The former floor surface was sealed by a c.0.24m yellow sand and brick bedding layer (105) and present walkway (104) (Plate 2). Although a date for the buried floor surface was not retrieved, its shallow depth and the

presence of red brick foundations indicate that it is no earlier than the 19th century.



Plate 1: Southeast view of Test-pit 1 showing wall (103)



Plate 2: Northwest view of Test-pit 2 showing floor (106)



Plate 3: Northwest facing section of Test-pit 3



Plate 4: Northwest facing section of Test-pit 4

4.2.4 **Test-pit 3:** Test-pit 3 was located within the tarmac road, approximately 4.5m north of the Prior's Tower (Figure 2). The northeast to southwest aligned trench measured 1.53m in length, 0.44m in width and was excavated to a maximum depth of 0.65m, revealing a deposit of dark grey/black silty clay (109), which measured over 0.12m in depth. This was sealed by a c.0.4m deposit of crushed brick and debris (108) and c.0.2m of hardcore and tarmac surface (107) (Plate 3).

4.2.5 **Test-pit 4:** Test-pit 4 was located approximately 2.6m east of Test-pit 3 and measured 0.75m² (Figure 2). The test-pit was excavated to a maximum depth of 0.56m, revealing the original cast-iron gas main. The gas main was sealed by a c.0.35m deposit of mixed grey gritty ash and sand (**110**) and c.0.2m of hardcore and tarmac (**107**) (Plate 4).

4.3 PHASE 2: RENEWING THE SUPPLY PIPE

4.3.1 The second phase of the watching brief involved the monitoring of all excavations during the gas renewal works, including the installation of a new gas supply to the Abbey Gate House and No. 2 Cathedral Precinct, which involved the drilling through the northeast-facing and northwest-facing walls of the properties respectively. The second phase comprised the excavation by hand of 14 trenches which varied in size and depth. Only two features of note were revealed during this phase. A selection of archaeological finds were recovered during this phase, ranging from the Roman period through to the post-medieval period.

4.3.2 **Trench 5:** Trench 5 was located northeast of The Deanery, approximately 23m northwest of Test-pits 3 & 4 (Figure 2). The northwest to southeast aligned trench was roughly "S" shaped and measured 1.9m in length and was excavated to a maximum width of 0.76m. Trench 5 was excavated to a maximum depth of 0.74m, revealing a deposit of dark grey/black silty sand (**111**) which measured over 0.15m in depth. The grey/black silty sand deposit was sealed by a c.0.2m deposit of dark grey silty sand (**112**) with frequent inclusions of debris. Both of these deposits had been cut by the existing cast iron gas pipe which was located within the northern periphery of the trench. The cast iron pipe had been backfilled by a c.0.35m deposit of mixed grey gritty ash and sand (**110**), which was further below c.0.35m of hardcore and tarmac (**107**) (Plate 5).

4.3.3 **Trench 6:** Trench 6 was located approximately 4.7m southeast of Trench 5 and measured 1.1m in length and 0.6m in width (Figure 2). The northwest to southeast aligned trench was excavated to a maximum depth of 0.66m, to the level of the existing cast iron gas main. The gas main had been backfilled by a c.0.35m deposit of mixed grey gritty ash and sand (**110**), which was further below c.0.3m of hardcore and tarmac (**107**).

4.3.4 **Trench 7:** Trench 7 was located approximately 6m northwest of Trench 5 and was aligned northwest to southeast, measuring c.1.1m in length and c.0.55m in width. An additional area of trenching was extended in a northerly direction from the northwest corner of the original trench, which measured 0.96m in length and 0.27m in width (Figure 2). Trench 7 was excavated to a maximum depth of 0.7m, revealing a deposit of dark grey

silty sand (111) which measured over 0.2m in depth. This deposit had been cut by the cast iron gas main which had further been backfilled by a c.0.35m deposit of mixed grey gritty ash and sand (110). This was further sealed by a c.0.2m of hardcore and tarmac (107) (Plate 6).



Plate 5: View northeast of Trench 5

- 4.3.5 **Trench 8:** Trench 8 was located approximately 1.5m northwest of Trench 7 and measured 0.93m in length and 0.56m in width (Figure 2, Plate 6). The northwest to southeast aligned trench was excavated to a maximum depth of 0.66m, revealing a deposit of dark grey silty sand (111) which measured over 0.15m in depth. This deposit had been cut by the cast iron gas main which was sealed by a c.0.35m deposit of mixed grey gritty ash and sand (110) and c.0.2m of hardcore and tarmac (107).
- 4.3.6 **Trench 9:** Trench 9 was located immediately adjacent to the northwest facing elevation of No. 2 Cathedral Precinct and measured 1.18m in length and 0.65m in width (Figure 2) and was excavated in order to install a new gas supply to the property, which involved the drilling through its northwest-facing elevation. The northeast to southwest aligned trench was excavated to a maximum depth of 0.25m, revealing existing services feeding No.2, which were encased within a deposit of mixed grey gritty ash and sand backfill (110). This was further sealed by a c.0.1m thick concrete surface (113) (Plate 7).



Plate 6: View northwest of Trenches 7 & 8



Plate 7: View southeast of Trench 9

- 4.3.7 **Trench 10:** Trench 10 was located approximately 1.5m southwest of the southwest elevation of Abbey Gate House, immediately southeast of the inner gatehouse entrance (Figure 2). The northwest to southeast aligned trench measured c.1.75m in length, c.0.6m in width, and was excavated to a maximum depth of 0.48m, revealing the existing cast iron gas main which had been backfilled by a c.0.38m deposit of mixed grey gritty ash and sand (110). This was further sealed by a c.0.1m deposit of hardcore and tarmac (107) (Plate 8).
- 4.3.8 **Trench 11:** Trench 11 was located 0.35m southwest of the southwest elevation of the inner gatehouse, approximately 5m northwest of Trench 10 (Figure 2). The northwest to southeast aligned trench was roughly "S" shaped and measured c.1.35m in length, c.0.75m in width, and was excavated to a maximum depth of 0.6m, revealing a deposit of dark grey silty sand (112) with frequent inclusions of debris, which measured over 0.3m in depth. This was sealed by a c.0.2m deposit of mixed grey gritty ash and sand backfill (110), which was further below a c.0.08m thick cobbled surface (114) lined with sandstone slabs (Plate 9).
- 4.3.9 **Trench 12:** Trench 12 was located at the western edge of the study area, immediately northwest of the gatehouse and approximately 1.2m northwest of Trench 11 (Figure 2). The northwest to southeast aligned trench measured c.4m in length and was excavated to a maximum width of c.0.6m in width, revealing several modern service pipes including the cast iron main. Trench 12 was excavated to a maximum depth of 0.9m and was entirely comprised of a series of modern backfill deposits and foam concrete (116) below the cobbled surface (114) and modern road surface (115) (Plate 10).
- 4.3.10 **Trench 13:** Trench 13 was located within the concreted area between Abbey Gate House and No. 2 Cathedral Precinct and was extended around the northeastern periphery of Abbey Gate House, in order to provide a new gas supply to the property, which included the drilling through its northeast-facing elevation (Figure 2). The trench measured approximately 10m in length and was excavated at an average width of 0.4m. Trench 13 was excavated to a maximum depth of 0.4m, revealing a dark brown gritty silt (117), which measured over 0.2m in depth and contained the remains of a 19th century glass bottle. Within the southern most 5m of the trench, the gritty silt was sealed by a c.0.15m deposit of hardcore and tarmac (107). However, within the northern most section of the trench, the gritty silt deposit (117) was sealed by a c.0.15m thick cobbled surface (118). It is probable that this surface represents the remains of a 19th century cobbled yard to the rear of Abbey Gate House, which was later covered over by a c.0.1m layer of concrete hardstanding (113) (Plate 11).



Plate 8: View southeast of Trench 10



Plate 9: View northwest of Trench 11



Plate 10: View northwest of Trench 12



Plate 11: View of northern end of Trench 13 showing cobbles (118) during excavation

4.3.11 **Trench 14:** Trench 14 was located approximately 21m southeast of the southeast corner of The Fraternity and measured 0.9m in length and 0.55m in width (Figure 2). The northwest to southeast aligned trench was excavated to a maximum depth of 0.9m revealing a deposit of dark brown gritty clayey silt (**119**), which measured over 0.45m in depth. The clayey silt deposit (**119**) retained several finds including a fragment of a Roman amphora handle and a Romano-British bronze mount depicting a human face. However, a sherd of red gritty ware of late 12th/13th century date was also present highlighting the extensively disturbed nature of this deposit. The clayey silt (**119**) was sealed by a c.0.3m deposit of mid-brown gritty silt with frequent cobble inclusions (**120**), which was further sealed by a c.0.15m deposit of hardcore and tarmac (**107**) (Plate 12).



Plate 12: Southeast facing section of Trench 14

4.3.12 **Trench 15:** Trench 15 was located approximately 9.7m northwest of Trench 14 and measured 3m in length and was excavated to a maximum width of 0.8m (Figure 2). The northwest to southeast aligned trench was excavated to a maximum depth of 1.3m, revealing a substantial redbrick structure. The redbrick structure (**121**) was confined to the southeastern periphery of the trench and was comprised of a substantial culvert and squared access chamber, which was aligned north-northeast to south-southwest, measured over 0.8m in length, over 0.27m in width and over 0.55m in height. It is probable that the redbrick culvert and chamber were constructed during the late 19th/early 20th century, although the presence of two substantial sandstone blocks within the immediate vicinity indicates that an earlier

structure may have been disturbed during the construction of the culvert (Plates 13 & 14). Further excavations further northwest within Trench 15 revealed a deposit of dark brown silty clay (122), which measured over 0.35m in depth and contained several animal bones, medieval pottery and a Romano-British coin, highlighting the disturbed nature of the area. Both the redbrick structure (121) and the silty clay (122) had been sealed by a c.0.7m deposit of mid-brown gritty silt backfill (123). This was further sealed by a 0.18m deposit of hardcore and tarmac (107).



Plate 13: View north of Trench 15 showing access chamber (121)



Plate 14: View southwest of culvert and access chamber (121)

4.3.13 **Trench 16:** Trench 16 was located approximately 12.8m northwest of Trench 15 and 2.75m northeast of the entrance to No. 10 The Abbey (Figure 2). The northwest to southeast aligned trench measured 1.3m in length, 0.8m in width and was excavated to a maximum depth of 1.2m, revealing a rich black silty clay deposit (**124**) which measured over 0.15m in depth and contained a sherd of medieval red gritty ware and a sherd of green glaze ware of 13th/14th century date. The rich silty clay deposit appeared to be undisturbed, although not enough of the context was exposed to confirm this. The silty clay (**124**) was sealed by a c.0.4m deposit of dark brown gritty clayey silt (**119**), which had been cut by the existing cast iron gas main. The gas main had been backfilled by a c.0.3m deposit of mixed grey gritty ash and sand (**110**) and c.0.2m of hardcore and tarmac (**107**).



Plate 15: View north of Trench 16 showing possible undisturbed deposit (124) at base of trench

5 FINDS

5.1 FINDS ASSESSMENT

5.1.1 A total of 77 finds were recovered from five separate deposits during the watching brief, including those from an unstratified context. A table of artefacts recovered during the watching brief is included below (Table 1).

5.1.2 The finds were cleaned and packaged according to standard guidelines, and recorded under the supervision of F. Giecco (NPA Ltd Technical Director).

Context	Trench	Material	Quantity	Period
117	13	Glass Bottle	3	19 th /20 th century
117	13	Bone	3	19 th /20 th century?
119	14	Pottery	1	Roman
119	14	Pottery	1	Medieval
119	14	Cu alloy mount	1	Romano-British
119	14	Fe	6	-
119	14	Bone	5	-
122	15	Cu alloy Coin	1	mid-4 th century
122	15	Pottery	2	13 th /14 th century
122	15	Fe	9	-
122	15	Bone	22	-
119	16	Pottery	2	13 th /14 th century
119	16	Pb	6	-
119	16	Fe	2	-
119	16	Bone	1	-
124	16	Pottery	2	13 th /14 th century
124	16	Fe	2	-
U/S	-	Fe	6	-
U/S	-	Pb	1	-
U/S	-	Tooth	1	-

Table 1: Table of Artefacts Recovered from the Watching Brief.

5.2 ROMAN CERAMIC VESSELS

5.2.1 A single fragment of Roman pottery was recovered from a disturbed context (**119**) within Trench 14.

5.2.2 The Roman fragment was the handle of an amphora vessel, which was comprised of a hard creamy white fabric. Roman amphorae were large vessels used to carry liquids and were produced in several regions of the empire, including North Africa, the Mediterranean and Gaul. However, the fragment recovered during the watching brief is probably of the common Spanish Dressel 20 (PW25) type which is common on Roman sites throughout Britain.

5.3 MEDIEVAL VESSELS

- 5.3.1 A total of seven sherds of medieval pottery were recovered during the watching brief from disturbed contexts **(119)** and **(122)**, and from the probable undisturbed context **(124)**.
- 5.3.2 The medieval pottery assemblage was comprised of two sherds of red gritty ware, which was locally produced during the medieval period and five sherds of partially reduced green glazed ware, which was common throughout the 13th/14th centuries.

5.4 METAL OBJECTS

- 5.4.1 A total of 34 metal objects were recovered during the watching brief from four separate deposits, including an unstratified context. Only the two metal objects from context **(124)** are likely to have been in-situ. However, both of these iron objects were too corroded to be identified.
- 5.4.2 The metal assemblage was largely comprised of 25 iron (Fe) objects, including nails, an O-ring and a possible clasp and 7 lead (Pb) objects, including a lump of molten lead and two fragments of window kame. Two bronze (Cu alloy) objects were also recovered, both from disturbed contexts.
- 5.4.3 One of the bronze objects was recovered from context **(119)** within Trench 14 and is a pear-shaped hollowcast mount which depicts a human face. The face is very 'native' in style, similar to one found at South Shields Roman Fort (Allason-Jones & Miket 1984: P226). The object measures 30.99mm in length, 28.06mm in width and 9.21mm in thickness (Plate 16).
- 5.4.4 The second bronze object was recovered from context **(122)** within Trench 15 and is an imitation of an Æ 3 of probable mid-4th century date. The obverse side of the coin has been poorly struck and depicts the head of an unrecognisable figure that appears 'native' in style (Plate 17). However, the reverse side depicts two soldiers standing either side of a standard (Plate 18), as seen on coins from the House of Constantine. The coin measures 14.75mm in diameter.

5.5 GLASS

- 5.5.1 A total of three shards of green bottle glass were recovered from context **(117)** within Trench 13. The fragments of glass were probably all from the same bottle which date to the late-19th/early 20th century.

5.6 BONE

- 5.6.1 A total of 32 bone fragments, including a single tooth, were recovered during the watching brief. Only two separate species of animal were represented within the bone assemblage, which included cattle (*Bos primigenius*) and sheep (*Ovis aries*).



Plate 16: Romano-British bronze mount



Plate 17: Obverse side of 4th century coin



Plate 18: Reverse side of 4th century coin

6 CONCLUSIONS

6.1 CONCLUSIONS

- 6.1.1 The watching brief monitoring was undertaken in three phases. The first phase related to the hand-excavation of test pits locating the gas supply pipe, whilst the second phase related to groundworks required for the potential repair of the gas supply pipe following the report of a gas leak. The final phase of the watching brief monitored the reinstatement of all disturbed surfaces.
- 6.1.2 Only limited archaeological remains were noted during the watching brief. These included the remains of a sandstone slab surface and probable garden wall immediately northeast of the Prior's Tower, a 19th century brick-lined culvert and access chamber immediately east of No. 10 The Abbey and a buried cobbled surface to the rear of Abbey Gate House. It is also possible that a single undisturbed deposit was revealed which, based upon a single sherd of pottery, probably dates to the 13th/14th century. However, not enough of the deposit was revealed to confirm this. The finds assemblage retrieved during the watching brief included medieval pottery, a Roman amphora handle, a Romano-British bronze mount depicting a human face and a mid-4th century coin. However, most of these were retrieved from disturbed contexts.
- 6.1.3 As this archaeological watching brief was conducted as part of a recommendation to observe groundworks in association with gas works at the west end of the precinct, no further work is deemed necessary. However, given the high archaeological potential of the area, it is recommended that any future work be subject to a programme of archaeological investigation.

7 BIBLIOGRAPHY

7.1 SECONDARY SOURCES

Allason-Jones, L. & Milet, R. (1984) *The Catalogue of Small Finds from South Shields Roman Fort*, The Society of Antiquaries of Newcastle upon Tyne.

Beaty, J. (2010) *Watching Brief at Carlisle Cathedral Precinct, Carlisle, Cumbria*, North Pennines Archaeology Ltd, Unpublished Document, CP/1230/10

British Geological Survey. (2001) *Solid Geology Map: UK North Sheet*, 4th edition.

Brown, D.H. (2007) *Archaeological Archives: A Guide to Best Practice in Creation, Compilation, Transfer and Curation*. Archaeological Archives Forum

DoE (1990) *Planning Policy Guidance Note No.16: Archaeology and Planning*. Department of the Environment.

English Heritage (1991) *Management of Archaeological Projects (MAP2)*. London: English Heritage.

English Heritage (2002) *Environmental Archaeology: A Guide to the Theory and Practice of Methods from Sampling and Recording to Post-Excavation*. London: English Heritage.

English Heritage (2006) *Management of Research Projects in the Historic Environment*. London: English Heritage.

IfA (2008) *Standards and Guidance for Archaeological Watching Briefs*. Reading: Institute for Archaeologists.

McCarthy, M (1987) Excavations at Carlisle Cathedral, in *Notes Trans Cumberland Westmorland Antiq Archaeol Soc* 87, 270-271

McCarthy, M (1993) *Carlisle: History and Guide*, Sutton Publishing

SSEW (1984) *Soils and their use in Northern England*, Soil Survey of England and Wales.

Town, M (2011) *Project design for an archaeological watching brief at Carlisle Cathedral, Carlisle, Cumbria*, NP Archaeology, Unpublished Document

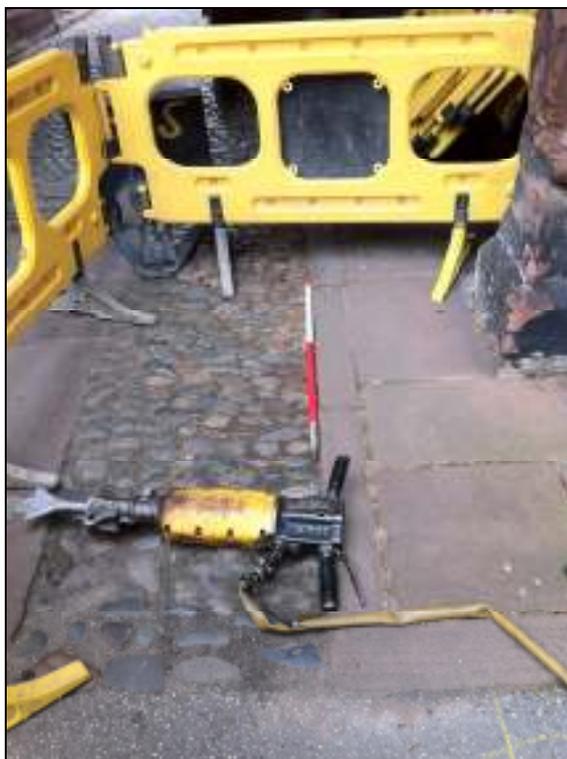
UKIC (1990) *Guidelines for the preparation of excavation archives for long-term storage*

APPENDIX 1: CONTEXT TABLE

Context Number	Context Type	Description
100	Deposit	Topsoil
101	Geological	Natural Substrate (not encountered)
102	Deposit	Grey/Brown Gravelly Sand
103	Structure	Buried Garden Wall
104	Deposit	Walkway
105	Deposit	Bedding Layer
106	Deposit	Buried Floor Surface
107	Deposit	Hardcore/Tarmac
108	Deposit	Crushed Brick/Debris
109	Deposit	Dark Grey/Black Silty Clay
110	Deposit	Backfill for Cast Iron Pipe
111	Deposit	Dark Grey/Black Silty Sand
112	Deposit	Dark Grey Silty Sand/Debris
113	Deposit	Concrete Surface
114	Deposit	Cobbled Surface
115	Deposit	Road Surface
116	Deposit	Modern Backfill/Foam Concrete
117	Deposit	Dark Brown Gritty Silt
118	Deposit	Buried Cobbled Surface
119	Deposit	Dark Brown Gritty Clayey Silt
120	Deposit	Mid-Brown Gritty Silt with Cobble Inclusions
121	Structure	Redbrick Culvert and Access Chamber
122	Deposit	Dark Brown Silty Clay
123	Deposit	Mid-Brown Gritty Silt Backfill
124	Deposit	Rich Black Silty Clay (undisturbed?)

Table 2: List of contexts issued during watching brief

APPENDIX 2: ADDITIONAL PHOTOGRAPHS



View northwest of east end of cobbled surface (114) before excavation



View northwest of east end of cobbled surface (114) following excavation



View northwest of west end of cobbled surface (114) before excavation



View southeast of west end of cobbled surface (114) following excavation

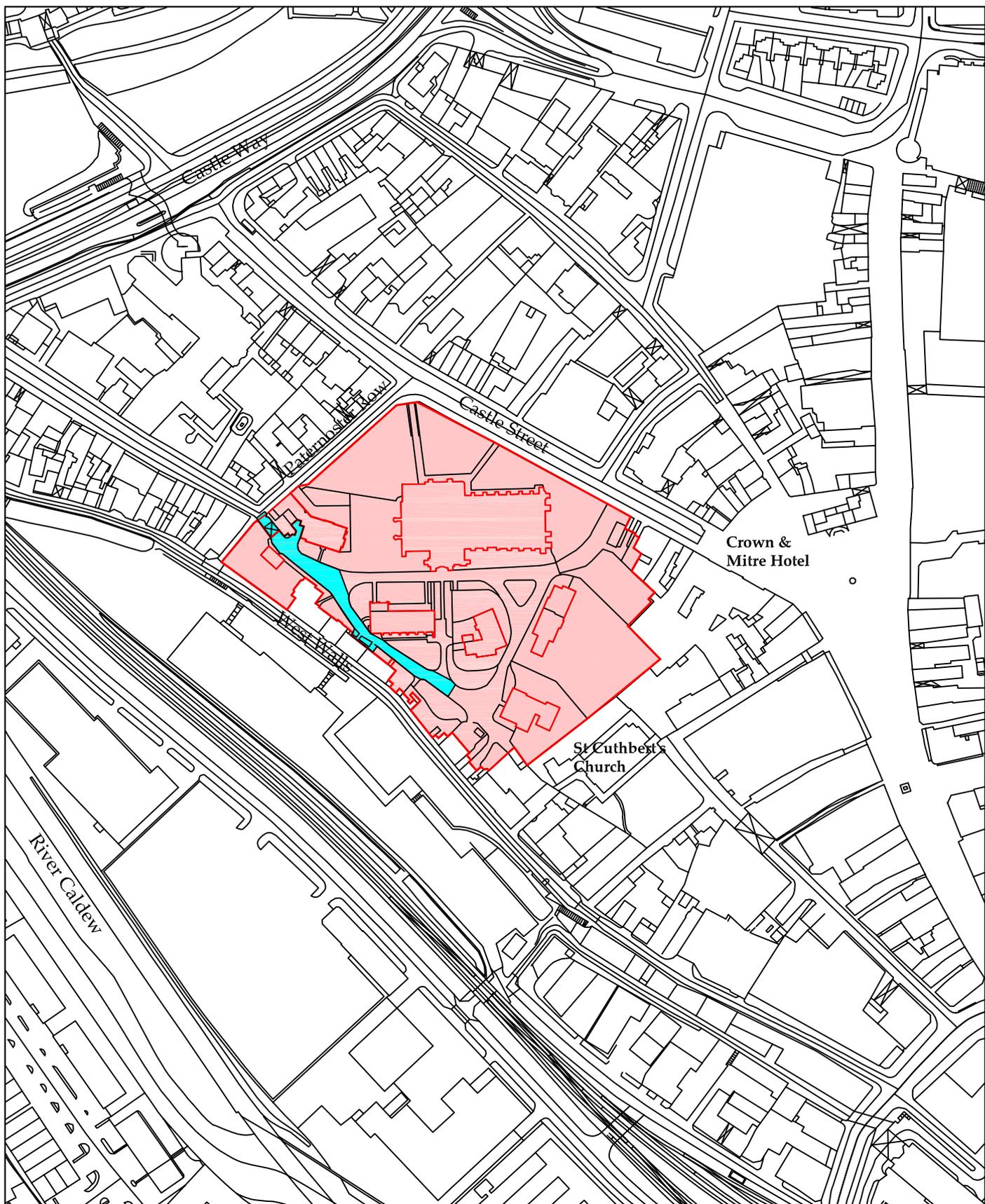


View southwest showing drilled hole for gas supply at base of northeast elevation of Abbey Gate House



View southeast showing drilled hole for gas supply within northwest elevation of No.2 Cathedral Precinct

APPENDIX 3: FIGURES



 <p>NP Archaeology Ltd 2011</p>	<p>PROJECT: Carlisle Cathedral SCALE: 1:2500 at A4 REPORT No: CP1505 CLIENT RSK/Northern Gas Networks DRAWN BY: DJ DATE: October 2011 FIGURE: 1</p>	<p>KEY:</p> <p> Scheduled Monument</p> <p> Area of watching brief</p>	 <p>Reproduced by permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office. © Crown copyright. All rights reserved. Licence number 100014732</p>
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Figure 1: Site Location

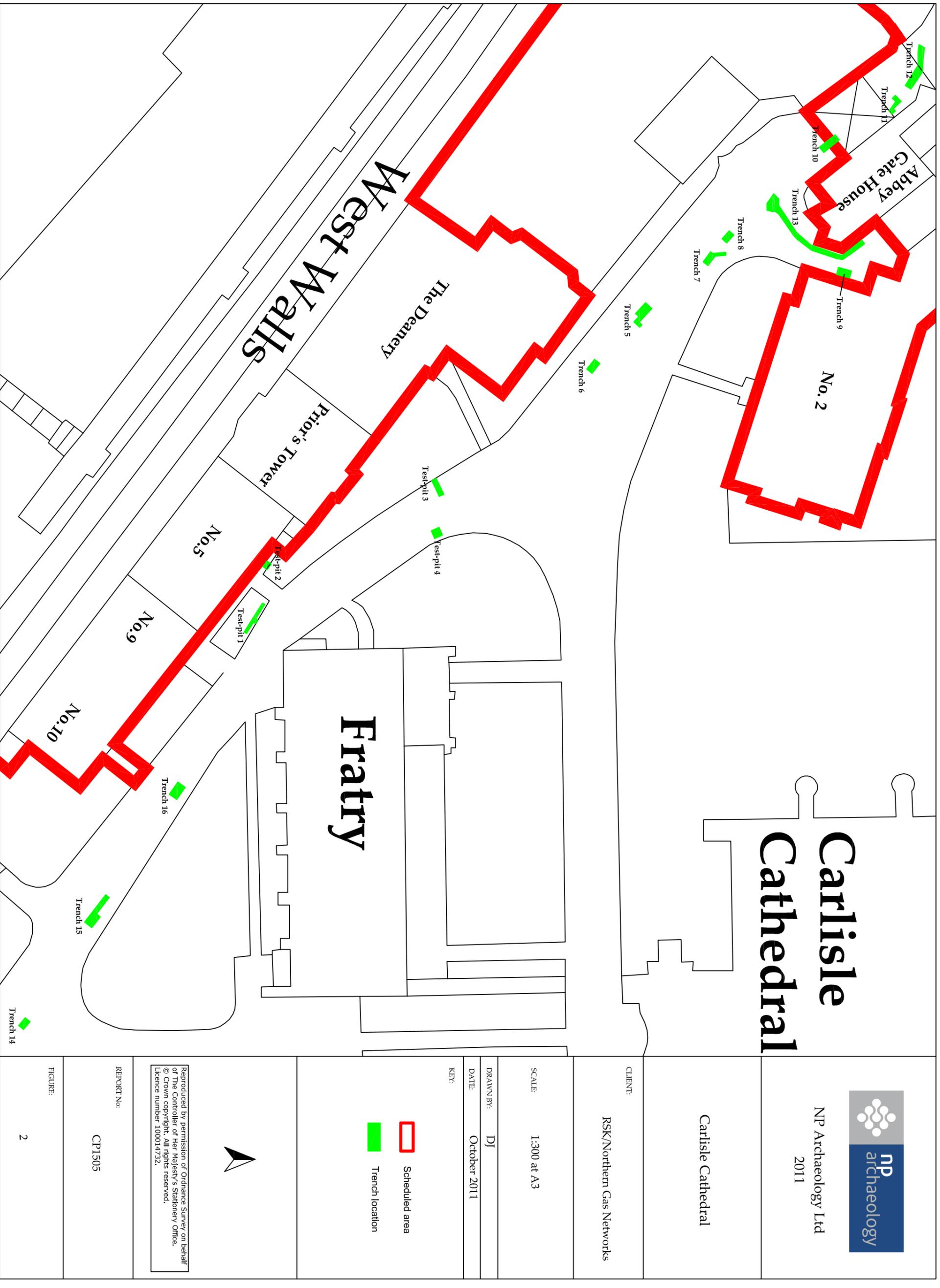


Figure 2: Location of excavated areas