



CARLISLE CITY CENTRE CUMBRIA

Archaeological Watching Brief



Oxford Archaeology North

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SUMMARY

Between November 2004 and June 2005 Oxford Archaeology North (OA North), undertook a series of archaeological watching briefs within Carlisle City Centre, Cumbria, within the areas of John Street, Church Street, and Shaddongate (NY 3949 5590), Rickergate, Corporation Road, Peter Street, Clifford Street, Scotch Street, Market Street, Fisher Street, St. Marys Gate, Rosemary Lane, English Street and Castle Street (NY 4009 5613). The work was undertaken on behalf of Balfour Beatty Utility Services.

The aim of the watching brief was to establish the existence and location of any surviving archaeological remains during the course of refurbishment works associated with the water supply to Carlisle town centre.

A total of 124 trenches were excavated, of which 94 revealed only the modern backfill of service trenches. Six of the trenches revealed natural geological deposits, sealed by modern material, suggesting that in these areas any archaeological stratigraphy had been previously destroyed. Twenty-two trenches, however, revealed layers that may represent surviving archaeological deposits. One of these revealed a nineteenth century plank and concrete constructed drain. Unfortunately, no dating material was retrieved from the archaeological deposits. A further four trenches had been excavated and backfilled without any archaeological observation.

ACKNOWLEDGEMENTS

OA North would like to express its thanks to Balfour Beatty Utility Services for commissioning the project and for their assistance during the archaeological works. Paul Clark, Matthew Town, Hannah Gajos, David Tonks, Kathryn Blythe, Andy Bates and David McNichols carried out the fieldwork. The report was written by Matthew Town and Andy Lane, with Andy Bates examining the finds. Drawings were compiled by Mark Tidmarsh. Alison Plummer was responsible for project management and report editing.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

- 1.1.1 Oxford Archaeology North (OA North) undertook a series of archaeological watching briefs between November 2004 and June 2005, on behalf of Balfour Beatty Utility Services, working for United Utilities, during the refurbishment of the water main network in central Carlisle (Figs 1 and 2). These watching briefs were located along Church Street, John Street and Shaddongate (NY 3949 5590), and Rickergate, Corporation Road, Peter Street, Clifford Street, Scotch Street, Market Street, Fisher Street, St. Marys Gate, Rosemary Lane, English Street and Castle Street (NY 4009 5613).
- 1.1.2 The network runs through an area of high archaeological potential, and affects a number of known sites. The Cumbria County Archaeology Service (CCAS) issued a verbal brief for a programme of archaeological work to be undertaken during the development works. The programme involved a watching brief during the opening of trenches or pits throughout the course of the works. The results of the watching brief are detailed in this report.
- 1.1.3 A full archive of the watching brief has been produced to a professional standard in accordance with current Institute of Field Archaeologists (IFA) and English Heritage guidelines (1991).

2. METHODOLOGY

2.1 PROJECT DESIGN

- 2.1.1 A project design (*Appendix 1*) was submitted by OA North in response to a verbal brief provided by CCAS. The programme of works required a permanent watching brief in order to accurately document the location, extent, and character of any surviving archaeological features within the excavations during the proposed water main refurbishment. work was consistent with the relevant standards and procedures of the IFA, and generally accepted best practice.
- 2.1.2 During this phase of work, recording comprised a full description and preliminary classification of features or materials revealed, and their location. All archaeological information collected in the course of fieldwork was recorded in standardised form, with the project design adhered to in full.

2.2 WATCHING BRIEF

- 2.2.1 A programme of field observation was undertaken in order to accurately record the location, extent, and character of any surviving archaeological features and/or deposits within any new excavations for the pipe trench and/or launch and reception pits. This work comprised observation during the excavation for these works, the systematic examination of any subsoil horizons exposed during the course of the groundworks, the accurate recording of all archaeological features and horizons, and the retrieval of any artefacts, identified during observation. Putative archaeological features and/or deposits identified by the machining process, together with the immediate vicinity of any such features, were cleaned by hand, using either hoes, shovel scraping, and/or trowels, depending on the subsoil conditions.
- 2.2.2 **Recording:** the recording methods employed by OA North accord with those recommended by English Heritage's Centre for Archaeology (CFA). Recording was principally in the form of *pro forma* Trench Sheets for each trench, which recorded the orientation, length, and depth of each trench, and described the nature of the topsoil, subsoil (where applicable), and geological deposits. Where there were anticipated significant archaeological features, or where significant features were identified, the features and deposits were recorded using *pro forma* context sheets. A full textual, drawn, and photographic record was maintained for all deposits and features.
- 2.2.3 **Finds:** all finds recovered were bagged and recorded by context number. All significant finds were retained, and have been processed and temporarily stored according to standard practice following current IFA guidelines.

3. BACKGROUND

3.1 SITE LOCATION

3.1.1 The sites (Fig 2) werelocated within two areas of Carlisle; the first being known as Shaddongate, is bonded by Shaddongate itself to the east, John Street to the north and Church Street to the west. The second area, within the city centre, is bounded by Castle Way to the north, Botchergate to the south, Fisher Street to the west and Scotch Street to the east.

3.2 GEOLOGY

3.2.1 The underlying solid geology of the area consists mainly of mudstones and sandstones of Permo-Triassic age. They were deposited under the marine conditions of the period, between 280 and 195 million years ago. The most important sandstone formation, the St Bees Sandstone, has been much quarried for use as building stone, and has imparted a distinctive character to much of the area's architecture (Countryside Commission 1998, 20). The overlying drift geology comprises glacial deposits with some fluvial sediments along the Caldew and the Petteril valleys. The soils of the development area are not well-mapped, since the area is urban in nature, however, where seen they have been determined to be stagnogley argilic brown earths of the Salwick soil association (Lawes Agricultural Trust 1983). A series of boreholes were undertaken in the town centre in the 1960s, which revealed made ground overlying boulder clay overlying bedrock (LUAU 2001).

3.3 TOPOGRAPHY

3.3.1 Carlisle is located on the valley floor of the River Eden, and the city developed between the river and its tributaries, the Caldew and the Petteril. The study area lies within and west of the medieval walled city, the city walls on the west side being positioned along the top of the scarp slope above the Caldew. The Roman and medieval towns of Carlisle stand on raised boulder clay glacial drift deposits, which overlie the alluvial silts and clays of the Eden and Caldew rivers (Young 1990, 2-4). The study area lies at about 16m OD, (above Ordnance Datum).

3.4 HISTORICAL BACKGROUND

3.4.1 **Introduction:** this historical background is compiled mostly from secondary sources, and is intended only as a brief summary of historical developments around the study area, emphasising the overall development of Carlisle.

3.4.2 **Prehistory:** Carlisle is '*seated upon an eminence, surrounded by a fertile plain of rich meadows*' (Whellan 1860, 83). The town lies on the Solway Plain, an area that is characterised by a relatively large number of prehistoric settlement sites, many apparently dating to the Iron Age, which took advantage of the fertile soils (Bewley 1994). There is also some evidence of earlier activity, as Bronze Age collared urns were found at the Garlands Hospital Site in 1861 (Perriam 1992, 3), and more recently a Bronze Age burnt mound has been

identified at the same site (LUAU 1996). A metalled trackway was found during The Lanes excavations east of Scotch Street, which is thought to be prehistoric and associated with plough-marks attesting agricultural activity. Isolated finds, including barb-and-tanged arrowheads, also attest to prehistoric activity within the area (McCarthy 2000). The promontory on which Carlisle stands has been used as a defended settlement probably since at least the Iron Age and the *Victoria County History of the County of Cumberland* suggests that the Castle site may have been a pre-Roman *dun* (Doubleday 1901, 285), though there is no excavated evidence for this.

- 3.4.3 **Roman:** Carlisle occupies a naturally well-defined promontory between the Eden and Caldew rivers, and this topography was exploited by the establishment of a Roman fort in the early AD 70s, under the governorship of Petilius Cerialis (Shotter 1993, 13). Excavations on Annetwell Street uncovered a turf and timber rampart (McCarthy 1984), and more recent excavations at the Millennium site, within the fort, have revealed considerable evidence of the fort's internal layout, and the location of the headquarters building (J Zant pers comm).
- 3.4.4 The town of *Luguvalium* grew up to the south of the fort, and the name was first attested on writing tablets dating from the AD 80s (McCarthy *et al* 1990, 4). Excavations have identified extramural settlement from the Flavian period, which was centred on the line of the Roman road that extends south-east from the fort following the line of Castle Street, Blackfriars Street and Botchergate (McCarthy *et al* 1990), and a north/south road that follows in part the line of present day Scotch Street and led towards a bridge over the river Eden (McCarthy 2000). Until recently, it was assumed that all the early identified Roman civilian settlement was situated on the promontory, occupying a similar extent to the later medieval town, with a cemetery extending south along Botchergate. Recent excavations, however, have shown this to be an erroneous assumption as a phase of early Roman timber buildings, predating a cremation cemetery, was uncovered in the area. Subsequently, in the Hadrianic period, a series of timber buildings were constructed along the frontage of Botchergate, with roads or lanes aligned at right-angles to the main road (Zant and Giecco 1999). These buildings show intensive multiple rebuilds and some possible industrial functions, recent excavations to the north of this site have revealed evidence of iron working and lead processing (I Miller *pers comm*).
- 3.4.5 By the late Roman period *Luguvalium* acquired the status of a *Civitas* capital, as *Civitas Carvetiorum*, which demonstrates the importance and significance of this urban centre (Charlesworth 1978, 123). The evidence, however, would suggest that civilian settlement decayed during the fourth century (McCarthy 1982), McCarthy notes 'Roman' activity at Blackfriars Street (McCarthy *et al* 1990) which seems to extend beyond the traditional end of Roman government into the fifth centuries, and excavations on Scotch Street of a large Roman building also show continuation into the fifth century (Keevill forthcoming).
- 3.4.6 **Early Medieval:** as is the case throughout Cumbria, evidence for early medieval activity is extremely limited. At Blackfriars Street, the later 'Roman' layers were succeeded by features which have been identified as 'Anglian', although close dating is impossible (McCarthy *et al* 1990). Documentary

evidence suggests that some elements of urban life were still in existence in the seventh century when, according to Bede (Colgrave 1940), St Cuthbert saw elements of the Roman water systems still in use. In addition, Bede records a nunnery and possibly a monastery within the town (*ibid*), which was perhaps associated with St Cuthbert's, a church that clearly precedes the development of the cathedral precinct in the twelfth century) (McCarthy *et al* 1990). St Cuthbert's would seem to be aligned on the Roman road system, rather than a more exact east to west orientation, and it is notable that the limited indications of mainly artefactual evidence concentrate on the line of the former north-west to south-east aligned Roman road (McCarthy *et al* 1990). This evidence includes coins which date to between the eighth and eleventh centuries.

- 3.4.7 Nothing certain is known of settlement in Carlisle from the ninth to the eleventh centuries, although metalwork of this period has been found to the west of the present cathedral (Gaimster *et al* 1989). The Danes, however, are recorded as having overrun the region in AD 876 under Halfdan (Earle and Plummer 1892).
- 3.4.8 **Medieval and Post-medieval:** by the eleventh century, Carlisle was in an area of dispute between the expanding kingdoms of England and Scotland. According to the Anglo-Saxon Chronicle, William Rufus in 1092 is said to have 'set up the walls', restoring the town and erecting the castle (Earle and Plummer 1892). Rufus garrisoned the town and '*sent a number of labourers from the south of England to settle in and around Carlisle, to reclaim the neighbouring lands and to bring them into cultivation*' (Whellan 1860, 84). In 1122, Henry I ordered the city to be fortified with 'castles and towers' (Arnold 1885, 267).
- 3.4.9 In 1135, the town was granted to the Scots as part of a wider political deal between England and Scotland, but Henry II re-established English control by 1157 (McCarthy *et al* 1990). Scottish kings continued to lay claim to many parts of Northern England throughout the rest of the twelfth century and, in 1173, William the Lion attempted to take the town (*op cit*, 126). In 1216 it fell to the Scots, but in the following year was restored to English rule once more. It was not until the mid thirteenth century that the dispute between kingdoms was settled, with the Pope decreeing that Northumberland and Cumberland were part of England (McCarthy *et al* 1990).
- 3.4.10 The visit of Henry I in 1122 prompted not only a major period of building at the castle, but also the foundation in 1133 of an Augustinian Priory, which served as the seat of the newly created bishopric (McCarthy *et al* 1990). The thirteenth century saw the foundation of two further monastic establishments by the Dominicans (Blackfriars) and the Franciscans (Summerson 1993, 103).
- 3.4.11 In the fourteenth century, Carlisle was subject to numerous raids and skirmishes during the Wars of Scottish Independence, and in 1391 was sacked and burnt by the Scots. The impact of the attack was long felt, and a late seventeenth century writer recounted that the city '*was never able to recover itselfe from soe many desolations and even at this day the scars of those dreadful wounds are yet apparent for ye town is so thin and empty of*

inhabitants that it looks like a country village well walld [sic] about rather than a citty [sic]' (Todd 1890, np).

- 3.4.12 Control over the area was attempted through the wardens of three marches defined along each side of the border, and Carlisle was the centre of the Wardenry of the West March (*ibid*). From the late fifteenth century onwards a state of anarchy developed along the border line, which led to the growth of the border reivers (Fraser 1971). Following the unification of the crowns in 1603, the border was forcibly pacified, and Carlisle's influence declined. The Civil War also affected the town, Carlisle being held for a time by the Royalists, but recaptured by Parliament in 1645 (McCarthy *et al* 1990).
- 3.4.13 Following disturbances caused by the Jacobite rebellions of 1715 and 1745, the later eighteenth and first half of the nineteenth centuries saw the development of industry in Carlisle, led by the 'first factory', a woollen mill, in 1724 (Whellan 1860, 97). Particularly important were textiles, mainly woollen manufacture, and a number of biscuit manufacturers also operated in the town (*ibid*). Industrial growth was steady rather than meteoric, as in some other cities – Carlisle has been rightly cited as '*a good instance of what may be called the normal growth of an English town. It owes nothing to mineral wealth and has made no sudden stride, but merely responded to the industrial impulse in proportion to its position as a chief town of a large district and a place which was accessible as a centre of distribution*' (Creighton 1889, 192). The latter role was helped by the arrival of the railway, which was laid in the 1840s (Asquith 1853).

4. WATCHING BRIEF RESULTS

4.1 INTRODUCTION

4.1.1 A total of 124 trenches (Figs 3 and 4) were monitored within the city centre and to the immediate west, in the Shaddongate area. The majority of the trenches were excavated by mini digger, and finished off by hand in order to refurbish the water mains. The trenches varied greatly in size and shape, measured an average *c* 2m by 1.5m, excavated to a depth of between 0.15m and 1.7m. The individual trench dimensions and a brief description is provided in *Appendix 2*. The individual trenches have been allocated a pre-fix denoting the road in which they were excavated, and number (Table 1).

<i>Street</i>	<i>Pre-fix</i>	<i>Trench Numbers</i>
Shaddongate Area		
John Street	<i>JS</i>	1-6
Church Street	<i>CS</i>	1-16
Shaddongate	<i>SH</i>	1-14
City Centre		
Rickergate	<i>RG</i>	1-5
Corporation Road	<i>CR</i>	1-17
Peter Street	<i>PS</i>	1-8
Clifford Street	<i>CIS</i>	1
Scotch Street	<i>SS</i>	1-9
Market Street	<i>MS</i>	1-7
Fisher Street	<i>FS</i>	1-13
St. Marys Gate	<i>SMG</i>	1-3
Rosemary Lane	<i>RL</i>	1-4
English Street	<i>ES</i>	1-15
Castle Street	<i>CAS</i>	1-7

Table 1: Street names by area showing pre-fixes and trench numbers

4.2 OBSERVATIONS

- 4.2.1 Generally, all of the trenches displayed an upper surface layer of road or pavement (tarmac, setts, brick, paving slabs or concrete), overlying concrete, sand or hardcore. This would in turn overlay the backfill of previous service trenches, with natural deposits at the base. Plate 1 shows a view along Church Street from CS3, a typical scene of the nature of the works.
- 4.2.2 Six trenches (CS10, SH2, RG4, ES9, ES10 and CAS2) displayed the natural geology, with a reddish-brown sandy-clay was observed in Trench CS10, and a mixed stony-sand observed at the base of Trench SH2. Natural boulder clay was evident in Trench RG4. Trenches ES9 and ES10 revealed dark brown clay with pebble inclusions. Mid-orange-brown sand was seen in Trench CAS2. The natural deposits concur with the boulder clay glacial drift deposits and alluvial silts and clays known within the area.
- 4.2.3 Twenty-two trenches displayed stratigraphy derived from levelling layers, make-up layers and dumped deposits from demolition, domestic and industrial activity. This was evident in Trenches RG4, CR7, CR14, SS5-SS8, MS1, MS5, MS6, FS2-FS4, FS6-FS13 and ES6. The layers observed contained building rubble and gravels, with the trenches in Fisher Street (FS) containing a mixed dark to mid-brown sandy-clay, probably derieved from construction activity. Plates 2 (CR14), 3 (SS8) and 4 (MS6) illustrate typical backfill deposits found throughout the trenches.
- 4.2.4 Trench RG4 revealed a nineteenth century drain, constructed from parallel planks laid on their edge, set in concrete at the base and sealed by tarmac. The drain was aligned east to west with a width of 0.55m, a depth of 0.5m, and filled with a loose yellowish-brown sand and pebbles.
- 4.2.5 Ninety-four of the trenches were excavated entirely within previous service trenches, with some of the services still being live. The backfill of these trenches was mostly made up of aggregates and gravels, whilst some revealed the disturbed make-up, levelling layers and dumped deposits, which have accumulated over the continuing development of the city centre. Plates 5, 6 and 7, from Trenches CR11, PS8 and CLS1 respectively, illustrate the typical backfill from previous service trenches. Trenches FS5, RL3 and ES14 were backfilled before any archaeological observations could be implemented, with FS7 mostly backfilled before investigations were undertaken.

4.3 THE FINDS

- 4.3.1 Three fragments of bone were recovered from the watching brief observations. A mandible from the right-hand-side of a senile cow, recovered from Trench ES9, a shaft splinter from the left tibia of a cow, recovered from Trench CAS7, and an unstratified red deer or cow rib. No other archaeological finds were observed.

- 4.3.2 The artefact assemblage recovered was very small due to the disturbed nature of the deposits, and tells us very little apart from the fact that these remains could have been from beasts of burden or formed part of everyday diet.

5. CONCLUSIONS

5.1 DISCUSSION OF RESULTS

- 5.1.1 The presence of natural underlying backfilled deposits suggests that in the majority of the areas observed the ground has been disturbed, eradicating any evidence of earlier activity. The building rubble and associated debris found in a number of the trenches suggests that a period of demolition occurred within the city centre, possibly due to redevelopment.
- 5.1.2 Although the area monitored had the potential for Roman and Medieval archaeological remains to be present, there was a noted absence of any such remains. The absence of significant archaeological features or remains is the result of the severe truncation caused by modern service trenches, although this does not preclude from the possibility of significant archaeological deposits surviving beyond the extents of the work.

5.2 IMPACT

- 5.3.1 The fact that the majority of the trenches had been excavated entirely within the backfill of previous service trenches resulted in a minimal area of impact and disturbance. However, excavation outside of the existing service trenches may have the potential to provide evidence, which could provide important information on the cities past.

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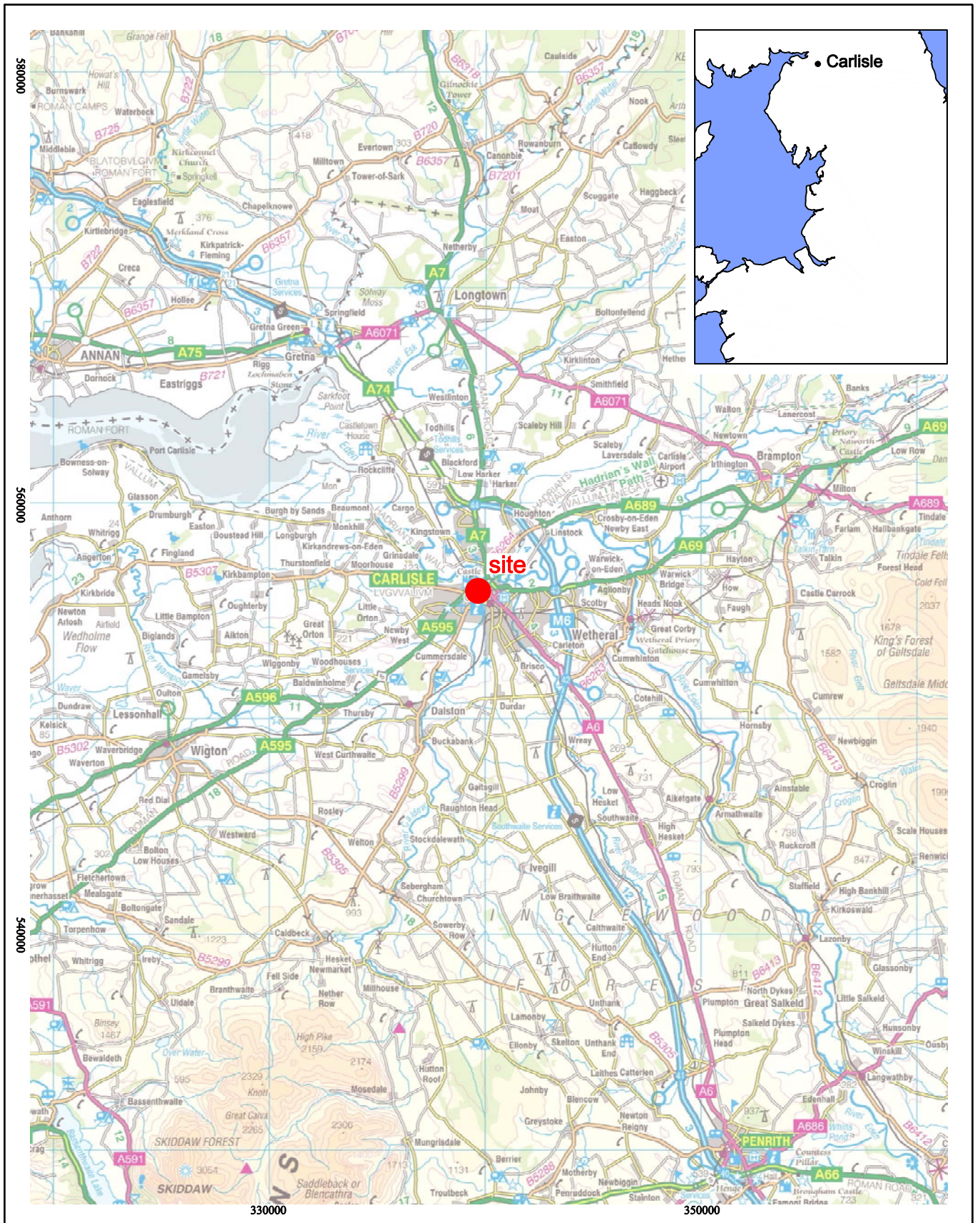
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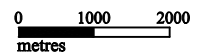


Figure 1: Location Map

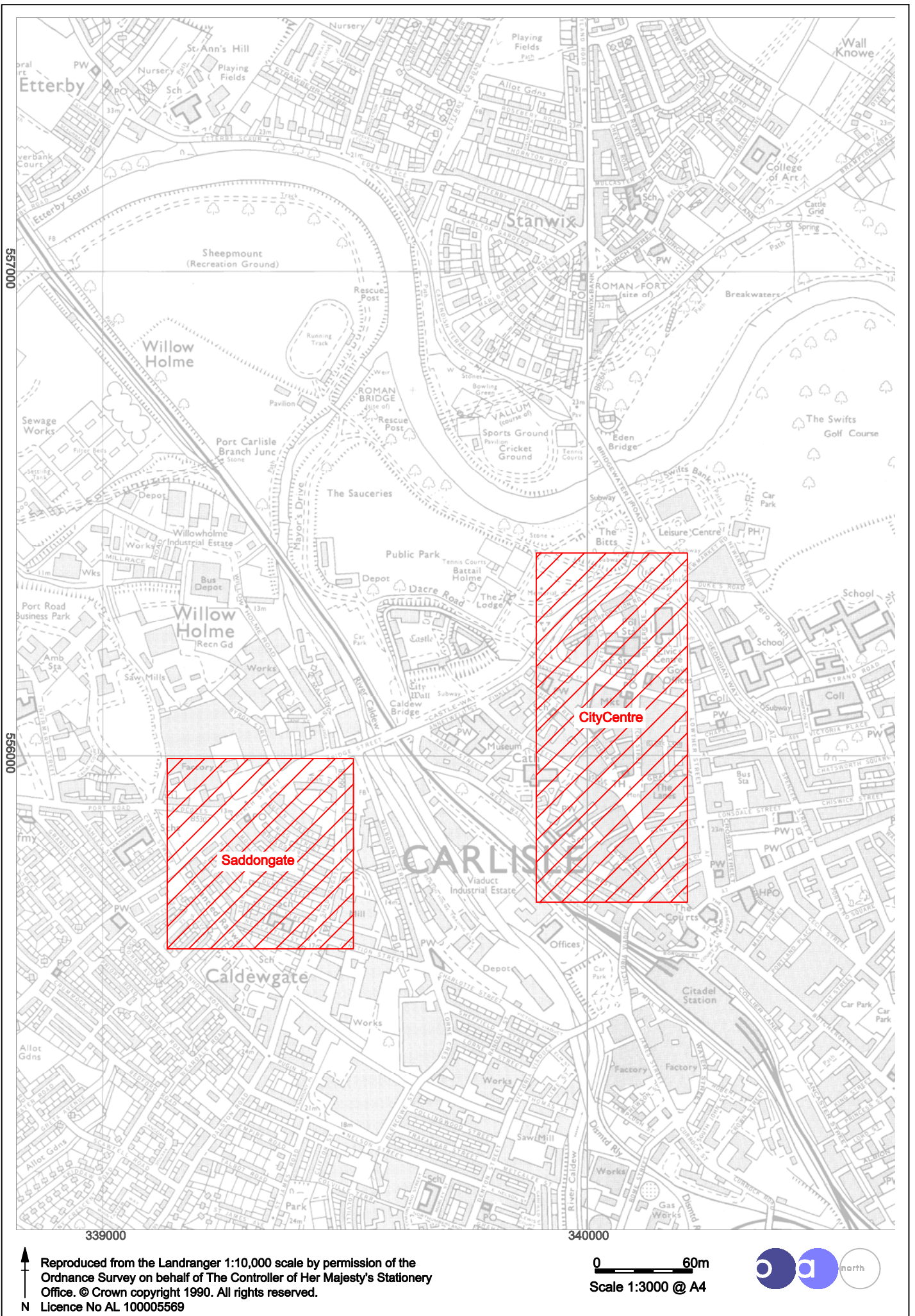


Figure 2: Plan of the two areas of investigation

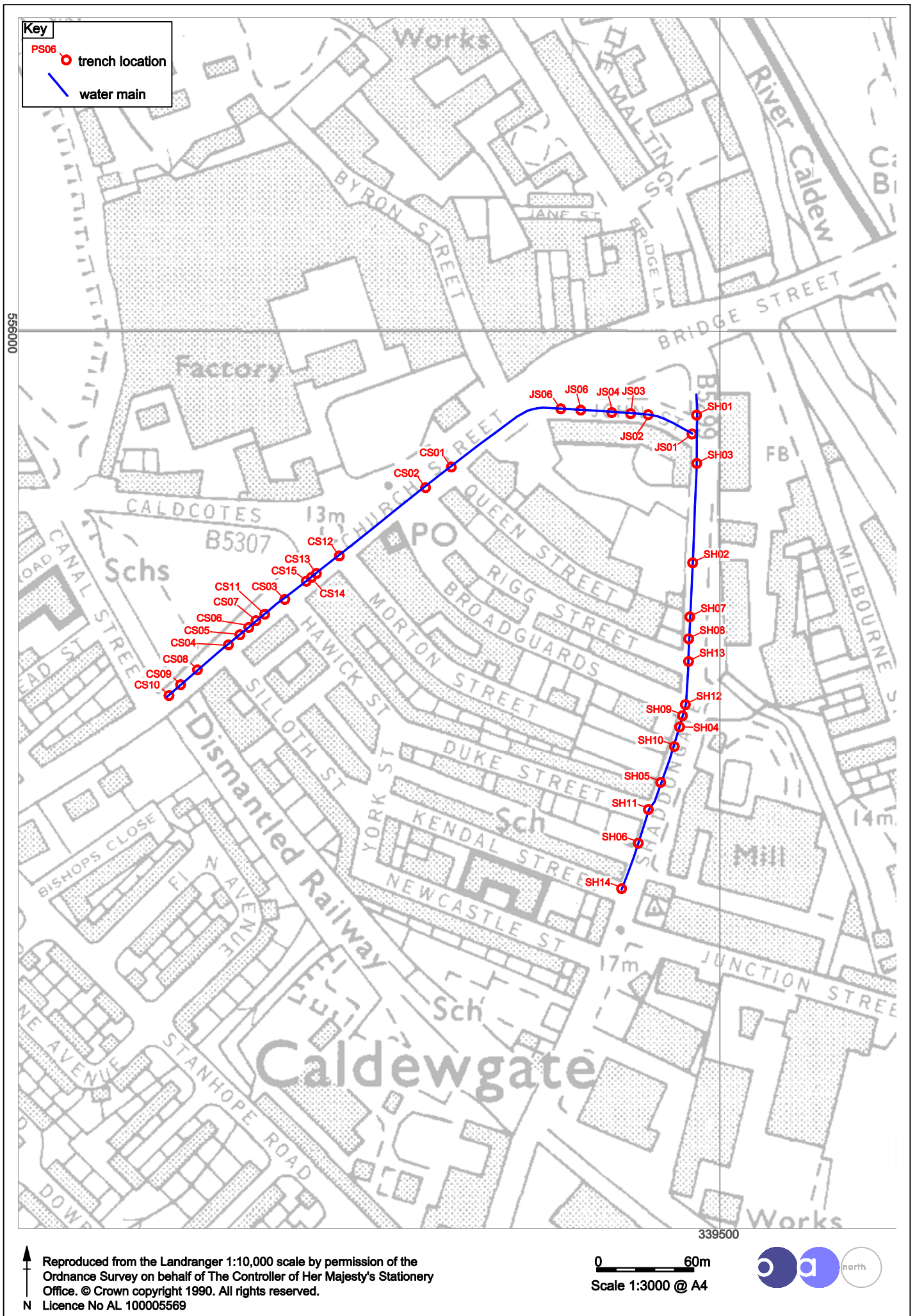


Figure 3: Detailed trench location plan, Shaddongate area

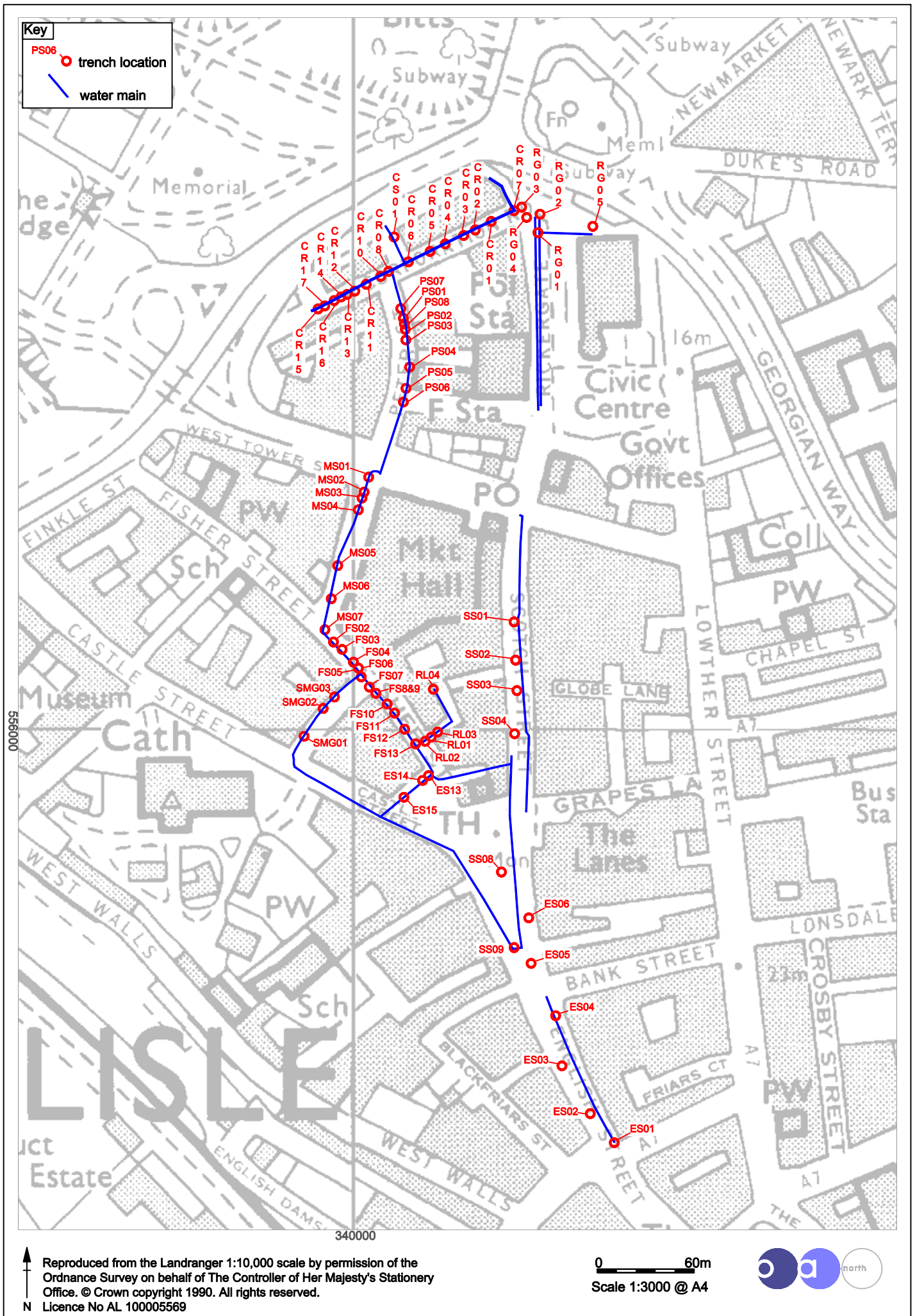


Figure 4: Detailed trench location plan, City centre



Plate 1: View along Church Street from Trench CS3



Plate 2: West-facing section of Trench CR14



Plate 3: East-facing section of Trench SS8



Plate 4: Plan view of Trench MS6



Plate 5: Plan view of Trench CR11



Plate 6: Plan view of Trench PS8



Plate 7: Plan view of Trench CLS1

APPENDIX 1: PROJECT DESIGN

Oxford

Archaeology

North

April 2004

CARLISLE CITY CENTRE, CUMBRIA

ARCHAEOLOGICAL WATCHING BRIEF

PROJECT DESIGN

Proposals

The following project design is offered in response to a request by Alfred McAlpine Infrastructure Services for an archaeological watching brief in advance of rehabilitation to water mains located in Carlisle City Centre, Cumbria.

1. INTRODUCTION

- 1.1 Balfour Beatty Utility Services (hereafter the client) are undertaking the rehabilitation of water mains throughout Carlisle City Centre Cumbria (NY 4040 5552). The route runs through an area of high archaeological potential and affects a number of known sites. The Cumbria County Archaeology Service (CCAS) has issued a verbal brief for a programme of archaeological work to be undertaken during the development works. The programme involves a watching brief during the opening of trenches or pits throughout the course of the works.
- 1.2 OA North has considerable experience of the assessment, evaluation and excavation of sites of all periods, having undertaken a great number of small and large-scale projects during the past 20 years. Watching briefs, evaluations and excavations have taken place within the planning process, to fulfil the requirements of clients and planning authorities, to very rigorous timetables. OA North has a term commission with United Utilities to undertake all their archaeological work throughout the Northwest. In addition OA North has undertaken a number of infrastructure-type projects for Balfour Beatty Utility Services.
- 1.3 OA North has the professional expertise and resources to undertake the project detailed below to a high level of quality and efficiency. OA North is an Institute of Field Archaeologists (IFA) registered organisation, registration number 17, and all its members of staff operate subject to the IFA Code of Conduct.

2 OBJECTIVES

- 2.1 The following programme has been designed to provide for accurate recording of any archaeological deposits that are disturbed by the rehabilitation works
- 2.2 **Watching Brief:** a permanent presence watching brief to be undertaken during all new ground disturbance and the excavation of launch/reception pits.
- 2.3 **Report and Archive:** production of a report following the collation of data during section 2.2 above.

3 METHOD STATEMENT

3.1 WATCHING BRIEF

- 3.1.1 **Methodology:** a programme of field observation will accurately record the location, extent, and character of any surviving archaeological features and/or deposits within any new excavations for the pipetrench and/or launch and reception pits. This work will comprise observation during the excavation for these works, the systematic examination of any subsoil horizons exposed during the course of the groundworks, and the accurate recording of all archaeological features and horizons, and any artefacts, identified during observation.

- 3.1.2 During this phase of work, recording will comprise a full description and preliminary classification of features or materials revealed, and their accurate location (either on plan and/or section, and as grid co-ordinates where appropriate). Features will be planned accurately at appropriate scales and annotated on to a large-scale plan provided by the Client. A photographic record will be undertaken simultaneously.
- 3.1.3 A plan will be produced of the areas of groundworks showing the location and extent of the ground disturbance and one or more dimensioned sections will be produced.
- 3.1.4 Putative archaeological features and/or deposits identified by the machining process, together with the immediate vicinity of any such features, will be cleaned by hand, using either hoes, shovel scraping, and/or trowels depending on the subsoil conditions, and where appropriate sections will be studied and drawn. Any such features will be sample excavated (ie. selected pits and postholes will normally only be half-sectioned, linear features will be subject to no more than a 10% sample, and extensive layers will, where possible, be sampled by partial rather than complete removal).
- 3.1.5 It is assumed that OA North will have the authority to stop the works for a sufficient time period to enable the recording of important deposits. It may also be necessary to call in additional archaeological support if a find of particular importance is identified or a high density of archaeology is discovered, but this would only be called into effect in agreement with the Client and the County Archaeology Service and will require a variation to costing. Also, should evidence of burials be identified, the 1857 Burial Act would apply and a Home Office Licence would be sought. This would involve all work ceasing until the proper authorities were happy for burials to be removed. In normal circumstances, field recording will also include a continual process of analysis, evaluation, and interpretation of the data, in order to establish the necessity for any further more detailed recording that may prove essential.
- 3.1.6 **Health and Safety:** OA North provides a Health and Safety Statement for all projects and maintains a Unit Safety policy. All site procedures are in accordance with the guidance set out in the Health and Safety Manual compiled by the Standing Conference of Archaeological Unit Managers (1997). A written risk assessment will be undertaken in advance of project commencement and copies will be made available on request to all interested parties.
- 3.1.7 OA North has professional indemnity to a value of £2,000,000, employer's liability cover to a value of £10,000,000 and public liability to a value of £15,000,000. Written details of insurance cover can be provided if required.
- 3.2 ARCHIVE/REPORT
- 3.2.1 **Archive:** the results of all archaeological work carried out will form the basis for a full archive to professional standards, in accordance with current English

Heritage guidelines (*Management of Archaeological Projects*, 2nd edition, 1991). The project archive represents the collation and indexing of all the data and material gathered during the course of the project. The deposition of a properly ordered and indexed project archive in an appropriate repository is considered an essential and integral element of all archaeological projects by the IFA in that organisation's code of conduct. OA North conforms to best practice in the preparation of project archives for long-term storage. This archive will be provided in the English Heritage Centre for Archaeology format and a synthesis will be submitted to the CSMR (the index to the archive and a copy of the report). OA North practice is to deposit the original record archive of projects (paper, magnetic and plastic media) with the appropriate County Record Office, and a full copy of the record archive (microform or microfiche) together with the material archive (artefacts, ecofacts, and samples) with an appropriate museum. Wherever possible, OA North recommends the deposition of such material in a local museum approved by the Museums and Galleries Commission, and would make appropriate arrangements with the designated museum at the outset of the project for the proper labelling, packaging, and accessioning of all material recovered.

- 3.2.2 The Arts and Humanities Data Service (AHDS) online database *Online Access to index of Archaeological Investigations* (OASIS) will be completed as part of the archiving phase of the project.
- 3.2.3 **Report:** one bound and one unbound copy of a written synthetic report will be submitted to the client, and a further three copies submitted to the Cumbria SMR within eight weeks of completion of fieldwork. The report will include a copy of this project design, and indications of any agreed departure from that design. It will present, summarise, and interpret the results of the programme detailed above and will include a full index of archaeological features identified in the course of the project, with an assessment of the overall stratigraphy, together with appropriate illustrations, including detailed plans and sections indicating the locations of archaeological features. Any finds recovered will be assessed with reference to other local material and any particular or unusual features of the assemblage will be highlighted and the potential of the site for palaeoenvironmental analysis will be considered. The report will also include a complete bibliography of sources from which data has been derived.
- 3.2.4 This report will identify areas of defined archaeology. An assessment and statement of the actual and potential archaeological significance of the identified archaeology within the broader context of regional and national archaeological priorities will be made. Illustrative material will include a location map, section drawings, and plans. This report will be in the same basic format as this project design; a digital copy of the report can be provided, if required.
- 3.2.5 Provision will be made for a summary report to be submitted to a suitable regional or national archaeological journal within one year of completion of fieldwork, if relevant results are obtained.

- 3.2.6 **Confidentiality:** all internal reports to the client are designed as documents for the specific use of the Client, for the particular purpose as defined in the project brief and project design, and should be treated as such. They are not suitable for publication as academic documents or otherwise without amendment or revision.

4 PROJECT MONITORING

- 4.1 Monitoring of this project will be undertaken through the auspices of the CCAS Archaeologist, who will be informed of the start and end dates of the work.

5 WORK TIMETABLE

- 5.1 The duration of the watching brief will be dictated by the progress of the contractor.
- 5.2 The client report will be completed within eight weeks following completion of the fieldwork.

6 STAFFING

- 6.1 The project will be under the direct management of **Alison Plummer BSc (Hons)** (OA North Senior Project Manager) to whom all correspondence should be addressed.
- 6.2 Present timetabling constraints preclude detailing at this stage exactly who will be undertaking the rapid walkover survey and targeted watching brief, but both of these elements of the project are likely to be supervised by an OA North project supervisor experienced in these types of project. All OA North project officers and supervisors are experienced field archaeologists capable of carrying out projects of all sizes.

7 INSURANCE

- 7.1 OA North has a professional indemnity cover to a value of £2,000,000; proof of which can be supplied as required.

APPENDIX 2: TRENCH DESCRIPTIONS

Trench No.	Length (m)	Width (m)	Depth (max) (m)	Description
<i>JS 1</i>	2.65	1.25	0.9	Excavated through the backfill of a previous cut for the junction. c.0.4m or road make-up overlying 0.5m of mid-brown stony-gravels
<i>JS 2</i>	2.3	1.1	1.1	Excavated through the backfill of a previous cut for the junction. c.0.3m or road make-up overlying 0.8m of grey-gravels
<i>JS 3</i>	1.1	1.05	1.15	Excavated through the backfill of a previous cut for the junction. c.0.3m or road make-up overlying 0.85m of grey-gravels
<i>JS 4</i>	1.2	0.9	0.9	Excavated through the backfill of a previous cut for the junction. c.0.3m or road make-up overlying 0.6m of grey-gravel
<i>JS 5</i>	2.4	0.5	0.9	Excavated through the backfill of a previous cut. Paving slabs overlay mostly gravel and other aggregates containing some modern brick fragments
<i>JS 6</i>	5.5	1.3	0.95	Excavated through the backfill of a previous cut. Pavement deposits overlay aggregates
<i>CS 1</i>	2.4	1.45	1.3	Excavated within the backfill of a previous pipe trench. Road surface overlay aggregate and gravel backfill
<i>CS 2</i>	3.2	1.2	1.3	Excavated within the backfill of previous service trenches sealed by road surface
<i>CS 3</i>	4.5	2.7	1.3	L shaped in plan, excavated within the backfill of previous service trenches sealed by road surface
<i>CS 4</i>	2.5	2.3	1	Excavated within the backfill of previous service trenches including two water and one gas main. Road surface overlay aggregate backfill
<i>CS 5</i>	1.6	0.9	1.2	Excavated within the backfill of previous service trenches sealed by

				road surface
CS 6	1.5	1.5	0.9	Excavated within the backfill of previous service trenches sealed by road surface
CS 7	1.35	0.9	0.9	Excavated within the backfill of previous service trenches. 0.1m of road surface overlay 0.3m of road make-up, which in turn over lay aggregate backfill
CS 8	1.45	1.1	1.2	Excavated within the backfill of previous service trenches sealed by road surface
CS 9	1.15	1.1	1	Excavated within the backfill of previous service trenches sealed by road surface
CS 10	3.6	1.3	1.3	Excavated within 0.6m backfill of previous service trenches sealed by road surface. The western side of the trench lay a deposit of reddish brown sandy-clay, possibly natural drift geology
CS 11	1.3	0.6	0.9	Excavated within the backfill of previous service trenches sealed by road surface and road make-up layers
CS 12	2.3	1.8	1.2	Excavated within the backfill of previous service trenches sealed by road surface and road make-up deposits
CS 13	1.5	0.9	1	Excavated within the backfill of a previous water pipe sealed by the road surface
CS 14	1.2	0.9	0.95	Excavated within the backfill of previous service trenches sealed by road surface
CS 15	1.4	1.4	1.2	Excavated within the backfill of (at least four) previous service trenches sealed by road surface
CS 16	2.05	2.9	1.2	Excavated within the backfill of previous service trenches sealed by road surface
SH 1	1.4	1.4	0.75	Excavated within the backfill of a previous service trench sealed by the pavement
SH 2	3	1.2	0.75	Excavated within the backfill of previous service trenches (five

				services were identified) sealed by road surface. A mixed stony-sand was observed at the base of the trench identified as natural drift geology
SH 3	0.7	0.75	0.3	Excavated within the aggregate backfill of a previous service trench sealed by pavement
SH 4	1.5	1	1	Excavated within the mixed stony-sand backfill of two previous service trenches and the sandy pea-grit backfill of a water pipe, sealed by pavement
SH 5	1	0.5	0.6	Excavated within the pebbly-gritty-sand backfill of a previous service trench
SH 6	3	1.6	1.6	Excavated through backfill of previous service trenches (four services identified) sealed by a series of pavement foundation layers of sand, tarmac and pebble
SH 7	1.2	0.8	1	Excavated within the gritty-clayey-sand backfill of two previous service trenches sealed by pavement
SH 8	1.6	2	1	Excavated within the creamy-brown sandy-clay backfill of four previous service trenches sealed by pavement
SH 9	2.5	0.7	1.1	Excavated within the stony backfill of a water pipe, water-logged at the base, sealed by road surface and road make-up layers
SH 10	1.3	1.8		Excavated within the backfill of previous service trenches, water-logged when recorded
SH 11	2.5	2	1.1	Excavated within the stony backfill of nine previous service trenches sealed by road surface
SH 12	1.6	1.4	1	Excavated within the stony backfill of previous service trenches sealed by road surface and road make-up layers
SH 13	2.8	1.4	1.07	Excavated within the stony backfill of seven previous service trenches sealed by pavement
SH 14	2.5	1	1.08	Excavated within the backfill of previous service trenches sealed by road surface

RG 1	3	2	1.1	L shaped trench, excavated within the backfill of two previous services and a manhole. 0.2m of road surfaces, tarmac and pebble foundation overlay 0.3m of compacted brick rubble, which in turn overlay pale orangy-brown silty-sand
RG 2	7	1.2	1.4	Excavated within the backfill of previous service trench. Setts overlay 0.5m of mixed overburden, which in turn overlay 0.9m of pale orangy-brown silty-sand natural. Brick manhole observed to the north and to the south of the trench
RG 3	2	1.5	1.1	Excavated within the gravel aggregate backfill of a previous service trench sealed by pavement
RG 4	3.5	1.8	1.3	Excavate through backfill of at least three pipe trenches. Road surface overlay 0.9m of overburden, which overlay natural boulder clay. The later pipe trenches cut through an earlier plank lined drain that sat on concrete and sealed by the tarmac, aligned east/west, sealed by the road surface, observed to the east of the trench 0.55m wide, 0.9m deep. A brick manhole was revealed to the north/west of the trench
RG 5	2.3	1.5	1	Excavated within the backfill of previous service trenches sealed by road surface and pavement
CR 1	2	1	0.7	Excavated within crushed grey hardcore with patches of orangey-brown clay backfill, sealed by road surface
CR 2	1	1	0.5	Excavated within crushed grey hardcore with patches of orangey-brown clay backfill, sealed by road surface
CR 3	1	1	0.5	This trench revealed dark greyish-brown sandy-clay mixed with fragments of building material backfill, sealed by road surface
CR 4	1	0.5	0.45	Excavated within crushed grey hardcore with patches of orangey-brown clay backfill, sealed by road surface

CR 5	1	1	0.45	Excavated within mid-orangy-brown clayey-sand with fragments of building rubble backfill, sealed by road surface
CR 6	1	1	0.15	This trench revealed grey crushed grey hardcore backfill, sealed by road surface
CR 7	3	1	0.85	This trench revealed two backfill deposits of mid-yellowish-brown sandy-gravel and building rubble, sealed by road surface
CR 8	2	1	0.6	Excavated within dark greyish-brown sandy-clay backfill, sealed by road surface
CR 9	2	1	0.7	Excavated within dark greyish-brown sandy-clay backfill, sealed by road surface
CR 10	1	1.3	1.2	Excavated within the grey crushed hardcore backfill of previous service trenches, sealed by road surface
CR 11	2	1	1.2	Excavated within the grey crushed hardcore backfill of previous service trenches, sealed by road surface
CR 12	2	1	1.2	Excavated within mid-greyish-brown sandy-clay with building rubble backfill, sealed by road surface
CR 13	1.5	1.5	1.2	Excavated within mid-greyish-brown sandy-clay with building rubble backfill, sealed by road surface
CR 14	2	1.5	1.2	Excavated within the existing pipe trench of grey crushed hardcore. Original ground observed in the west section made up of black sandy-gravel with building rubble, sealed by road surface
CR 15	4	2	1.2	Excavated within the mid-brown sandy-gravel backfill of previous service trenches, sealed by road surface
CR 16	1	1	1.2	Excavated within the grey crushed hardcore backfill of previous service trenches, sealed by road surface

CR 17	1	1	1.2	Excavated within the grey crushed hardcore backfill of previous service trenches, sealed by road surface
PS 1	2	0.5	0.5	Excavated within the black sand and gravel with concrete blocks backfill, make-up layers of the road, sealed by road surface
PS 2	1	1	0.7	This trench revealed concrete overlying greyish-brown silty-sand and building rubble backfill
PS 3	1	1	0.7	This trench revealed concrete overlying greyish-brown silty-sand and building rubble backfill
PS 4	3	1	0.8	This trench revealed a mixture of black sand with building rubble and grey crushed hardcore
PS 5	3	2	0.7	T shaped trench, excavated through dark grey sandy-clay with building rubble backfill
PS 6	3	0.5	0.7	This trench revealed tarmac overlying mid-brown gravelly-sand backfill
PS 7	1	1	0.6	Excavated within the dark greyish-brown sandy-clay backfill of a previous service trench, sealed by concrete
PS 8	2	1	0.6	Excavated within the dark greyish-brown sandy-clay backfill of a previous service trench, sealed by concrete
CLS 1	1	1	0.5	Excavated within the dark greyish-brown sandy-clay and gravel with building rubble backfill of a previous service trench
SS 1	4	2	1.2	Excavated within the light greyish-brown building hardcore backfill of a previous service trench
SS 2	2	1	1.2	This trench revealed 0.5m of grey hardcore overlying mid-brown sandy-gravel
SS 3	2	1	1.2	Excavated within the light greyish-brown building hardcore backfill of a previous service trench
SS 4	2	1	1.2	Excavated within the backfill of a

				previous service trench, 0.4m of concrete overlay hardcore
SS 5	4	2	1.2	Excavated mostly within the backfill of a previous service trench, the western section showed the pipe cut through mid-orangy-brown sandy-clay with occasional pebbles
SS 6	2	2	1.2	Excavated mostly within the backfill of a previous service trench, the western section showed the pipe cut through mid-greyish-brown sandy-clay with gravels
SS 7	4	2	1.2	Excavated mostly within the backfill of a previous service trench, the north and south sections showed mid-brown sand. Modern grey hardcore was evident in the western section with mid-greyish-brown sandy-clay mixed with gravel in the eastern section
SS 8	2	1	1.2	Excavated mostly within the backfill of a previous service trench, the western section showed mid-brown sandy gravel
SS 9	5	3	1.2	L shaped trench revealing 0.4m of modern hardcore overlying mid-greyish-brown sandy-clay with building rubble fragments, backfill of a previous service trench
MS 1	2	1	1	Excavated over existing water main trench within pink hardcore overlying dark grey silty-sand with mortar flecks, building fragments and rounded cobbles
MS 2	2	1	1.2	Excavated over existing water main trench within grey hardcore
MS 3	1	1	1.2	Excavated over existing water main trench within 0.3m of grey hardcore overlying 0.9m of grey hardcore
MS 4	2	1	1.2	Excavated over existing water main trench within 0.3m of pink hardcore overlying grey hardcore mixed with grey sand and occasional cobbles
MS 5	3	0.5	1.2	This trench revealed 0.3m of pink hardcore overlying dark grey silty-sand with occasional building rubble and cobbles. The southern section shows the cut of the original

				pipe trench filled with grey hardcore
MS 6	4	1	0.7	This trench revealed 0.3m of pink hardcore overlying dark grey silty-sand with occasional building rubble. The protruding section shows the cut of the original pipe trench
MS 7	4	1	0.7	Excavated over existing water main trench overlain with concrete
FS 1				Same as MS 7
FS 2	3	1.5	1	Excavated through made ground. Stone setts overlay 0.2m of pinkish hardcore, overlying 0.25m of concrete, which in turn overlay mixed brown sandy-clay backfill
FS 3	1	1	0.75	Excavated through made ground. Stone setts overlay 0.2m of pinkish hardcore, overlying 0.25m of concrete, which in turn overlay mixed brown sandy-clay backfill
FS 4	1	1	0.75	Excavated through made ground. Stone setts overlay 0.2m of pinkish hardcore, overlying 0.25m of concrete, which in turn overlay mixed brown sandy-clay backfill
FS 5	2	1.5		Backfilled before archaeological observation
FS 6	1	0.5	0.75	The trench revealed 0.1m of paving slabs overlying 0.05m of sand, which in turn overlay 0.6m of frequently stony sandy-clay backfill
FS 7	2	1	0.55	Mostly backfilled before archaeological observation. Stone setts overlay 0.1m of sand, overlying 0.2m of hardcore, overlying 0.25m of off-white decayed cement and sandstone levelling layer, which in turn overlay dark brown, mixed redeposited sandy-clay
FS 8	1.5	1.5	1	This trench revealed stone setts overlay 0.1m of sand, overlying 0.2m of hardcore, overlying off-white decayed cement and sandstone levelling layer, which in turn overlay dark brown, mixed redeposited sandy-clay
FS 9	1	0.75	0.75	This trench revealed stone setts in

				tarmac overlying 0.1m of sand, overlying 0.4m of hardcore, which in turn overlay dark grey-black sandy-clay backfill
FS 10	1	1	0.9	This trench revealed stone setts in tarmac overlying 0.05-0.1m of sand, overlying 0.4m of hardcore, which in turn overlay mid-brown-grey redeposited sandy-clay backfill
FS 11	1	1	1	Excavated within previous service trenches. Paving slabs overlay 0.4m, which overlay dark brown sandy-clay
FS 12	2	1	0.9	This trench revealed paving slabs overlying pebble laden cement, which overlay mixed rubbly sandy-clay backfill
FS 13	2	1.5	1	This trench revealed paving slabs overlying 0.05m of cement, overlying 0.4m of hardcore, which in turn overlay mid-grey sandy-silty-clay backfill
SMG 1	1.9	0.8	1.1	Excavated within previous service trenches. 0.1m of paving slabs overlay 0.3m of concrete rubble and sand, which in turn overlay 0.7m of dark blackish-brown silty-clay with brick, tile and sandstone fragments backfill
SMG 2	1	0.9	1	Excavated within previous service trenches. 0.1m of paving slabs overlay 0.3m of concrete rubble and sand, which in turn overlay 0.6m of gravely hardcore backfill
SMG 3	1.4	1.1	1	Excavated within previous service trenches. 0.1m of paving slabs overlay 0.3m of concrete rubble and sand, which in turn overlay 0.6m of gravely hardcore backfill
RL 1	1.1	1.5	1.15	Excavated within previous service trenches. 0.05m of sand stoneflags overlay 0.1m of bedding sand, which in turn overlay 1m of mixed sandy-clay backfill with brick, tile and sandstone fragments

RL 2	1.8	1.2	0.8	Excavated within previous service trenches. 0.05m of sand stoneflags overlay 0.1m of bedding sand, which in turn overlay 0.65m of mixed sandy-clay backfill with brick, tile and sandstone fragments
RL 3				No archaeological observation was undertaken
RL 4				Small hand excavation revealing setts overlying sand and gravel backfill
ES 1	4	4	1.2	Excavated within previous service trench, revealing reddish-brown sandy-gravel and dark brown sandy-clay backfill
ES 2	1.5	3	1.2	Excavated within previous service trench, revealing reddish-brown sandy-gravel and dark brown sandy-clay backfill
ES 3	1.5	3	1.2	Excavated within previous service trench, revealing concrete overlying reddish-brown sandy-gravel and dark brown sandy-clay backfill
ES 4	3	3	1.7	Trench revealed pipe for services cut into dark yellowish-brown sandy-clay overlain by concrete
ES 5	3	1.5	1.2	Excavated within previous service trench, revealing hardcore and brown sandy-gravel backfill
ES 6	12.2	5	1.3	This trench revealed 0.2m of concrete overlying 0.2m of make-up, overlying 0.5m of dark brown mottled clay, which in turn overlay gravel in dark black clay, most of the trench was excavated within the backfill of previous service trenches
ES 7	2	2.5	1.1	Excavated within previous service trench, revealing bricks laid over concrete and hardcore, which overlay a dark mottled clay backfill
ES 8	3.8	2.4	1.4	L shaped trench, excavated within previous service trench, revealing loose grey gravel backfill
ES 9	2.5	1.9	1.3	Excavated within previous service trench, revealing a dark brown clay with pebble inclusions under a concrete drain 0.55m in depth

				(possibly natural)
ES 10	1.5	1.2	1	Excavated within previous service trench, revealing a dark brown clay with pebble inclusions, possibly natural
ES 11	4.1	0.9	1	Excavated within previous service trench, revealing loose grey sandy-silt backfill
ES 12	2	3.3	1	Excavated within previous service trench, revealing backfill
ES 13	3	1.3	1	Excavated within previous service trench, revealing 0.2-0.3m of hardcore overlying brown-grey silty rubble backfill
ES 14	1.4	1.1	1	No archaeological observation undertaken due to flooding of trench
ES 15	1.4	1	1.2	Excavated within previous service trench, revealing 0.7m of hardcore overlying brownish-grey silty rubble backfill
CAS 1	2.25	1.5	1	Excavated within previous service trench, revealing backfill
CAS 2	1.6	1.1	1.2	This trench revealed 0.5m of modern brick surface, tarmac and concrete, which overlay mid-orange-brown sand, possibly natural
CAS 3	1.9	1.5	1.4	Excavated within previous service trench, revealing 0.5m of modern brick surface, tarmac and concrete, which overlay dark grey silty-clay backfill
CAS 4	4	1	1.5	Excavated within previous service trench, revealing modern brick surface, 0.5m of, which overlay dark grey silty-clay backfill
CAS 5	1.4	1.1	1.5	Excavated within previous service trench, revealing 0.5m of modern brick surface, tarmac, concrete and hardcore which overlay dark grey silty-clay backfill
CAS 6	1.6	0.6	1	Excavated within previous service trench, revealing 0.5m of modern brick surface, tarmac and concrete, overlying hardcore
CAS 7	6	0.45	1.05	Excavated within previous service trench, revealing 0.3m of concrete

				and hardcore, overlying make up layers; 0.15m of brown clay, overlying 0.1m of orange clay, which in turn overlay 0.5m of black clay. White gravel and darker gravel backfill filled the majority of the trench
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