

An Archaeological Research Framework for Chester

CHESHIRE ARCHAEOLOGY PLANNING ADVISORY SERVICE

An Archaeological Research Framework for Chester

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Acronyms

APAS: Archaeology Planning Advisory Service

HER: Historic Environment Record

HLC: Historic Landscape Characterisation

LDS: Local Development Scheme

NHPP: National Heritage Protection Plan

NPPF: National Planning Policy Framework

PAS: Portable Antiquity Scheme

SSSI: Special Site of Scientific Interest

UAD: Urban Archaeological Database

VCP: Very Coarse Pottery

An Introduction to the Research Framework for Chester

Introduction

The Research Framework for Chester presents a series of period-based research themes that are specific to the City and to add to the regional and national research frameworks. It includes both research objectives and methodological priorities for future investigations. The Research Framework has three core objectives:

- To inform master planning in the city,
- To inform and provide a context to development-led archaeological mitigation,
- To inform and direct future research programmes.

A recently produced strategy for developing Research Frameworks (English Heritage, 2013c) has identified several issues that should be addressed when writing including:

- Research Frameworks need to underpin the current planning framework (NPPF) and evidence base (HER; archival research)
- Improve understanding of the built environment, particularly the recent archaeological record
- The need to engage with advances in information and communication with a view to improving publication and dissemination.
- The need to provide a holistic approach to research that can be answered by professional archaeologists & specialists as well as community and academic groups.

National Strategies

English Heritage has recently produced a series of thematic research strategies, including two period-specific strategies for the Prehistoric and Roman periods, a thematic Industrial Strategy document and a general strategy for archaeological research in an urban environment (English Heritage, 2010a; 2010b; 2010c). The former includes a number of goals that are of particular significance to Chester (English Heritage, 2010a):

- **3.1 Developer-funded Research**
The opportunity provided by the large body of unpublished major excavations in the city centre to produce synthetic studies to develop further understanding of the significance of the city's historic environment.
- **3.3 Survival of Early Form and Fabric in Historic Towns**
The significance of the adaptation and reuse of urban space, as demonstrated by the resilience of Chester's natural and man-made topography and its building pattern during thousands of years of development and change.
- **3.6 Coastal Towns and Historic Ports**
The visible evidence for Chester's maritime role is relatively recent, but a rich and mainly untapped archaeological resource survives below ground and requires further investigation and analysis.
- **3.7 Providing the Evidence Base for Regeneration and Renewal**
The component parts of this project – the Urban Archaeological Database (UAD), terrain model and characterisation provide an evidence base for master planning exercises in advance of proposed major regeneration schemes in the city. The Research Framework assists in identifying the significance of the historic environment in each part of the city, enabling regeneration schemes to be based on a sound understanding of that significance.

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Regional Strategies

At a regional level, the Research Framework for Chester refines the broad research goals set out in the Research Agenda and Strategy for the North West of England (Brennand, 2007). There are a number of thematic research priorities that reflect Chester's importance in the region at certain times, for example:

- The origins, strategic function and end of the Roman fortress, its material culture and architecture, and its relationship with the surrounding population.
- The development of Chester as a strategic power base for the emerging Saxon state.
- The high potential for the integrated analysis of a provincial multi-period urban centre through its exceptionally well-preserved settlement form, topography, archaeology, material culture, built heritage and documentary evidence.

Local Strategies

At a local level, the Research Framework for Chester is built on the products of the Chester UAD Project and existing site and period-based research agendas for the city. From these, additional thematic research priorities specific to the city, are apparent (Archaeology Planning Advisory Service, 2010):

- As a base for centralising political authorities seeking domination of the Irish Sea Province in the Roman, Saxon, Norman and medieval periods.
- As an economic centre for maritime and land-based trade, craft and industry.
- As a social and cultural centre as the first tourist city, the role of entertainment, leisure, retail and commerce, and as a place of worship.
- Chester's relationship with its hinterland, agriculture, the environment, settlements and settlement hierarchy, local trade and communications.

Where applicable, the aims of the Research Framework relate to the Archaeological Character Zones developed by the UAD Project. The Character Zones surmise the archaeological potential of a defined area and act as a resource assessment for the City. They consider the predominant archaeological features and heritage assets within an area, and act as an introduction to the detailed information compiled in the UAD. The process of creating the Chester UAD has increased accessibility to this knowledge substantially and we are better placed now to fulfil the original remit of the agenda 'to identify gaps in our knowledge, assess the potential for addressing these, and defining research initiatives'.

Current Planning Framework

The National Planning Policy Framework (NPPF) was introduced in 2012 to manage sustainable development within the planning system and includes a positive strategy for the enhancement and management of both designated and non-designated heritage assets (DCLG, 2012). The NPPF replaces earlier national policy documents relating to the historic environment, including Planning Policy Guidance Notes 15 and 16 (1990-2010), and Planning Policy Statement 5 (2010-2012). Section 12 of the NPPF covers policies relevant to the historic environment and considers their conservation and management to be a material consideration in the planning process. The Research Framework for Chester is intended to underpin and support decisions by the Planning Archaeologist for development planning purposes.

Research Framework Structure

This document is divided into seven main sections. The first includes research aims and priorities that are associated with broad themes such as geology, planning policy and archaeological archives, followed by six based on the broad archaeological periods presented in [Table 1](#):

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Period	Date Range
Prehistoric	pre-AD 43
Roman	AD 43 – 409
Saxon	AD 410 - 1065
Medieval	AD 1066 - 1539
Post Medieval	AD 1540 – 1799
Industrial	AD 1800 - Current

Table 1: Archaeological and Historical Periods used in this Agenda

Each Research Agenda presents research questions derived from the UAD Project as well as national, regional and local research frameworks and agendas. These have been contributed to, and moderated by, specialist consultants in the relevant themes and period for the City. The document outline broadly follows that established by the North-West Research Agenda and Strategy (Brennand, 2007) and the main sections may include that summarised below:

- **Introduction**
- **Period Summary:** Period summary and evidence from the UAD.
- **Environmental Study and Artefacts:**
 - Environment; focussing on understanding potential changes in the environment during that period.
 - Artefact; specific questions regarding artefact analysis such as ceramic typologies.
 - Ecofacts; specific questions regarding what animal and plant remains can tell us about society and economy.
 - **Settlement and Land Use:**
 - **Fortress/City;** focussing on activities within the city centre and infrastructure.
 - **Suburban/canabae;** focussing on civil or suburban settlement surrounding the historic core.
 - **Rural;** focussing on farmsteads, small rural settlements, manors and villas.
- **Military Activity:** This will vary according to period but can include the Roman fortress defences, the Civil War or the Castle.
- **Ritual and Religion:** This includes burials and cemeteries, minsters, monasteries and churches.
- **Technology and Production:** Examining aspects of the recovery and processing of raw materials for trade, including: extraction of raw materials, industrial processing, mills and mill sites and fishing.
- **Trade and Exchange:** The port and maritime trade, road networks, canals and railways, and markets and fairs.

Each section is presented as a series of *Themes*, followed by objectives or questions (*Aims*), and brief guidance or further information on their achievement where relevant. An example of the format that will be found throughout this document is illustrated in Figure 1. All aims apply to the Archaeological Character Zones identified at Chester, and specific Zones will be mentioned where there is a higher potential to address a particular research aim.

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Theme 1: Theme 1 Environmental Study and Artefacts

Aim 1.1: What was the extent and course of the River Dee during the Roman period?

Archaeological Investigation. More systematic environmental and geological sampling to better understand the changing nature of the river. The river is a Special Site of Scientific Interest (SSSI), and one of the key features of interest are the extent of the visible and below ground palaeo-channels located across the floodplain surrounding the present channel (English Nature, nd).

Archaeological Character Zones with higher potential to address this aim: Zones 34, 39.

Figure 1: Example of the format and content of each research aim found throughout the document.

Geographic Context

Chester sits on the south-western border of a region that encompasses the modern counties of Cheshire, Greater Manchester, Merseyside, Lancashire and Cumbria. The North-West region borders Scotland and Wales, as well as four other English regions (the North-East, Yorkshire, the East Midlands and the West Midlands). It also contains a substantial section of the English coastline and there are historic ties with Ireland and the Isle of Man. The modern political and administrative boundaries reflects a much wider system of connections with place and space beyond the environs of the study area and it is recognised that a Research Framework for the city should consider the regional context.

Geology

Around Chester the solid geology marks the base of the Sherwood Sandstone Group (*aka* Bunter Sandstone) and generally date to the early Triassic period (252 to 247.2 million years ago). These sandstones are soft with horizons of harder mineralized conglomerates and are represented locally by the Kinnerton Sandstone Formation, Chester Pebble Beds Formation, and the Wilmslow Sandstone Formation.

Chester's bedrock is divided by a north-south line west of the Grosvenor Bridge. The Chester Pebble Beds Formation occur to the east of this line and the Kinnerton Sandstone Formation to the west. The soils derived from the local sandstones are well drained sandy loams, but there is a tendency for podzols and iron pans to form. They can be used as agricultural land, but if left undeveloped will quickly revert to heath land.

Young soils formed from alluvium sediments along the flood plain of the Dee contain large erratics from elsewhere in the catchment area. It can be argued that the bulk of the sediment matrix is the product of greater in-wash in the past, when material was carried in the sediment load before being deposited on the river bed. Mineral and chemical studies can identify the source location of in-washed material (e.g. the Rheidol, West Wales). The relative thickness of such deposits could be used to determine whether activities such as clearance had increased significantly between two known points in time (Schoenwetter, 1982).

Relatively recent changes to sea level, notably a period of transgression in Roman times that peaked in the late fourth century, when previously unaffected areas would have been subject to inundation. Sea level fell to close to present levels by the seventh century, rising again until the late thirteenth century, from which it has fallen to present levels. These transgressions and regression would have had a significant impact on the development of Chester's port, in addition to the related silting up of the River Dee (Eadie, 2012; Ward, 2012b).

Broad Themes Agenda

Before outlining research aims that are specific to particular periods, certain themes relevant to all of Chester's history should be highlighted. The following 'broad themes' may also relate to issues concerning the wider region (social, political or economic), geological or environmental context, and to specific concerns relating to archaeological processes, archives and post-excavation analyses. These themes should also be viewed against the background of national and local planning policies.

Theme 1: Broad Themes in Archives

Aim 1.1: Assessment and analysis of rescue excavation archives.

Research. Prior to the implementation of PPG16, archaeological investigation was largely carried out under private arrangement with the developer and with public funding for the excavation. Consequently, sizable archives have accumulated which have not yet been subject to assessment, post excavation analysis or publication.

Aim 1.2: Investigation of appropriate forums for the publication and dissemination of unpublished material.

Research. Investigation into alternative forms of access to unpublished material through increased digital access to archives. The promotion of accessibility to the Historic Environment Record (HER) through a variety of platforms.

Aim 1.3: Revision and creation of Historic Environment Designations.

Research. The identification of over 900 archaeological investigations in the study area and over 3800 monuments have resulted in one of the most up-to-date synthesis of Chester's archaeological record. The results should lead to the reassessment of the importance, spatial extent and documentation of existing designations and present potential new candidates for designation.

Aim 1.4: Maintenance and upkeep of the Chester UAD.

Research: Although the UAD Project has concluded, future investigation will continue to reveal potentially substantial activity that will require creation of new and amended records.

Theme 2: Broad Themes in Industry

Period-specific industry aims are covered in each section but there are also broad themes specific to industry that should be highlighted. The identification of which can lead to a greater understanding of the evolution of technology and industrial processes as well as their wider contribution to society, of the relationship between sites and their setting, and their impact on the environment (English Heritage, 2010c). Several industries are significant in Chester such as metal-working, leather working, pottery and brick manufacture, coach-building, fisheries, ship-building and water-power.

Aim 2.1: Investigation into the origins of industry in Chester?

Research. Is it possible to identify key moments in the evolution of industry in Chester? Can we identify the earliest incidences of industrial activity such as pottery kilns, metal-working or water-power either in the documentary record or through archaeological evidence? How does this compare at a regional or national level?

Aim 2.2: What were the dominant industries in Chester?

Research. In addition to the traditional industries one might expect in urban environments, what evidence is there for specialist industries in the city?

Aim 2.3: What impact did industry have in Chester?

Research. What was the impact of industrial processes and the evolution of industrialisation and manufacture on the agricultural landscapes? What were the social and economic impacts? What was the legacy of industry in Chester? Was there continuity of sites and technology?

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Theme 3: Broad Themes in Environmental Studies

A limited number of environmental reports by external specialists have been submitted in the last decade. Most have focused on the identification of various wood samples from waterlogged deposits. J Watson (1980) examined waterlogged samples from the Arrowcroft Scheme, recognising a *Quercus* (oak) and *Fraxinus* (ash) fragment from a barrel and pulley block. Further wood samples from the Abbey Green site were identified as *Picea* (spruce), *Cedrus* (cedar), *Larix* (larch), *Betula* (birch) and *Acer* (sycamore); mineralised *Quercus* (oak), *Salix* (willow) and *Populus* (poplar) were also recovered from the Hunter Street school site. From the Hunters Walk excavation fragments of *Fragus* (beech) and *Fraxinus* (ash) handles have been recovered. This information has helped to supplement knowledge on local resources available during Chester's past and enables a picture of the local woodland composition to be envisaged (Chester Archaeology, 1999).

Aim 3.1: Target deposits with palaeo-environmental potential for their information on the local palaeo-environment.

Archaeological Investigation. Cheshire's meres and mosses have been subject to systematic study to evaluate and classify the palaeo-environment of the sub-region (Leah *et al*, 1997). However, information from the estuarine wetlands and the immediate Chester area is sparse and our understanding of the palaeo-environment is largely by extrapolation. Targeted sampling of deposits during archaeological investigation to recover pollen and other micro-fossils would contribute to palaeo-environmental reconstruction at a wider, regional level.

Aim 3.2: Target deposits with palaeo-environmental potential for information on patterns of agricultural exploitation.

Archaeological Investigation. Such deposits have the potential to increase our understanding of the agricultural economy at different periods. For example, targeted studies of macro-botanical remains recovered from previous excavations, and establishing sampling strategies for their future recovery will help reconstruct the agro-economic circumstances of the city in the past, and soil micro-morphology could contribute to our understanding of the formation of so-called 'dark earth' layer across the historic core.

Archaeological Character Zones with a higher potential to answer this aim: Zones 1-20.

Aim 3.3: Assess faunal assemblages for the potential to elicit information on the City's agricultural economy.

Archaeological Investigation. Faunal remains, typically animal bones, are commonly recovered from excavations within the City. These assemblages have the potential to contribute to our understanding of animal husbandry and the wider agricultural economy. For example, were livestock brought to town on the hoof or butchered outside? (Harrison, 1997).

Aim 3.4: Assess faunal assemblages for the potential to elicit information on the City's industrial economy.

Archaeological Investigation. Spatial analysis of assemblages from multiple sites has the potential to contribute to our understanding of industrial activity within the City, for example, horn waste may be associated with the leather industry (Harrison, 1997). Plant remains, insects and chemical analyses of processing wastes and residues are also highly relevant.

Aim 3.5: Investigation into new and developing techniques into recording, studying and conserving artefacts recovered (Brennand, 2007: 66).

Aim 3.6: Production and dissemination of a cohesive pottery fabric series for the study area and the incorporation of alternative methods of absolute dating where possible (Brennand, 2007: 70).

The Prehistoric Research Agenda

A recent thematic strategy produced by English Heritage has sought to identify key themes in prehistoric research that can contribute to the understanding and protection of prehistoric remains (English Heritage, 2010b). The key strategies for prehistory in urban environments are:

- Integrated approaches to prehistoric landscapes,
- Setting prehistoric sites in context,
- Understanding 'sites without structures'.

Structure

Given the limited nature of the prehistoric evidence base in Chester, prehistory is covered in a single section, beginning with a series of period summaries and followed by general themes that may transgress the archaeological periods and encompass the following:

- **Site identification:** Priorities for the identification of prehistoric sites,
- **Burial:** Burial and ritual sites in prehistoric sites,
- **Settlement and Land Use**
- **Environmental Study and Artefacts:**
 - Environment - focussing on understanding changes to the environment during that period through environmental analysis,
 - Artefacts – specific questions regarding artefact analysis such as ceramic typologies,
 - Ecofacts – specific questions regarding what animal remains and plant remains can tell us about society and economy.

Period Summaries

Studies in prehistory cover many thousands of years from the earliest evidence of human activity through to the start of the Roman period in around AD 43. Within this time-frame there are a number of distinct periods that are commonly recognised in the archaeological record based on developments in artefact technology and the morphology of archaeological sites.

Palaeolithic and Mesolithic

The Palaeolithic ranges from c.250, 000 years ago to the end of the Devensian glaciation c.10,000 years ago (8,000 BC). Although during the glacial periods much if not all of region would have been beneath the ice sheet, a number of inter-glacial and inter-stadials would have provided ice-free environments for exploitation by Palaeolithic hunter gatherers.

Evidence for human and Neanderthal presence in the region has been discovered in a number of caves within surrounding counties (e.g. Pontnewydd, Ffynnon Beuno, Cae Gwyn and Lynx cave in Denbighshire; Cresswell Crags and Dowell Hill in Derbyshire; and Elder Bush and Thor's Fissure in Staffordshire). Until recently evidence of human activity from the Palaeolithic was restricted to a small number of stone artefacts, which lacked a clear provenance. However, recent excavations at a rock shelter in Carden Park in Cheshire have discovered a number of possible upper Palaeolithic tools. There has only been one discovery of probable Palaeolithic date from Chester comprising a flint flake from 1908, however, its provenance is uncertain.

The Mesolithic spans the period from c 8000 BC to c 4000 BC. Although hunter gatherers, like the people of the Palaeolithic, Mesolithic peoples had developed a complex stone tool kit, indicating a greater degree of adaptation to local environments allowing the exploitation of a wider range of food sources.

Although Mesolithic evidence for Cheshire cannot be described as extensive, it is still considerably greater than that for the Palaeolithic. Palaeo-environmental evidence from the Cheshire and Warrington wetlands has suggested the manipulation of the landscape to create small-scale

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clearances in the woodland by burning, perhaps to promote vegetation attractive to grazing animals (Leah *et al*, 1997).

Within Cheshire, there is a dispersed but growing body of evidence of Mesolithic activity. For example, a camp site around a natural hollow at Tatton Mere; the rock shelter at Carden Park; artefacts found at Frodsham and Ashton, and from isolated examples from the uplands of the county.

There is also limited evidence of activity from the Mesolithic in Chester. Identification is primarily based on artefact assemblages or isolated finds, two such examples are known just beyond the study area at Bache Pool to the north and Chester Business Park to the south and while recorded discoveries of Mesolithic artefacts come from the Amphitheatre, Bridge Street and St Olave's Church, all are microliths recovered as residual deposits (Chester Archaeology, 1999). There may be undisturbed Mesolithic features at the site of the amphitheatre, however (Garner, *pers comm*).

Neolithic and Bronze Age

The Neolithic (or New Stone age) is distinguished from the Mesolithic by the transition from a hunter gatherer society to an agricultural (food producing) society, involving the cultivation of plants and the domestication of animals. The Neolithic saw the development of new stone tool types, the use of pottery, and the construction of large ritual and ceremonial monuments. This transition began in Britain in around 3500 BC.

Palaeo-environmental evidence for Cheshire would appear to mirror national trends. Pollen evidence shows a local decline in tree cover and an increase in the incidence of open ground species, followed by natural regeneration of the woodland (Cowell, 1992). This is associated with an overall national decline in elm. This may be due to a form of slash and burn agriculture, where woodland clearance is followed by a period of farming until the soil is exhausted, at which point the farmers move on and the woodland regenerates. However, with the absence of cereal pollen this cannot be conclusively related to agriculture.

Neolithic settlements revealed by archaeological excavation in Cheshire include: unenclosed post-built structures at Tatton Park; occupation remains on one of the sand 'islands' at Lindow Moss; and Oversley Farm where a rectangular building comprising beam slots and post holes, with a central hearth, was discovered (Garner, 2007).

Elsewhere Neolithic pottery and flints have been found during archaeological excavations at Norton, Beeston Castle and Chester. At Woodhouse End, a large assemblage of pottery sherds, representing at least twenty-three vessels, was recovered from a round barrow, attesting to nearby settlement (Hodgson and Brennand, 2007). The axes discovered in the Wirral and western Cheshire are mostly from North Wales, whereas those found in the Mersey and Weaver valleys come from Cumbria (Longley, 1987). Two axes made of jadeite from Chester and Lyme Handley are probable continental imports (Longley, 1987).

Funerary and ceremonial monuments are represented by a small number of sites in Cheshire including the Bridestones chambered tomb in the Peak Fringe while aerial survey has discovered a number of rectangular cropmarks at Churton in the Dee valley, interpreted as possible Neolithic mortuary enclosures. In the mid-nineteenth century a cremation cemetery, consisting of burials placed in urns, was discovered near to Eddisbury hillfort.

Within the study area there are several recorded stone axes from Hunter Street, Eastgate Street and further afield at Pipers Ash. In addition there was a small assemblage of blades and flakes of a possible Neolithic date recovered from recent investigations at the amphitheatre.

The Bronze Age (2500 BC to 700 BC) is distinguished from the Neolithic by the introduction of metal working and new pottery types, and the establishment of new types of burial monument. The

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majority of evidence from this period mainly date to the early Bronze Age, with little evidence relating to the middle and late Bronze Age.

Throughout much of the country the early Bronze Age was a time of settlement and agricultural expansion. Deterioration in climate beginning around c.1500 BC and possible failures in the agricultural regime led to abandonment of many marginal settlements and the formation of large areas of heathland and moorland. Palaeo-environmental evidence from Cheshire suggests that the woodland clearance begun in the late Mesolithic continued. At Oversley Farm the palaeo-environmental evidence indicates that a Bronze Age settlement was located within an area of open heath and pasture, suggesting that by this period woodland clearance was more extensive and permanent (Garner, 2007). Peckforton Mere and Bar Mere, adjacent to the mid-Cheshire Sandstone Ridge, contain deposits that represent major episodes of soil erosion that may be related to woodland clearance during the Bronze Age (Schoenwetter, 1982).

The upstanding earthwork remains of around 120 Bronze Age round barrows are recorded in the Cheshire Historic Environment Record. They generally occur in ones or twos, lying principally on land above 60 metres (Longley, 1987). By contrast, the Wirral has numerous finds of urns, but few barrows (two to three in total). Several urns with associated cremated bone were recovered from the eroding cliff at West Kirby. Similar cemeteries have been discovered at Betchton and Tytherington in Cheshire. Aerial photography has revealed evidence of ploughed out round barrows in the form of ring ditches. These cluster along the Cheshire Ridge and on the east Cheshire Plain, and are found in the Weaver and Dane valleys, at altitudes below 70 metres on wetter soils.

There is little evidence in Cheshire of actual settlement dating to the Bronze Age. At High Leigh an enclosure has been identified by aerial survey, from which flint tools have been recovered dating to c.2000 BC. A middle Bronze Age settlement has been excavated at Irby, which comprised the post settings of an oval building and associated features, from which pottery and evidence for bronze working and cereal production were recovered. Nearby, on the north coast of the Wirral, a midden comprising the bones of wild animals has also been dated to c.2000 BC. At Oversley Farm, the settlement evidence spanned the entire Bronze Age. Features included post holes and beam slots representing a succession of buildings, pits, hearths, middens and a trackway, associated with a large pottery assemblage (Garner, 2007). Excavations at Beeston Castle revealed a timber-laced rampart, dated by radiocarbon to 1270 – 830 BC, directly associated with two bronze socketed axes (deliberately placed on the ground surface below the rampart). Behind the rampart were seven circular buildings of late Bronze Age to early Iron Age date, and associated pits and post holes.

The Cheshire Historic Environment Record contains one hundred records relating to finds of Bronze Age metalwork, including axes, spear heads and swords, but also jewellery, such as the gold torques found near Malpas. A significant number of such items have been recovered from wetland sites (Leah *et al*, 1997). The majority were probably ritual deposits, a practice widely undertaken in the British Isles during this period.

Cheshire also contains evidence of metal production. At Alderley Edge a copper mine of Bronze Age date has been discovered. Archaeological excavations have revealed a series of pits, 3-4m deep containing hammer stones to break up the rock, and an oak shovel. At Beeston Castle a number of moulds, crucibles, and refractory waste have been recovered which suggests that this site may have been a specialist metal working centre in the Bronze Age.

Unfortunately the evidence from Chester itself is limited. There is a scatter of artefacts from across the city centre including two palstaves, a mace-head, some flint and a small assemblage of flint from Hoole; however they are largely chance or residual discoveries with limited contextual information.

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Iron Age

The Iron Age (700 BC – AD 42) is represented largely by several hillforts on the mid-Cheshire Ridge, but aerial photography has recently revealed the evidence of lowland farmsteads around the Bollin Valley in north Cheshire and elsewhere along the River Mersey. Archaeological excavations have taken place at several of these enclosures. Evidence from Great Woolden Hall, Greater Manchester (Nevell, 1998); Brook House Farm, Cheshire and Irby, Merseyside (Phillpott and Adams, 1998) suggests that a common form of settlement in the later prehistoric period consisted of a curvilinear single or double-ditched enclosure, less than 2 hectares in area, containing one or more circular buildings (Nevell, 1998; Phillpott and Adams, 1998). A mixed farming economy seems to have been practised. There is little evidence of coin and pottery use.

Some of these sites appear to have had their origins in the Bronze Age, such as at Oversley Farm (Garner, 2007) and Brook House Farm (Fairburn, 2002a), and many of them continued in use into the Roman period. These excavations demonstrate the existence of a range of settlement types in the region during the Iron Age, ranging from unenclosed and enclosed farmsteads to hillforts.

Pottery does not appear to have been commonly used over much of north-west England during the Iron Age. However, recent excavations have produced a variety of ceramic products, and the number of pottery assemblages of this period is now growing. The most widely represented locally made pottery is known as VCP (Very Coarse Pottery). Vessels made of VCP tend to be cylindrical with thick bases and walls and widely flaring rims. They have been identified as containers used to dry and transport salt from the brine springs of Northwich, Middlewich and Nantwich to settlement sites in north Wales, the Welsh Marches and the Midlands during the later prehistoric and early Roman period (Morris, 1985). Salt production is thought to have started in the Late Bronze Age and intensified in the Iron Age and Roman periods; it was an important commodity, being used for the preservation of foodstuffs and for other purposes. The exact production sites for VCP have not been identified, but detailed analysis suggests that it was manufactured in close proximity to the salt in the Nantwich-Middlewich area. The wide distribution of VCP salt containers outside Cheshire suggests that an established trade or exchange system was in operation.

The most dramatic evidence of Iron Age culture was found during peat cutting at Lindow Moss in the 1980s, when two well-preserved bog bodies were discovered. One of the bodies, known as 'Lindow Man', had been ritually slaughtered and buried in the bog, where the preservative properties of the peat had ensured his survival. Radiocarbon dating indicates a date in the early Roman period, the circumstances surrounding his death point to a strong survival of Celtic tradition during Roman occupation.

The compilation of the UAD has highlighted the potential for more extensive Iron Age activity than previously thought including pottery from Abbey Green, Handbridge and Linenhall as well as settlement activity at the amphitheatre and Pepper Street. In addition, there is increasing evidence of the Late Iron Age to early Roman transition period with early/pre Roman deposits at Abbey Green, Eastgate Street, Frodsham Street and Nicholas Street while the recent investigations at the amphitheatre have produced the first evidence of Middle to Late Iron Age domestic settlement in Chester.

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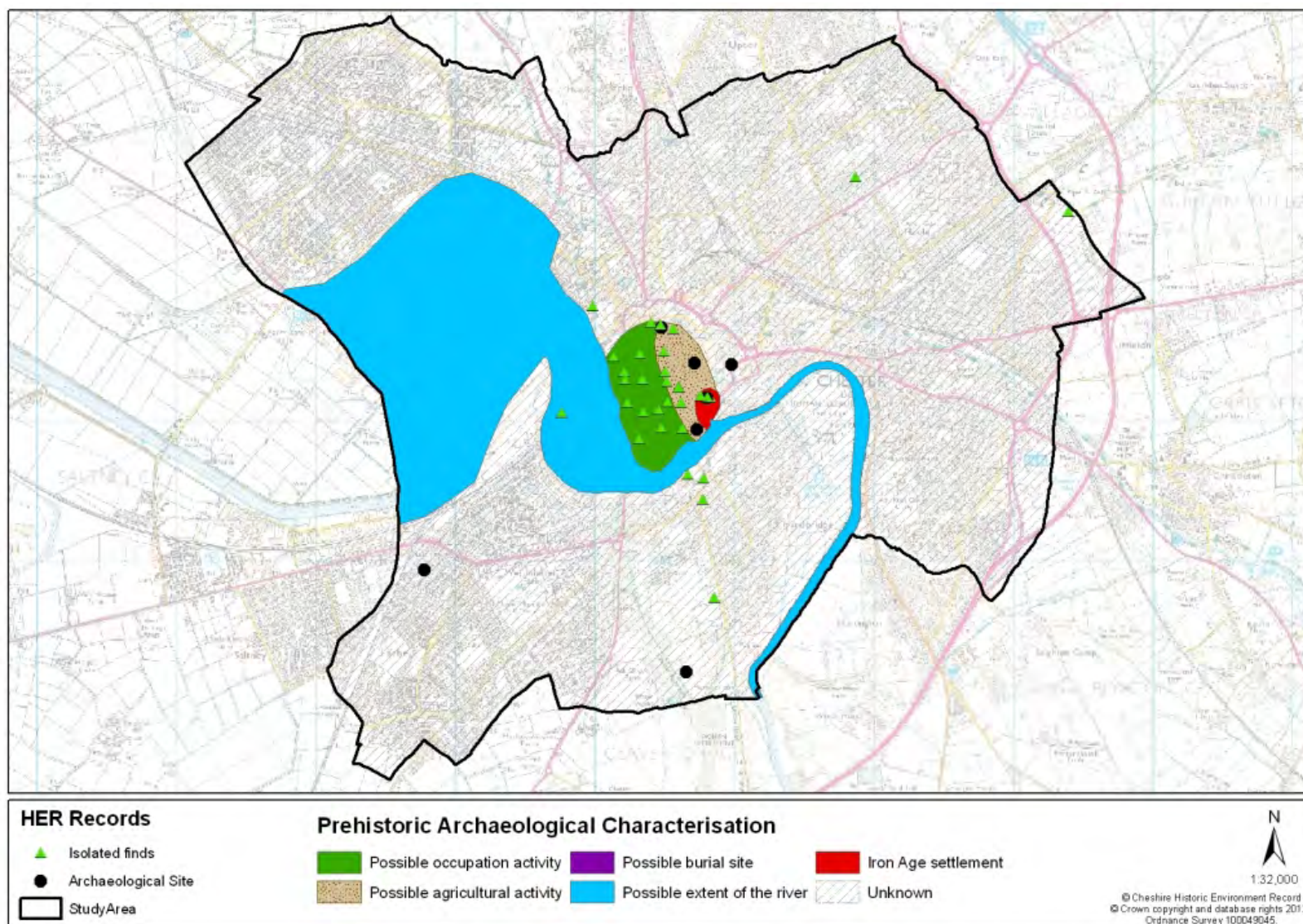


Figure 2: Chester UAD Study Area with extent of prehistoric characterisation

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General Themes in Prehistoric Studies

Theme 4: Burial

Aim 4.1: A single ‘burial’ of pre-Roman date has been recorded to the west of the city at Saltney, is it possible to establish a more precise dating?

Research. It has not been determined if the human remains were interred deliberately or became buried accidentally. Further quantification and analysis of the existing unpublished archive is required.

Archaeological Character Zones with a higher potential to answer this aim: Zone 51.

Theme 5: Settlement and land use

Aim 5.1: Re-assessment of possible pre Roman or late Iron Age evidence from sites in Chester, in particular Abbey Green and Frodsham Street. Is it possible to establish more precise dating?

Research. There has been some discussion on the potential for early plough marks recorded at Abbey Green to be early Roman in origin rather than Iron Age agricultural activity, however the sources remain unpublished.

Archaeological Character Zones with a higher potential to answer this aim: Zones 1, 24.

Aim 5.2: Investigate the potential for the Brewers Hall area as an Iron Age hillfort.

Landscape Survey. Topographical survey or detailed study of aerial photographic archive. Earthworks have been recorded on the Brewers Hall peninsula on aerial photographs since the 1950s and it has been argued that the topography in this area is well suited to a hillfort.

Archaeological Character Zones with a higher potential to answer this aim: Zone 55.

Aim 5.3: What is the potential for further settlement activity of a Middle- to Late-Iron Age date at the amphitheatre and in the surrounding landscape?

Research / Post Excavation Analysis / Archaeological Investigation. Archaeological investigation or a research and review of existing material. Does this site point to larger settlement activity in the Grosvenor Park area following the recent discovery of Middle to Late Iron Age settlement on the site of the Roman amphitheatre?

Archaeological Character Zones with a higher potential to answer this aim: Zones 21, 12, 20, 26, 27.

Theme 6: Environmental Study and Ecofacts

Aim 6.1: Can sampling strategies in the alluvial floodplains surrounding the river Dee assist in the production of a model of the river and the estuary in the prehistoric period?

Research / Archaeological Investigation. Review of current environmental and geological samples, as well as the systematic and targeted collection of samples in the future to enhance our knowledge of the study area. Can this lead to a greater understanding of the character of the prehistoric landscape and how wetland and dry-land zones may have formed? The river is a SSSI, and one of the key features of interest are the extent of the visible and below ground palaeo-channels located across the floodplain surrounding the present channel (English Nature, nd). Similar studies have been carried out in Oxford where changes in alluvial deposits in the Upper Thames Valley can be related to clearance and agricultural activity (Robinson and Lambrick, 1984: 809-24).

Archaeological Character Zones with a higher potential to answer this aim: Zones 34, 39, 53, 54, 57, 83.

Aim 6.2: Can patterns of tree clearance from the prehistoric period be identified in the study area?

Archaeological Investigation. There is clear evidence from some of the cores taken from Cheshire’s mosses of incidences of burning associated with increases in pollens indicative of

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clearance (Leah *et al*, 1997). At Bar Mere, incidents of rapid deposition of alluvial material have been interpreted as accelerated soil erosion associated with woodland clearance in the Bronze Age (Schoenwetter, 1982).

Aim 6.3: Quantify the potential for ritual deposition of cultural material in wetland zones.

Research / Archaeological Investigation. There is clear potential for ritual deposition in wetlands along the river and in particular at the Meadows and Brewers Hall peninsula from the Bronze Age onwards (Matthews, 1993).

Archaeological Character Zones with a higher potential to answer this aim: Zones 55, 83.

Theme 7: Artefacts and Ecofacts

Aim 7.1: Review of lithic assemblages from the Chester area – can their dating be improved? (Hodgson and Brennand, 2007).

Research. Quantification and assessment of the existing assemblages dated to the Palaeolithic, Mesolithic, Neolithic and Bronze Age; can improved dating for activity or sites through their artefact assemblages lead to new appreciations of their significance? This should also seek to review, as yet, undated assemblages.

Aim 7.2: Review of stone artefacts from the Chester area – can their dating be improved?

Research. Quantification and assessment of the existing assemblages dated to the Neolithic and Bronze Age; can improved dating for activity or sites through their artefact assemblages lead to new appreciations of their significance? This should also seek to review as yet undated assemblages (Hodgson and Brennand, 2007).

Aim 7.3: Review of bronze artefacts from the Chester area – Can patterns be established?

Research. Quantification and assessment of the existing assemblages; can improved dating for activity or sites through their artefact assemblages lead to new appreciations of their significance? This should also seek to assess the potential for further investigation into the sources of the raw material (Hodgson and Brennand, 2007).

Aim 7.4: Review of prehistoric pottery from the Chester area.

Research. Although there have been a number of recorded references to Iron Age VCP, detailed information on their discovery remains elusive; can improved dating for activity or sites through their artefact assemblages lead to new appreciations of their significance?

Aim 7.5: Examination of the potential for Iron Age metalwork from the Chester area. This group remains rare at a regional level (Hodgson and Brennand, 2007: 53).

Research.

The Romano-British Period Research Agenda

At a national level, English Heritage have recently produced a series of thematic research strategies including an overall strategy for archaeological research in an urban environment (English Heritage, 2010a). Complementary to this, a series of thematic research strategies have also been produced including one for the Roman period, highlighting the importance of fresh research into past discoveries and the need to identify new areas of interest. It draws on a number of pre-existing national agendas, primarily that produced by the CBA (James and Millet, 2001).

Period Summary

The fortress of Deva was established c.74 AD by its initial garrison, *Legio II Adiutrix*, and finds from the harbour area suggest that these facilities were built at the same time (Watkin, 1887: 124). Its initial garrison left in the 80s AD and by the mid-90s AD it was garrisoned by *Legio XX Valeria Victrix*. The latest evidence for *Legio XX* at Chester dates from the early 250s AD and the final evidence for this Legion is from coins issued in the latter decades of the third century. No mention of this Legion is made in the *Notitia Dignitatum* (c.395 AD), an inventory of Roman military forces, but the large scale building works of c.300 AD and the absence of any major changes to the fortress' layout, strongly suggest a continued military presence (Mason, 2001). The volume of coins declines rapidly from the 370s AD and the extent of military occupation in the late fourth century is debatable (Brennand, 2007).

The general sequence of construction of and within the fortress is understood in considerable detail (Carrington, 1994). Furthermore, a significant number of the principal buildings and features of the fortress survive and remain visible within the modern city. Elements of the stone faced rampart to the fortress, constructed c. 100 AD, survive within the later medieval walls; in particular parts of the stone facing to the northern rampart survive to walkway height. Several excavated sites have been retained for public display, including elements of the headquarters building (*principia*), the south-eastern corner tower and the partially excavated amphitheatre. Elsewhere elements of the fortress survive within later structures, for example the *hypocaust* to the legionary bathhouse (*thermae*) is visible in a later undercroft.

In common with many Roman fortresses and forts, *Deva* attracted non military personnel who established themselves outside the ramparts. The area between the river and the fortress clearly contained associated storage structures and some substantial houses, extramural baths and a *mansio*, but the degree to which this represents the civilian settlement (*Canabae Legionis*) is open to debate (Carrington, *pers comm*). The area along the road exiting the *porta principalis sinistram* (Foregate Street) is often considered the commercial part of the civilian settlement, with evidence of narrow timber 'strip-buildings' of shops at the front and residential space at the rear and industrial and agricultural activity, as well as timber and stone buildings.

Further settlement remains have been identified along Watling Street, to the south of the fortress, at Handbridge, but this seems to be more rural in character (like Lache to the west) and is probably associated with the field systems identified at Chester Business Park (*NAA/JCAS forthcoming*).

Knowledge of the fortress and associated civilian settlement at Chester may be contrasted with limited evidence from the wider hinterland (Carrington, 1994: 39). Other than the three forts and their *vici* at Northwich, Middlewich and Nantwich and the industrial complexes at Wilderspool and Holt, settlement evidence is restricted to a villa at Eaton (Mason, 1982, 1983), and several Romano-British farmsteads. Small scale excavations have tentatively identified a small roadside settlement near Tilston (Waddelove AC and E Waddelove, 1981, 1983, 1988) and there are artefact scatters at Kelsall and Marbury that may be indicative of *mansio* or villa sites.

The Chester UAD Project has resulted in a significant increase in our documented knowledge of the area during the Roman period with a rise in monument records from 439 to 1299 within the study

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area. These records, however, are largely the result of a brief investigation into the unpublished archives and grey literature reports for the city and largely constitute an index of remains and should not be considered a replacement for adequate post excavation analysis.

General themes in Roman studies

Theme 8: Impact of Roman Rule

Aim 8.1: To what extent did 'native' British populations survive into the early Roman period? Is it possible to identify surviving Iron Age traditions in the archaeological record?

Research / Archaeological Investigation. Archaeological Character Zones with a higher potential to answer this aim: Zone 21.

Aim 8.2: What were the geographical origins of cultural influences in Roman Chester and what cultural traits evolved locally?

Research / Archaeological Investigation. Possible research opportunities are available from isotope analysis of teeth. Also involves a level of disruption to Iron Age settlement pattern. Archaeological Character Zones with a higher potential to answer this aim: Zones 1-29.

Aim 8.3: What was the nature of the Iron Age to Roman transition? The only evidence of continuity of activity so far is found at the amphitheatre. To what extent were the Late Iron Age remains deliberately cleared by the Romans in advance of the construction of the amphitheatre?

Research / Archaeological Investigation. Archaeological Character Zones with a higher potential to answer this aim: Zone 21.

Theme 9: Chronologies and Dating

Aim 9.1: Target sites and deposits with potential for radiocarbon dating to contribute to the establishment of a chronology for Chester (Brennand, 2007: 57).

Archaeological Investigation.

Aim 9.2: Target sites and deposits with potential for dendro-chronological dating to help address the national bias of mid-second to late third century dates and the national absence of fourth century dates (English Heritage, 2006).

Archaeological Investigation.

Aim 9.3: Investigation into new and alternative techniques for dating of Roman material.

Research / Archaeological Investigation. Archaeological briefs for development-led projects should stipulate programmes of dating, stratigraphic and scientific analysis. Research-led projects should also be required to adhere to the basic principles of development led projects, particularly in terms of scientific analysis and wider publication of discoveries.

Environmental Study and Artefacts

Theme 10: Environmental analysis

Aim 10.1: Investigation into environmentally sensitive soil horizons, such as waterlogged deposits along Foregate Street.

Research / Archaeological Investigation. The waterlogged deposits along Foregate Street provide a unique opportunity to assess the environmental (and economic) conditions under which the Roman community lived, and their identification should be a priority for future investigation in this area.

Archaeological Character Zones with a higher potential to answer this aim: Zone 23.

Aim 10.2: Integrate awareness of paucity of finds into excavation sampling strategies?

Archaeological Investigation. Archaeological briefs for development-led projects should highlight the significance of finds assemblages such as wood, textiles or leather.

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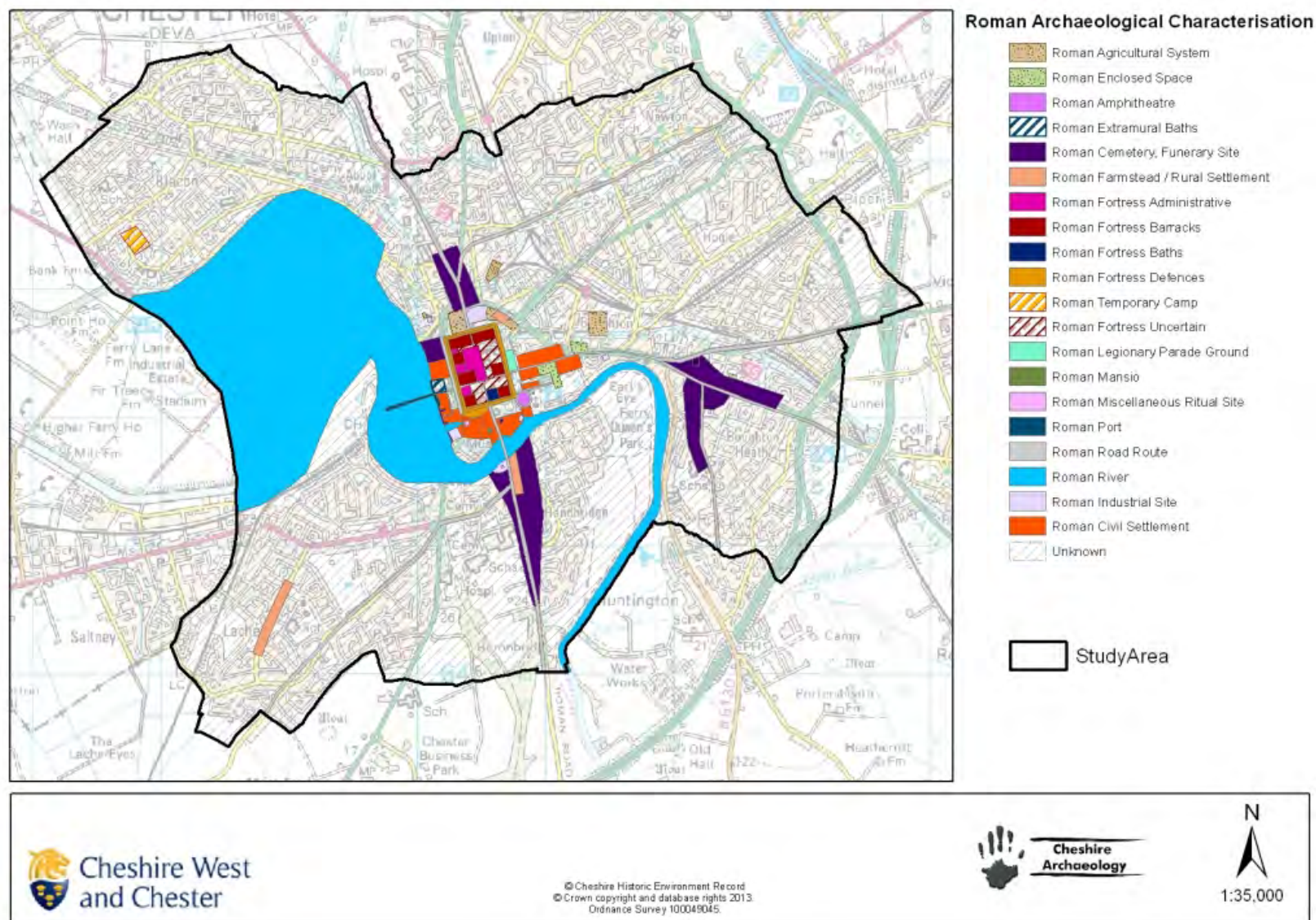


Figure 3: Archaeological characterisation of Roman activity in the Study Area

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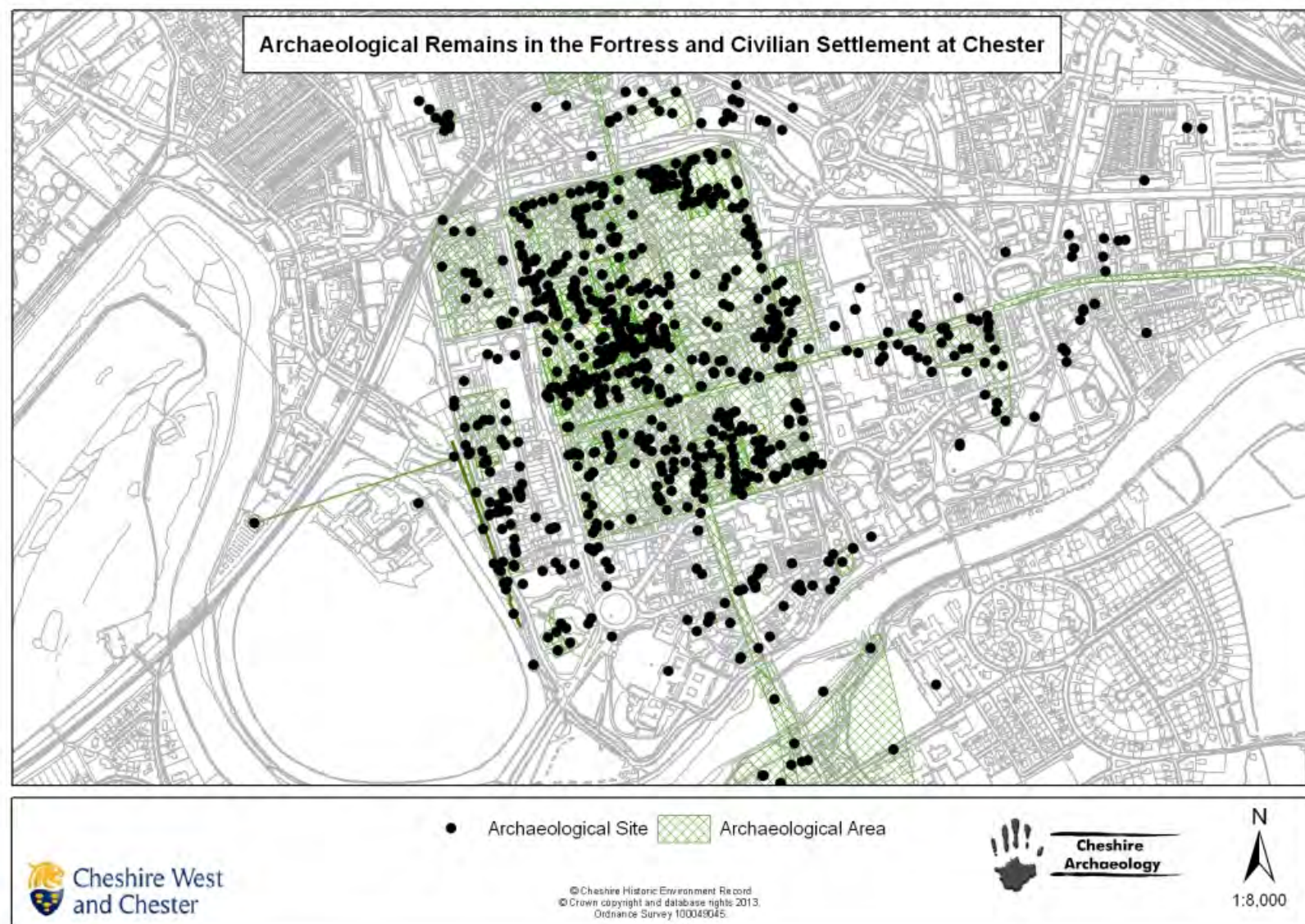


Figure 4: Known archaeological sites in the historic city

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Theme 11: Artefacts

Aim 11.1: Use of spatial analysis on urban sites to identify spatial variation across the site landscape (Jones, 2000).

Research / Post Excavation Analysis. Detailed analysis can demonstrate clear variations in the supply and consumption of Roman pottery between sites as well as at different locations across individual sites leading to the characterisation of functional zones or areas of economic specialisation (Willis, 2002).

Aim 11.2: Can we distinguish spatial variations in the distribution of ceramics and other artefacts, between and within the fortress, canabae and rural settlements, and do these distributions change over time? What do they tell us about people (or their roles in society), activities, level of wealth or access to various types of goods? (Jones, 2001).

Research / Post Excavation Analysis. Spatial variations of the commonality or rarity of ceramic or other artefact types, shop locations, distribution pattern from port, location of port, warehouses, social patterns and potential levels of relative wealth can all be examined. The results of such studies could also be compared to other Roman fortresses and communities, can we identify differences in the distribution of imported goods between the civilian and military zones (Jones, 2001).

Archaeological Character Zones with a higher potential to answer this aim: Zones 1-13.

Aim 11.3: What can an analysis of the origins of pottery suppliers tell us about the role of military markets (Jones and Dunn, 1997)?

Research. Who made the first pottery used in Roman Chester and where was it made? What influences does it show? What does this tell us about the movements of troops and ‘hangers-on’ and army logistics?

Aim 11.4: Can evidence from Chester help us to understand production at Holt, for example, the chronologies of building materials, coarse pottery and legionary ware, and the nature of the workforce? (Jones and Carrington, 1997)?

Research. An understanding of Holt will involve comparisons with military pottery and tile kilns elsewhere in Britain and across the empire.

Aim 11.5: Can the ethnic origins of Chester’s inhabitants be identified by studies of locally made ceramics? (Willis, 2002).

Research. Are there clear cultural preferences in the consumption of material culture? For example, North African building techniques and methods of cooking?

Aim 11.6: Can we refine the dating of Chester tombstones and other inscriptions and learn more, especially about civilians?

Research. There seems to be a sudden upsurge in civilian representation on tombstones after AD 200. This will need to be studied by experts with a wide knowledge of the inscriptions and sculpture of the western empire.

Archaeological Character Zones with a higher potential to answer this aim: Zones 1, 31, 38, and potentially others.

Aim 11.7: What can a study on graffiti and inscriptions on non-stone artefacts (pottery and other objects) tell us about life in Roman Chester?

Research. Update and examine the existing corpus of inscriptions on items such as metal, glass, ceramics, following the completion of the Roman Inscriptions of Britain Series in 1995.

Aim 11.8: Can artefact analysis inform us about exchanges between different centres of Roman authority in the Roman Empire?

Research / Post Excavation Analysis. Recent studies on coin distribution by Shotter (1993, 1994, 2000) and Flavian Samian by Wild (2002) have highlighted the importance of maritime trade

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over land-based routes and the network of taxation and exchange at work. Can this work be replicated at a local or regional level? Can it tell us about Chester's place in the Roman Empire?

Aim 11.9: Is it possible to distinguish between material culture from the fortress and the civil settlement?

Research / Post Excavation Analysis. Was there a difference in the choice of building materials? They can also help determine building technique, status and function, such as the use of high-quality, polished plaster with added crystalline calcite in the intonaco layer, as opposed to poorer-quality finishes or the presence or absence of CBM forms that indicate centrally-heated buildings.

Theme 12: Ecofacts

Aim 12.1: Establishment of a sampling strategy for sensitive features within the city such as ramparts or ditches for the recovery and investigation of buried soils, turves and similar deposits (Brennand, 2007: 60).

Archaeological Investigation. Future investigation in the city may benefit from the establishment of systematic sampling strategies for a number of purposes. Primarily this should comprise soil samples that may recover pollen, insects and other micro-organisms as well as minute quantities of metal waste that may inform on environment and climate as well as activity in the immediate area. Other sampling strategies may take into account charred material for dating purposes.

Aim 12.2: The study of large waterlogged or carbonised assemblages from military granaries and living quarters. Can this provide us with answers on the origin of grain supplies? (Harrison, 1997).

Archaeological Investigation / Post Excavation Analysis. Archaeological Character Zones with a higher potential to answer this aim: Zones 4, 8, 10.

Aim 12.3: Investigation into the potential for environmental samples to inform on possible distinctions between military and civilian diets, and urban and rural diets (Jones and Dunn, 1997).

Research / Archaeological Investigation / Post Excavation Analysis.

Settlement I: The Fortress

Although Roman settlement at Chester is separated into research aims specific to the military fortress, the civilian settlement and rural settlement, it should be remembered that there was a complex system of inter-dependent relationships between these different spheres. They reflect new systems of governance introduced by the Romans on native activity. The relationship between rural settlement and agriculture needs to be viewed in relation to urban centres (Brennand, 2007: 62). In Chester there is increasing evidence from the north of the city for a rural-urban fringe of activity beyond the fortress and civilian settlement.

Archaeological Character Zones with a higher potential to answer this aim: Zones 1-13.

Theme 13: General Themes

Aim 13.1: What was the strategic function played by Deva in military campaigns? (Carrington, 1999).

Research. Chester was a hinge-point for Roman control of western and northern Britain.

Aim 13.2: To what extent was Chester occupied as a garrison throughout the Roman period (Appleby, 1994)?

Research. What evidence is available to study the extent and intensity of occupation by the *Legio XX* throughout the full Roman period, and does the evidence reflect periods of less intensive occupation, such as the so-called 'hiatus' period.

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Aim 13.3: Can we identify unit origins and movement in the Roman period through the study of Flavian/Trajanic assemblages, brick and tile stamps and provision of continental assemblages? (Jones and Dunn, 1997).

Research / Post Excavation Analysis. Despite the extent of archaeological research on Roman military sites, the process of the military advance into the north and the subsequent infrastructure and deployment of the army is still poorly understood (Brennand, 2007: 61).

Theme 14: **Chronology and Dating**

Aim 14.1: What is the potential for evidence of the early pre-fortress phase of activity, particularly towards the centre of the modern city?

Archaeological Investigation / Post Excavation Analysis. Have any development-led archaeological projects within the fortress provided opportunities to review established local chronologies and phasing of the fort construction and use. Particular attention should be paid to any possible traces of early pre-fort activity phases (Brennand, 2007: 62). Can we refine our phasing for the fortress including initial date of construction and phases of building activity within it (Carrington, 1999)?

Aim 14.2: How valid is the concept of the 'military hiatus' (Appleby, 1994)?

Research. Although a 'hiatus period' has been proposed for Chester in the second century, current research suggests the situation may have been more complicated than previously thought, with the evidence perhaps reflecting a series of fluctuations in military occupation.

Aim 14.3: Was fourth-century occupation in the fortress of a military nature (Appleby, 1994)?

Research / Archaeological Investigation.

Theme 15: **Plan and Construction of the Fortress at Deva**

Aim 15.1: Was the Roman surveying of the site accurate and what units of measurement were used?

Research / Archaeological Investigation.

Aim 15.2: What does the unusual plan of the Chester fortress and its buildings tell us about the intended/actual use of the fortress?

Research. To what extent is the size of Roman Deva a reflection of *Legio XX*? The only fortress of comparable size is Inchtuthill, also occupied by *Legio XX*.

Aim 15.3: Can we fill in significant gaps in the fortress plan? Focus on areas such as Abbey Square, Bridge Street etc (Carrington, 1999).

Archaeological Investigation.

Aim 15.4: Can we refine our knowledge of building plans and construction techniques within the fortress?

Research. Such as changes in the internal arrangement of the barracks, gateways into the fortress, architectural ornamentation and the large courtyard building at Market Square (Carrington, 1999).

Aim 15.5: Can comparisons be drawn, spatially and chronologically, between styles of architecture, both within and beyond the fortress walls over the Roman period (Matthews and Smith, 2006)?

Research.

Aim 15.6: How were the barracks laid out within the fortress (Appleby, 1994)?

Research. How were the internal arrangements of the barracks organised? How many contubernia were created within each building? What was the extent of change over the Roman period? Obvious changes such as rebuilding of the fortress in stone affected the lay-out

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of rooms; however are more social issues such as smaller units or married quarters in the third or fourth centuries reflected in the internal layout?

Aim 15.7: What degree of uniformity can be detected in the construction of the timber barracks (Appleby, 1994)?

Research. Review of building materials used in the superstructure of the second century stone barracks, what flooring materials were in use? Are there similarities in construction between the barracks and the centurion's quarters?

Theme 16: The Buildings of the Roman Fortress

Aim 16.1: Continued work is required on the unpublished resource on the buildings of the Fortress.

Research / Post Excavation Analysis. A number of the principal buildings have been investigated on several separate occasions; however, due to time and financial constraints, few have been published. Further investigation into the viability of publishing synthetic studies on the Headquarters Building, Large Courtyard Building, Storage Building (to the rear of the Elliptical Building), Granaries and the Barracks of the fortress are recommended.

Aim 16.2: What industrial processes went on in the workshops identified west of the 'Elliptical Building'?

Research / Post Excavation Analysis.

Archaeological Character Zones with a higher potential to address this aim: Zone 7.

Aim 16.3: Can a more detailed analysis of the artefact assemblage from the excavations at the Elliptical Building help inform on its function (Carrington, 1999)?

Although clearly an important structure – worthy of being built on two occasions – the function of the Elliptical Building remains unclear.

Archaeological Character Zones with a higher potential to address this aim: Zone 5.

Aim 16.4: Further investigation into the Roman remains to the west of Bridge Street should be a high priority for future investigation as well as research.

Research / Post Excavation Analysis. Projected plans of the fortress suggest this area was occupied by the hospital; however, the Roman remains so far consist of tantalising fragments of both timber buildings and late Roman monumental stone buildings. A synthetic study of the archives may provide a better understanding of activity in this area.

Archaeological Character Zones with a higher potential to address this aim: Zone 8.

Aim 16.5: Non-intrusive survey of the Deanery Fields and Cathedral area with the aim of identifying surviving below ground remains of the Roman barracks (Matthews and Smith, 2006).

Landscape Survey. The Deanery Fields is a Scheduled Monument and therefore limited in terms of investigation, however, permission for non-intrusive investigation such as geophysical, ground penetrating radar or resistivity could recover evidence for the surviving buildings at this location, extent of older excavation trenches, determine where areas of stratigraphy have been destroyed. These results could be compared to Newstead's original plans from the 1920s, and could help inform future development plans for the cathedral quarter.

Archaeological Character Zones with a higher potential to answer this aim: Zone 1.

Settlement II: The Civilian settlement

Archaeological Character Zones with a higher potential to answer these aims: Zones 14-26.

Theme 17: General themes

Aim 17.1: What was the character of the civilian settlement in terms of overall plan and layout (Jones and Wachter, 1987: 42)?

Research. Can we reconstruct street patterns, building form and evidence of planning?

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Aim 17.2: Can we develop a model of settlement size and population density based on the current body of evidence? How might future investigation contribute to this? (James and Millet, 2001).

Research.

Aim 17.3: What was the function of the large ditched enclosures on the south side of Foregate Street? Did they enclose an early civilian settlement or did they represent another form of land boundary (Carrington, *pers comm*).

Research / Archaeological Investigation. The system of large ditches and gullies found to the south of Foregate Street tends to be thought of as evidence of an agricultural system(s). Further investigation in this area, and in particular attempts to establish stratigraphic relationships with the built-up areas nearby, should be sought.

Aim 17.4: What was the character of the civilian settlement in terms of function?

Research. Was it a residential suburb for soldiers' families, manufacturing suburb, Centre for local elite, focus for traders supplying fortress or local rural population?

Aim 17.5: Can we better establish chronologies of settlement in the suburbs around the fortress? Was Foregate Street the earliest area of civil settlement?

Research. When did the suburbs become abandoned, what was the extent of civilian settlement in the sub-Roman to Saxon periods? Where and when did the inhabitants of the civilian settlement leave the area around the fortress? Were they so closely associated with the fortress that they abandoned the area in the late Roman period, or did they become part of the later Saxon settlement?

Aim 17.6: What is the relationship between the burials recorded along the harbour wall and the port and settlement areas?

Research.

Archaeological Character Zones with a higher potential to address this aim: Zones 15, 53.

Aim 17.7: What was the social organisation of the civilian settlement?

Research. To what extent was it made up of slaves associated with the fortress, and later the families of the soldiers? Did the early civilian settlement provide labour for the fortress?

Aim 17.8: Was the Foregate Street area waterlogged in antiquity or was it a product of later changes in drainage?

Research. Did that have an impact on the precise location of the fortress? Was the waterlogged nature of the area reflected in its construction techniques?

Archaeological Character Zones with a higher potential to address this aim: Zones 23, 26.

Aim 17.9: Targeted investigation into areas of unknown or uncertain archaeological character based on the Roman period characterisation.

Archaeological Investigation. Can the boundaries of the civilian settlement be better defined? An archaeological characterisation study carried out following the Chester UAD highlights the fact that areas of settlement outside the fortress can often have imprecise boundaries with areas of industry or cemeteries (at Handbridge, for example).

Settlement III: Outlying Settlement

Theme 18: General Themes

Aim 18.1: Investigation into rural landscapes surrounding Chester through combination of aerial survey, development-led initiatives and other means, in order to better understand the connections between urban and rural activity (English Heritage, 2006).

Landscape Survey. What evidence can inform our understanding of the social, political or legal, and economic relationships between Chester and outlying settlements, including Heronbridge and Lache?

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Aim 18.2: Rural sites should be considered within their landscape context by investigation of the field systems and boundaries surrounding them (Brennand, 2007: 65).

Research. How many people lived there at any one time? Were sites deliberately sited in order to take advantage of natural deposits? Can we trace ancient field systems in the pre suburban landscape (Carrington, 1999)?

Aim 18.3: What sort of spatial patterning of different settlement types can we discern?

Research / Archaeological Investigation. Can we differentiate between activity on the rural urban fringe and isolated farmsteads in marginal sites (Carrington, 1999)?

Aim 18.4: What was the relationship between the fortress and settlement at Heronbridge?

Research.

Theme 19: Agricultural Land Use

Aim 19.1: Can we produce a model of the *Prata Legionis* surrounding Chester? Is it possible to 'test' this model through archaeological investigation and field survey?

Research / Archaeological Investigation. The *Prata Legionis* was the extent of the hinterland under direct legionary control, providing supplies to the fortress. Chester's area appears to have extended as far west as Caerhun and Caernarfon (Mason, 1988).

Major Roman Military Structures

Theme 20: Boughton Aqueduct

Aim 20.1: Can we learn more about the southern branch of the aqueduct that ran across the Grosvenor Park? Can we confirm the existence, number and destination of branches running south from Foregate Street?

Research / Archaeological Investigation.

Archaeological Character Zones with a higher potential to answer this aim: Zones 26, 28, 29.

Aim 20.2: Highlight potential path of the Roman aqueduct through the civilian settlement and carry out targeted investigation along its path, for example through geophysical survey or development led trial trenching (Matthews and Smith, 2006).

Research / Archaeological Investigation.

Archaeological Character Zones with a higher potential to answer this aim: Zones 26, 28, 29, 75, 77, 79.

Aim 20.3: Are there any surviving traces of the source of the aqueduct at Great Boughton? In the surrounding landscape?

Archaeological Investigation. An altar dedicated to the genius of the spring was discovered in 1821 in Boughton. This area has yet to be subjected to any archaeological investigation, and represents an opportunity to investigate the potential source of the fortress' water supply.

Archaeological Character Zones with a higher potential to answer this aim: Zones 74, 76.

Theme 21: Amphitheatre

Archaeological Character Zones with a higher potential to answer these aims: Zone 79.

Aim 21.1: Further investigation into the existing excavation archive for the amphitheatre (Wilmott, 2013: 6).

Research. Review of past historic excavations in light of the recent investigations in 2000-2006. What was the scope and extent of the Newstead and Thompson phases of excavation?

Aim 21.2: Investigation into the chronology and dating of activity at the amphitheatre (Wilmott, 2013: 6)

Research. Can we learn more about the date of construction of the first amphitheatre and subsequent alterations to its structure? At what point was it replaced?

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Aim 21.3: What was the nature of Roman period occupation in the immediate environs of the amphitheatre? (Matthews, 2004)

Research. Is there evidence of feasting in and around the amphitheatre? What about disposal of animal and human remains? What about other waste disposal?

Aim 21.4: Can we learn more about late Roman and post Roman activity on the site (Wilmott, 2013: 6)?

Research. Can we learn more about the date and sequence of the fill in the arena? Was there a consistent process of burial across the site as a whole? Comparisons between the well excavated north side and less well known south side may provide answers to this.

Aim 21.5: Investigation into the form and function of the amphitheatre (Wilmott, 2013: 6).

Research. Can we learn more about the construction materials and techniques employed in the construction of the two amphitheatres? Can we learn more about the use and form of the shrine adjacent to the main north entrance?

Aim 21.6: To what extent was the amphitheatre a symbol of military control and status (Matthews, 2004)?

Research. Is there evidence for its use as a place of execution and civil control?

Aim 21.7: Research into the function of the amphitheatre at Chester in comparison to other known sites in the Roman Empire (Oxford Archaeology North, 2003)?

Research. Investigation into the parallels in an international and national context with Chester. Previous studies by Bomgardner (1993) have suggested the closest parallel in terms of style and size would be Xanten, Germany while Futrell (reviewed in Welch, 2001) also draws parallels between Chester and those from the Danube area. In contrast, Golvin (1988) has proposed that Nijmegen shares many similarities to Chester and was in fact built by the legion II Adiutrix. Further studies on the form, function and chronology of the amphitheatre and Chester may provide further information on this.

Theme 22: Roman Legionary Parade Ground

Archaeological Character Zones with a higher potential to answer these aims: Zone 24.

Aim 22.1: Review of previous archaeological investigations in the area of the Legionary Parade Ground.

Research / Post Excavation Analysis. There are a number of as yet unpublished or grey literature reports from this area. A synthesis of the known evidence may provide further information on the extent and use of the ground.

Aim 22.2: What was the size of the parade ground? Did it remain in use through the Roman occupation?

Research / Archaeological Investigation.

Aim 22.3: Can the extent of the damage to the parade ground caused by the medieval city ditch be assessed in some way?

Research / Archaeological Investigation.

Ritual, Religion and Ceremony

Theme 23: General Themes

Aim 23.1: Can we identify ritual landscapes, particularly in the suburban areas around Chester?

Research. Shrines have been noted at Edgars Field, the amphitheatre and at Boughton.

Aim 23.2: Is there evidence for possible early Christian worship at Chester?

Research.

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Aim 23.3: What evidence is there for the possible extent of Mithraic worship in the Chester region?

Research. Although several Mithraic figures have been reported in Chester, the information surrounding these remains problematic, further investigation into their provenance should be carried out.

Archaeological Character Zones with a higher potential to answer this aim: Zones 10, 11 36.

Theme 24: Burials and Cemetery Sites

Archaeological Character Zones with a higher potential to answer these aims: Zones 14, 15, 16, 31, 35, 38, 77, 79.

Aim 24.1: Can a detailed investigation into the known evidence enhance our knowledge of burial practices in the Roman period? (Jones and Dunn, 1997).

Research / Post Excavation Analysis. What can an examination of burial practices and associated grave goods tell us about the social status of the population, about the ethnic origins of the population and about possible distinction between military and civilian cemeteries? What can they tell us about the beliefs of the people of Roman Chester?

Aim 24.2: Can we define more closely the location and extent of the cemeteries?

Research / Post Excavation Analysis / Archaeological Investigation. What are the boundaries of the less substantial / possible cemeteries: Boughton, Northgate, Harbour. Can their zones of discovery be refined? Can a detailed study of the available archive further our knowledge of these cemeteries? What is the relationship between settlement and the burial zones around Chester (Jones and Dunn, 1997)?

Aim 24.3: Can we use the archaeological evidence to trace a chronology of burial practices?

Research / Post Excavation Analysis. At what point was inhumation introduced in Chester, when did it become the principal burial rite?

Aim 24.4: Why have so few burials been found?

Research.

Aim 24.5: Where identified, cremated remains should receive full and integrated analysis to investigate the range of practices and their distribution (Brennand, 2007: 65).

Post Excavation Analysis.

Aim 24.6: What is relationship between the purported Roman cremation burials at St Olave's and the civilian settlement? Is the relationship chronological (i.e. no settlement when the cemetery was in use?)

Research.

Technology and Production

Theme 25: Mineral resources and extraction

Aim 25.1: What is the potential for further stone quarrying in the Upper Northgate Street area? (Mason-Welland, 2001).

Archaeological Investigation. Historic maps have recorded a fairly substantial area of stone quarrying to the rear of properties on the eastern side of Upper Northgate Street. Given the extent of evidence recovered from the Gorse Stacks quarry (Cuttler *et al*, 2012) site including substantial deposits of Roman and post medieval material culture as infill as well as evidence of extraction itself, there is a good potential for further quarrying particularly to the north.

Archaeological Character Zones with a higher potential to address this aim: Zones 31, 32.

Aim 25.2: Can we identify stylistic changes in tool marks in quarries and stone, and can any changes be detected over the Roman period (Matthews and Smith, 2006)?

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Research / Post Excavation Analysis. Is there a potential for graffiti marks on rock faces on the known quarry sites such as Edgar's field?

Aim 25.3: Analysis of origin of stone for building, funerary sculpture and ground-stone may help to determine patterns of exploitation of resources and of trade on an intra- or inter-regional level (Brennand, 2007: 69).

Research / Post Excavation Analysis.

Archaeological Character Zones with a higher potential to address this aim: Zones 23, 33.

Aim 25.4: Scientific analysis required of materials and environmental sampling to aide site specific research (Brennand, 2007: 70).

Post Excavation Analysis. Is Can we use trace element fingerprinting of ceramic building material to determine the sources of CBM recovered from Chester? Similar studies have been carried out at York (Finlay, 2012) (i.e. can we identify CBM from the kilns at Tarbock and Holt?)

Aim 25.5: Is there an association with pottery kiln sites and other high temperature industries such as metalworking (Jones and Dunn, 1997)?

Research. Known or potential pottery kiln sites in the canabae are found along Foregate Street and George Street, while areas of metal processing has been found further east on the outskirts of the canabae and north near Gorse Stacks. Can any additional evidence be recovered that may point to a relationship between these two industries? (Carrington and Ward, 1982).

Archaeological Character Zones with a higher potential to address this aim: Zones 23, 25, 26, 33, 75.

Aim 25.6: Is there evidence of processing materials in rural settlements (Carrington, 1999)?

Research.

Trade and Exchange

Theme 26: Ports and Maritime Trade

Archaeological Character Zones with a higher potential to address the following aims: Zones 53, 54.

Aim 26.1: Can we determine distribution patterns through the port of Chester through the study of local, regional and inter-provincial trade (Jones and Dunn, 1997)

Research. Look at details of pottery types and chronologies (especially Severn valley Ware, samian, Black Burnished ware, at the western end of Hadrian's Wall and the Antonine Wall.

Aim 26.2: Who was in charge of obtaining imported goods and supplies in Roman Chester – military or civilian contractors (Carrington, 1999)?

Research.

Aim 26.3: Can we learn more about the structure of the quays? (Carrington, 1999)

Landscape Survey. Investigation into the surviving section of the Roman wall at the Roodee, can this be conclusively determined as part of the quay wall? Is it possible to determine whether this followed the line of the former creek to the north of Nun's Field (Chester Archaeology, nd)?
Archaeological Character Zones with a higher potential to address this aim: Zones 15, 53.

Aim 26.4: What is the potential for further below ground evidence for the Roman port infrastructure, boats and/or artefacts (Gifford, 2001)?

Archaeological Investigation.

Archaeological Character Zones with a higher potential to address this aim: Zone 15, 53.

Theme 27: Roads and route-ways

Aim 27.1: Can we trace the development of the road network at Chester (Carrington, 1999)?

Research / Archaeological Investigation.

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Aim 27.2: Survey of the river bed adjacent to the Old Dee Bridge to examine and record the possible site of the Roman Bridge (Matthews and Jones, 2006)

Archaeological Investigation. Was there a Roman bridge across the Dee at Chester? Where was likely to have been located? How could it have been constructed? Can any of the Roman features on the south bank of the River Dee be related to this potential bridge?

Archaeological Character Zones with a higher potential to address this aim: Zones 34, 39.

Aim 27.3: How do settlements relate to the major road network (Carrington, 1999)?

Research. Can we firmly establish the existence of the regional road network, such as the proposed routes through Newton Hollows, and roads to Caer Gai and Caerhun? Most routes outside of the city's historic core are uncertain.

Theme 28: Legacy

Aim 28.1: What was the extent of late third century activity in Chester? Is there any evidence of social and economic change associated with the gradual decline of the Roman Empire (Jones and Wader, 1987: 42)?

Research.

Aim 28.2: What is the evidence for late fourth to fifth century transition from the Roman to Anglo-Saxon communities?

Research. Was there a general abandonment of the town in the late Roman period? Was there subsequent 'native' activity continuing in the early Saxon period. What is the earliest evidence of Saxon activity in the region?

Saxon Research Agenda

At a national level, English Heritage has recently produced a series of thematic research strategies including an overall strategy for archaeological research in an urban environment. Complementary to this, a series of thematic research strategies have also been produced including one for the sub Roman to Saxon transition period.

Period Summary

The 'Saxon' period covers several centuries of activity from the end of the Roman occupation in Britain in the late fourth to early fifth century, through to the Norman Conquest and the start of the medieval period in 1066 AD. Although nominally referred to as the Saxon (or early medieval) period, it also includes activity by native British, Welsh and Scottish tribes in the sub Roman period as well as occupation by Saxon, Mercian and Viking tribes.

In the late fourth century AD, Britain was threatened with invasion from across the North Sea from Germanic tribes who invaded and settled, creating new kingdoms. Cheshire, distant from the south and east coasts was not initially affected by these developments and following the collapse of Roman rule, government devolved onto the local British population. Chester became part of the Welsh kingdom of Powys. Saxon settlement appears to have reached the area in the later seventh century and Chester was absorbed by the expanding Anglo-Saxon kingdom of Mercia.

Evidence for Anglo-Saxon settlement in Cheshire is elusive, archaeological remains are rarer than those of the Roman period, due in part to the ephemeral nature of the evidence base but also to subsequent programmes of truncation in the medieval and post medieval periods. The presence of people and small communities at that time is attested to by place-names, church dedications and occasional discoveries of metalwork. Salt production continued, but at what scale remains unclear. North of Warrington, at Croft, is the only known Anglo-Saxon cemetery.

The character of occupation in Chester at this time is not clear. Traces of occupation have been found in the former civilian settlement to the south and east of the Roman fortress. Historical sources and the results of archaeological investigation in Chester suggest that Anglo-Saxon settlement did not begin until the seventh century, and the early Saxon occupation is probably indicated primarily by agricultural activity, in some cases truncating the remains of the former Roman fortress. The upstanding remains of Roman buildings appear to have survived for a considerable period and have been used for a variety of purposes. Outside the former fortress, St John's Church was reputedly founded at this time, and archaeological remains strongly suggest that settlement was concentrated in this area.

The burh was founded in 907 AD by the daughter of King Alfred of Wessex in response to a growing threat from Hiberno-Norse settlements on the Wirral, and a programme of repairing the existing defences and was begun with evidence of defensive structures on the South and West sides of the fortress. Other burhs were founded at Rhuddlan, Runcorn, Thelwall, Eddisbury, Warburton and Manchester.

The earliest document attesting to the existence of a bridge crossing the River Dee is the Domesday Book, but it is likely that it was a bridge that had survived from the Roman period. Archaeological evidence of permanent, settlement in Chester appears to date from the formation of the burh, with buildings scattered throughout the former fortress and along Lower Bridge Street. Events in the later tenth century reduced the potential threat from the Scandinavian communities. Chester developed into an important administrative, trading and military centre as well as a royal fortress and possessed one of the most important mints in England by the late 9th century (Higham, 1993). At the time, the port at Chester is thought to have been the most important port in Northwest England, with close ties to Norse and Irish trading around the Irish Sea (Griffiths, 1996).

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There is also some suggestion of a Hiberno-Norse community within Chester, probably as a result of trade with Ireland and perhaps based south of the fortress in the area of Lower Bridge Street. Although the evidence for this community is primarily place name evidence associated with the churches of St Bridget's and St Olave's, there is also some suggestion that the buildings excavated in this area bear some resemblance to Scandinavian bow sided huts (Harris and Thacker, 1987: 16-33; Mason, 2007: 104-105).

A number of syntheses of Saxon archaeological evidence from Chester have been produced, the first in 1985 (Mason) and again in 1994 (Ward) while a more recent summary was produced in 2007 (Mason). The Chester UAD Project has since consolidated all available evidence on archaeological discoveries in the city, including the results of work that took place before 1960, the results of 'rescue archaeology' (1960 -1991), developer-led commercial archaeological evaluations (post-1991) and research excavations, identifying approximately 136 records to date.

Theme 29: Chronologies and Dating

There is a paucity of evidence in the archaeological record from the early fifth to late seventh century and documentary sources have little further to offer. The earliest documentary evidence is the late seventh century Tribal Hidage accounting for the lands held by the Saxon tribes. It indicates the dominant tribes in this region were the Wreocensaete and the Westerna (commonly known as the Magonsaete). Although not fully within the Mercian kingdom at this point they appeared to act as satellite states paying tribute to Mercia whilst also protecting the borders of their province from attacks from the 'British' of North Wales (Yorke, 1990: 106).

By the eighth century they had been brought into the Mercian Kingdom proper, and it is from this point that we begin to see Mercian activity at Chester. St John's Church was reputedly founded in the late seventh century. During the ninth century Mercia suffered from attacks by the Vikings and a large part was taken over by the Danelaw. Chester remained Saxon apart from when a Danish army overwintered in 893-4 AD. The tenth century saw further changes with the re-fortification of the city in 907 AD as a *burh* by Aethelfleda, wife of the last ruler of the Mercians. Following his death, Mercia was absorbed by the kingdom of Wessex in 911 AD to form the nascent kingdom of England (Yorke, 1990: 123). During the tenth and eleventh centuries Chester prospered as an administrative and military centre and due to its trading connections with the Irish Sea routes.

Aim 29.1: Potential samples for radiocarbon dating should be taken from any Saxon horizon excavated in the future as a matter of routine (Brennand, 2007: 75).

Archaeological Investigation. The systematic sampling of Saxon horizons may improve our understanding of activity in the period between Roman abandonment and Norman Conquest. Archaeological Character Zones with a higher potential to answer this aim: Zones 1-27.

Aim 29.2: Re-examine appropriate samples recovered from previous excavations to determine the potential for the success of any dating technique, and a programme of analysing this prioritized material should be advanced (Brennand, 2007: 75).

Research / Post Excavation Analysis. Archaeological briefs for development-led archaeological projects should stipulate specific programmes of scientific analysis, including potential samples for absolute dating. Research-led projects should also adhere to these basic principles. The aim would be to elucidate and detail the chronologies and inner-phasing of this period at Chester. Archaeological Character Zones with a higher potential to address this aim: Zones 1-27.

Theme 30: Identification of New Sites

Aim 30.1: Advance a programme of place-name studies to better identify former areas of Scandinavian and Saxon occupation in the city (Brennand, 2007: 76).

Research. The area around Lower Bridge Street based largely on the presence of St Olave's and St Bridget's church, has long been thought of as an early pocket of Scandinavian activity.

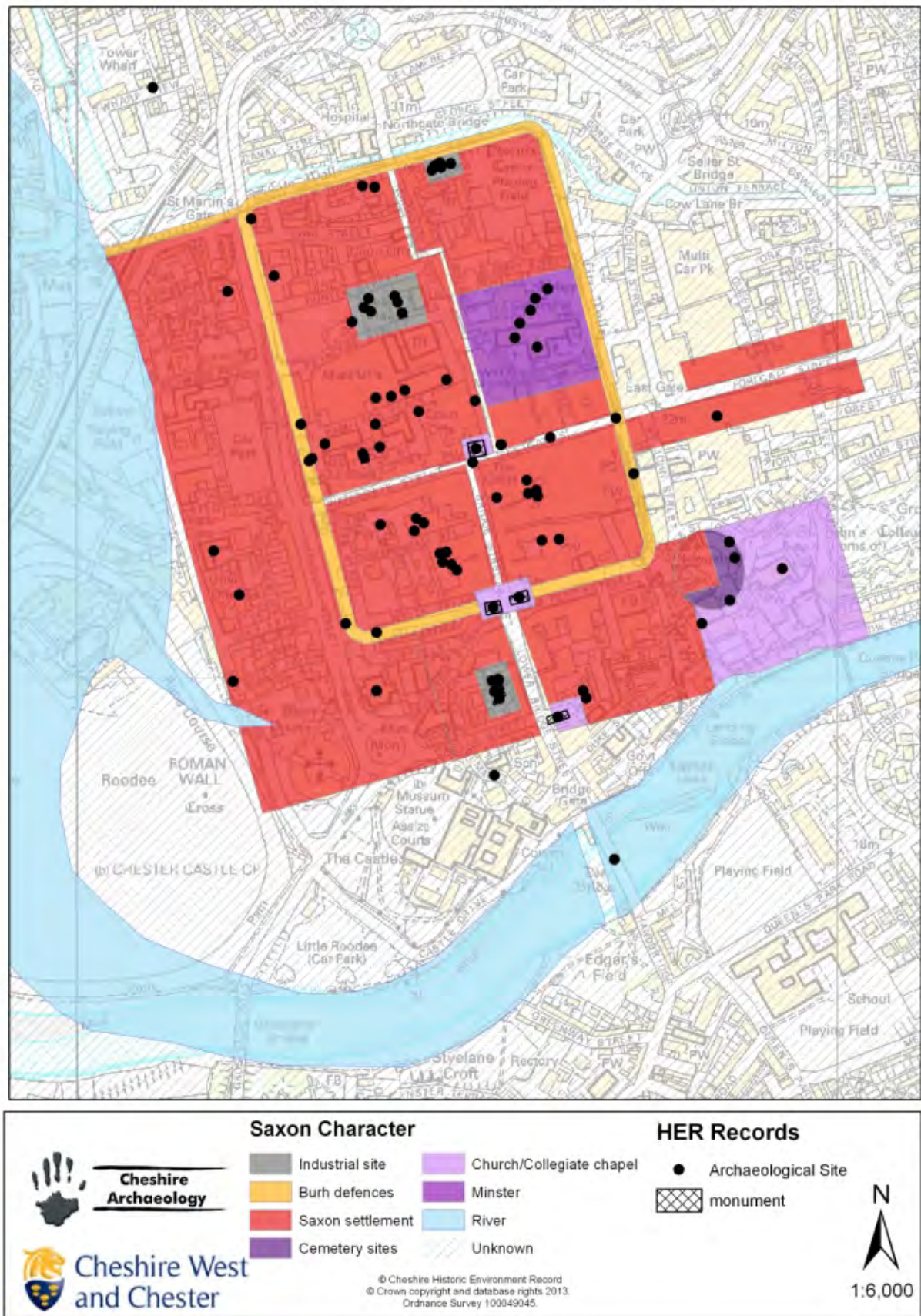


Figure 5: Saxon remains in Chester

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Environmental Data and Artefacts

Theme 31: **Environmental Analysis**

Aim 31.1: **Advance a programme of taking samples for sediment micro-morphology analyses, with a specific aim of investigating potential evidence for animal penning within the settlement.**

Archaeological Investigation. It has been suggested that the 'dark earth' layers of Saxon date within Chester might be the result of animal husbandry; micro-morphology samples can identify trampled dung layers and direct evidence of penning if they are present.

Archaeological Character Zones with a higher potential to address this aim: Zones 1-27.

Aim 31.2: **Is evidence of woodland clearance visible in the pollen record for Chester?**

Research / Post Excavation Analysis. National-level pollen studies have identified episodes of woodland clearance and an accompanying rise in the proportions of pollen for species associated with cultivation. Nationally, there seems to have been a rise in the latter types between AD 300 – 1000, and might indicate an intensification of agriculture during the Saxon period (Chester Archaeology, 1999).

Theme 32: **Artefacts**

Aim 32.1: **An analytical and synthetic study should be made of late Saxon and Saxo-Norman pottery from Chester to clarify the nature and extent of pottery use in the city and the sources of supply.**

Research / Post Excavation Analysis. The need for a more firm dating of Chester Ware in general has been noted by experts (Ward, 1994) and further investigation into its distribution and occurrences in later deposits is required. Work is required to determine whether Chester ware was produced at a number of locations in Cheshire and the West Midlands or whether the kilns at Stafford were the only source. Samples of Chester ware have been provided for a programme of chemical analysis designed to compare wares across the region with the Stafford products but the results have not been published. If it can be shown that Stafford is the sole production centre, the archaeomagnetic dates for the Stafford kilns and recent Bayesian analysis of various dating evidence from Stafford needs to be examined in association with the pottery in order to determine whether it is possible to create a chronological framework for the wares (Edwards, J, *pers comm*).

Aim 32.2: **What evidence of crafts and manufacture, such as metalworking, is known from Chester?**

Research / Post Excavation Analysis / Archaeological Investigation. There is very little published evidence of Saxon metalworking in Chester, in the form of an ingot mould and Stamford crucibles from Eastgate Street, and the presence of possible iron smithing at Abbey Green has been disputed. The evidence of manufacturing is rare and therefore it is important to target any related future finds for analysis and research (Edwards, J, *pers comm*).

Archaeological Character Zones with a higher potential to address this aim: Zones 1-27.

Aim 32.3: **Investigate the potential for assemblages of artefacts to reflect different ethnic backgrounds. Are there any artefactual distinctions between different parts of the town, such as the area around St John's, within the former Roman defences, or in the Scandinavian settlement at Lower Bridge Street?**

Research / Post Excavation Analysis. A detailed study by Ward (1994) found that there were as yet no identifiable distinctions between late Saxon artefact assemblages from different areas of the city. This aim, therefore is a potential area of research in the future, should additional extensive collections of material be recovered.

Archaeological Character Zones with a higher potential to address this aim: Zones 1-27.

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Theme 33: Ecofacts

Aim 33.1: Can a study of waterlogged or carbonised assemblages, specifically macro-botanical remains, inform our knowledge on economy and subsistence in the post Roman period? (Harrison, 1997).

Research / Post Excavation Analysis. The waterlogged deposits along Foregate Street are generally thought to date largely to the Roman period, but with more refined strategies for the recovery of environmental samples, combined with the use of dating techniques, potential material relevant to the Saxon period could be recovered. These deposits represent a unique opportunity to recover rarely preserved ancient organic material.

Archaeological Character Zones with a higher potential to address this aim: Zones 23-26.

Aim 33.2: Can we identify evidence for fish consumption at Chester during the Saxon period?

Research / Post Excavation Analysis / Archaeological Investigation. A greater emphasis on the recovery of micro faunal remains, particularly from discrete contexts, and isotope analysis of Saxon period human remains may help in determining patterns of diet and mobility.

Settlement and Land Use

Theme 34: Re-use of Roman Structures in the Early Saxon Period

Aim 34.1: Ensure that methodologies for the excavation of late Roman or potentially post-Roman deposits are appropriate for recognising, characterising and dating later material above the more easily identifiable Roman features (Brennand, 2007: 79).

Archaeological Investigation. Is there evidence for post-Roman occupation in some or all major Roman buildings? Did occupation continue in the fortress and the civilian settlement, or was it concentrated within the defences? Individual large Roman buildings, such as the amphitheatre, may have attracted post-Roman occupation more than less prominent Roman structures.

Archaeological Character Zones with a higher potential to address this aim: Zones 1-27.

Aim 34.2: Is it possible to identify the extent of continued settlement following the departure of the Roman legion (Ward, 1994)?

Research / Post Excavation Analysis. 'Dark earth' may indicate agricultural or pastoral activity within the fortress and be associated with nearby Saxon buildings. One model is that the former Roman fortress was largely deserted in the post-Roman and early Saxon period in favour of a focus around say the amphitheatre and St John's and was only reoccupied due to the founding of the *burh*.

Archaeological Character Zones with a higher potential to address this aim: Zones 1-27.

Aim 34.3: Re-examine archives of excavations in the former canabae along Foregate Street

Research / Post Excavation Analysis. Not all the results of excavations in the former canabae have been analysed or published, and an examination of their archives could address whether the apparent lack of Saxon occupation is real or if it reflects medieval to modern truncation?

Archaeological Character Zones with a higher potential to address this aim: Zones 23-26.

Aim 34.4: What is the relationship between the former amphitheatre and St John's Church? What is the relationship between these areas and the bishops borough of Redcliff?

Research / Post Excavation Analysis. Saxon activity is recorded here, and a number of burials were interred in what was the southern seating bank. But can the relationship between the two areas be refined by stratigraphic analyses or improved dating? Did this area become the focus of the initial post-Roman or early Saxon occupation of Chester?

Archaeological Character Zones with a higher potential to address this aim: Zones 21, 27.

Theme 35: Burh Settlement

Archaeological Character Zones with a higher potential to address these aims: Zones 1-27.

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Aim 35.1: Further investigation into the potential for Saxon settlement within the burh is required.

Archaeological Investigation. Traces of Saxon activity have been recorded throughout the city but there is, as yet, no clear evidence of Saxon organisation within the confines of the burh defences. The identification of Saxon structures and property divisions should be a priority.

Aim 35.2: Assess the potential factors influencing evidence for short-lived settlement within the fortress in the tenth century.

Research / Post Excavation Analysis. For much of the Saxon period, evidence of occupation is limited to an episode of soil accumulation that seems to have resulted from cultivation. Settlement, perhaps stimulated by the foundation of the burh, is suggested by relatively short-lived buildings that do not appear to have been repaired extensively or replaced once they went out of use (Ward, 1994: 118).

Aim 35.3: Assess the relationships between the presumed area of Scandinavian settlement at Lower Bridge Street and the rest of the burh.

Research / Archaeological Investigation. Closely related to potential place-name studies is there any evidence to suggest when this area was occupied? Was it post re-fortification of the fortress and the result of improved relations between the Mercian kingdom and the Norse communities or did it pre-date the re-fortification? If so is there evidence of abandonment by Scandinavian communities during the early part of the tenth century?

Aim 35.4: What direct evidence, if any, is there for Saxon period occupation in the Gorse Stacks area?

Research / Post Excavation Analysis. Gorse Stacks was known in the medieval period as Henwald's Lowe. This is of Saxon derivation and means 'mound' or 'hill'. Such terms were usually used for a burial mound. What is the potential survival for this?

Aim 35.5: Investigate the range of building types evident in Chester; is there any indication that certain types were more or less of a 'residential' character than others, or do they represent different social elements within the population?

Research. Do the various building forms reflect different origins among the inhabitants? Can areas of different status be identified based on artefact assemblages?

Aim 35.6: Assess whether previous excavations have produced structural samples that can inform us on the superstructure of buildings.

Research / Post Excavation Analysis. While most of the evidence for the superstructures is in the form of post holes, some daub has been recorded at Abbey Green.

Aim 35.7: Ensure that the upper stratigraphy of Roman sites and the lower stratigraphy of medieval sites are subject to detailed scrutiny for what may be ephemeral traces of Post-Roman and Saxon activity (Brennand, 2007: 84).

Archaeological Investigation.

Theme 36: 'Dark Earth' Horizons

Aim 36.1: Investigation into occurrences of 'dark earth' within the area of the former fortress and mapping its distribution (Ward, 1994).

Archaeological Investigation. The 'dark earth' deposits in Chester remain poorly understood, but an examination of their distribution can inform the character of Saxon period occupation before the establishment of the burh. Charting its distribution and careful environmental analyses (see Theme 35) are particularly relevant.

Archaeological Character Zones with a higher potential to address this aim: Zones 1-27.

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Theme 37: Agricultural Land Use

Aim 37.1: **Map the extent of soil accumulations resulting from gardening or agricultural activities identified through archaeological excavation.**

Research / Post Excavation Analysis. The extent of Saxon period cultivation soils from excavations post-dating 1981 has not yet been mapped. This would inform the known character and density of settlement within the community at this time.

Archaeological Character Zones with a higher potential to address this aim: Zones 1-27.

Aim 37.2: **Can the depth of soil accumulation be used to determine the length of time that cultivation was taking place (Ward, 1994: 116)?**

Research / Post Excavation Analysis. Experts suggest that the depth of these deposits indicate cultivation was taking place within the limits of the settlement well before the foundation of the burh in AD 907, while abraded Chester Ware fragments show the deposits were still being formed in the late tenth century.

Archaeological Character Zones with a higher potential to address this aim: Zones 1-27.

Aim 37.3: **Can we identify evidence for agricultural land use in the mid Saxon period, for example early hay meadows or ploughsoils (Beckley & Radford, 2012a: 3)?**

Research / Archaeological Investigation. Is there any evidence for continued activity or re-use of dated Roman features into the post Roman and Saxon period, for example can we use stratigraphic sequences to date soil layers.

Warfare and Defence

Theme 38: Burh Defences

The primary aim of this Theme has to be to identify the line and design of the burghal defences and their possible chronological development.

Aim 38.1: **Ensure all opportunities are taken to date material from both the defences and interiors of the burh at Chester (Brennand, 2007: 93)**

Archaeological Investigation. The projected route of the extended burh defences to the west and south of the town (as they were extended beyond the former fortress defences) is generally thought to coincide with the route of the present city wall.

Archaeological Character Zones with a higher potential to address this aim: Zones 1-27.

Religion and Burial

Theme 39: Minsters

Aim 39.1: **Further investigation into the foundation of the Church of St Peter and St Paul in the late Saxon period is required.**

Research. The original church was dedicated to the Church of St Peter and St Paul but was re-dedicated as St Werburgh minster in the 10th century.

Aim 39.2: **Investigation into the built fabric of Chester Cathedral: Is it possible to identify elements of a Saxo-Norman date?**

Survey / Archaeological Investigation. It has been suggested is that no upstanding Saxon fabric survived the Norman rebuilding of the city. However, it has been speculated that earlier elements may have been incorporated. This aim could be pursued by careful fabric recording and taking opportunities to examine mortars and tooling.

Archaeological Character Zones with a higher potential to address this aim: Zones 6, 27.

Aim 39.3: **Detailed investigation into the Saxon sculpture found at St John's Church (Matthews and Wilshaw, 1995; Bailey, 2002).**

Survey.

Archaeological Character Zones with a higher potential to address this aim: Zone 27.

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Aim 39.4: What evidence survives for the growth of St John's to the status of minster church and focus of a secular college between the seventh and eleventh centuries, (Matthews, 2004)?

Research. How much of the earlier structure of St John's survived the eleventh century phase of rebuilding? What is the potential for below ground remains or further documentary evidence for the church in the mid- to late-Saxon period?

Archaeological Character Zones with a higher potential to address this aim: Zone 27.

Aim 39.5: The church of St John the Baptist is reputed to be a seventh century foundation, was this area the focus of settlement at that time?

Research. How could this be investigated or prioritised in any future work? Are there particular areas of the site or forms of evidence of greater potential than others? Mercia was somewhat resistant to Christianity and accepted it only in the seventh or eighth century making St John's an early foundation, perhaps immediately after Lichfield which was considered the first Mercian minster.

Archaeological Character Zones with a higher potential to address this aim: Zone 27.

Aim 39.6: Investigate the re-modelling of the eastern entrance of the amphitheatre in light of Saxon activity; what is the reason for this development and what is its relationship to St John's church.

Research.

Archaeological Character Zones with a higher potential to address this aim: Zones 21, 27.

Theme 40: Churches

Aim 40.1: Can we identify the location of any of the Saxon period churches?

Research / Archaeological Investigation.

Archaeological Character Zones with a higher potential to address this aim: Zones 1-27.

Aim 40.2: Is there a relationship between the gates, city walls, and religious buildings?

Research. The southern gate of the Roman fortress defences became the site of a possible Saxon period church. It is known that the old Roman west gate and the southwest angle of the former fortress also had churches (Ward, *pers comm*).

Archaeological Character Zones with a higher potential to address this aim: Zones 1, 3, 7-13.

Aim 40.3: Production of appropriate protocols in conjunction with the Diocesan authorities which will enable all intrusive work on and around churches of probable Saxon origin to be monitored archaeologically (Brennand, 2007: 87).

Archaeological Investigation. Archaeological Character Zones with a higher potential to address this aim: Zones 1-27.

Theme 41: Burials

Aim 41.1: Prioritise any potential Saxon burials within the city for full scientific analysis (Brennand, 2007: 88).

Archaeological Investigation / Post Excavation Analysis.

Aim 41.2: Previously excavated human remains and associated artefactual material need to be re-examined, and where appropriate scientifically dated. (Brennand, 2007: 88).

Research / Post Excavation Analysis.

Technology and Production

Theme 42: Site identification

Aim 42.1: Analysis of animal and macro-botanical remains identified from any site of the period as a matter of priority (Brennand, 2007: 83).

Archaeological Investigation. Features and finds recorded in Abbey Green have established that antler working was taking place during Saxon times, and a possible tanning industry was based

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at Lower Bridge Street. Evidence of similar industries might have already been recovered from unanalysed excavations in the city, and future work should be sensitive to the recovery of such evidence (Ward, 1994: 118).

Aim 42.2: How do identified areas of industry relate to the larger settlement?

Research. To date, the evidence suggests that industrial activity was taking place within otherwise domestic buildings, or just outside of them, and that industrial activity areas were separated from domestic buildings in some parts of the settlement.

Archaeological Character Zones with a higher potential to address this aim: Zones 1-27.

Aim 42.3: What is the significance of the fact that both antler working and possibly metal working were taking place in the same area (Abbey Green) at the same time (Ward, 1994: 118). Is there an ecclesiastical connection?

Research. Although the evidence for smithing at Abbey Green is only slight, is there some significance to the possibility that both craft specialisations could have been practiced at the same location?

Archaeological Character Zones with a higher potential to address this aim: Zone 1.

Aim 42.4: Controlled metal detecting on archaeological excavations to aid artefact recovery (Brennand, 2007: 90).

Archaeological Investigation. Metal detection is an increasingly common investigation tool in non-urban circumstances, but within Chester its application varies with each contractor. If built into Written Schemes of Investigation, artefact recovery could be increased.

Aim 42.5: Establish a regular period-based review for artefacts recorded by the Portable Antiquities Scheme (Brennand, 2007: 90).

Research / Post Excavation Analysis.

Theme 43: Industries in Chester during the Saxon period

Aim 43.1: Enact a full sampling and dating strategy for production residues and deposits on all urban and rural urban fringe sites to detect evidence of industrial processes (Brennand, 2007: 90).

Post Excavation Analysis / Archaeological Investigation. This could include strategies to determine if there is evidence of local pottery manufacture.

Aim 43.2: Can the study of pit assemblages (including any artefact or ecofact type) help establish residential, agricultural or manufacturing zones in the city (Beckley & Radford, 2012a)?

Research / Post Excavation Analysis.

Aim 43.3: Can evidence of Saxon period leatherworking be identified in the archaeological record?

Research / Post Excavation Analysis. Can a distribution analysis of horn-working, leather waste or butchery indicate areas of specialised activities?

Aim 43.4: Is there any evidence to suggest Chester had a substantial fishing industry during the Saxon period?

Research / Post Excavation Analysis.

Trade and Exchange

Theme 44: The Saxon port and trade

Aim 44.1: Can we learn more about the extent, nature and location of the port at Chester in the late Saxon period?

Research. Domesday refers to a port already in existence in the 11th century and evidence of trade with Ireland with marten skins arriving in sufficient quantity to warrant a mention.

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Aim 44.2: Examine all documentary evidence with a mind to reconstructing trade routes between Chester, Wales, Ireland and the rest of England.

Research. Investigation into known artefact assemblages from Chester, there are occasional references to Carolingian wares, Mediterranean wares and fifth or sixth century amphorae from the city, this suggests continued patterns of trade. Can a more detailed investigation advance our knowledge of trade and exchange and can any changes or developments be traced throughout the post-Roman period?

Theme 45: The Mint

Aim 45.1: Was a mint at Chester operated by the Scandinavian communities? Documentary and numismatic research into the distribution of coins minted at Chester and their place of discovery?

Research. There are strong suggestions that the moneyers at Chester were of Scandinavian, or Frankish, German, Old English or Irish and Norse, descent. Also records of ingot moulds from Lower Bridge Street and from Cuppin Street are suggestive of metalworking, possibly a mint, nearby. Although the archaeological record for a mint is limited, can associated evidence aid in defining areas of activity associated with the mint? Records indicate up to 25 moneyers were operating in Chester; did they group in a discrete area?

Theme 46: Roads and route-ways

Aim 46.1: Assess the evidence for potential maintenance or changes to the road network.

Research / Post Excavation Analysis. What evidence is there for new roads laid out within the fortress (Harris and Thacker, 1987: 16-33), what is the significance of new roads or creating new routes against the layout of the former fortress? Is there evidence for the date of the loss of some of the Roman streets?

Archaeological Character Zones with a higher potential to address this aim: Zones 1-27.

Aim 46.2: What evidence is available to inform studies of over-land trade between Chester and neighbouring communities?

Research. What are the connections with other settlements such as at Meols, and the impact of Irish Sea trade?

Theme 47: Legacy

Aim 47.1: Research into the entries for Chester in Domesday, what can this tell us about ownership, settlement extent and land use in the late Saxon period?

There are several entries for manorial holdings in the City and the surrounding area including Handbridge, Lache, Boughton, Blacon, Overleigh, Netherleigh and Newton-by-Chester. Can this information be 'tested' through archaeological investigation into potential manor sites, for example.

Aim 47.2: Investigation into the extent and location of the late Saxon bridge over the Dee.

Domesday refers to a bridge in existence in the 11th century, and that its maintenance was tied up with the maintenance of the City Walls.

Medieval Research Agenda

Systematic archaeological investigation into medieval remains is a relatively recent study, largely dating to the latter half of the twentieth century, initially focused on high status and rural sites such as deserted villages, castles and ecclesiastical establishments. Research guidance from the Society for Medieval Archaeology produced in the late 1970s highlighted the need to concentrate on deeply stratified medieval remains in an urban context. Since then there has been a greater emphasis on multi-period potential in cities.

Period Summary

The medieval period begins with the Norman Conquest in 1066 and is followed by our most important data source listing existing villages, manors and towns in the Saxo-Norman transition – The Domesday Book – in 1086. Within the medieval period, the Norman sub period continues to around 1204 when England separated from Normandy. The commonly accepted date for the end of the medieval period is the Dissolution of religious houses by Henry VIII, although the precise year is a matter for debate. The fifteenth and sixteenth centuries is identified nationally as a period of transition as the effects of the Renaissance, Reformation and the expansion of world trade routes contributed to social and cultural changes. The period is a key area for research and debate regarding issues of continuity and change.

The medieval city of Chester was the largest and most prosperous in the northwest and long remained the region's principal port (Carrington, 1994: 6). It developed a diverse economy, with trade, gold-smithing and leatherworking among its most important industries. The town was re-fortified by the Normans who introduced a new castle in the southwest corner in the late eleventh century, re-founded the Saxon minster as a Benedictine abbey in 1092 and extended and rebuilt the City Walls in the mid-twelfth century. Perhaps a unique aspect of the medieval city, however, was the development of the Chester Rows, an unusual arrangement of two levels of commercial and domestic accommodation, the upper one accessed by galleries above street level, from the thirteenth century onwards.

The conclusion of the Chester UAD Project has created 652 medieval records for the city and suburbs and a further 159 records for the wider study area. The evidence for these records comes from a body of over 900 archaeological investigations in the study area, existing structures, and documentary sources.

General themes in Medieval Studies

Theme 48: Identification of new sites

Aim 48.1: Link place name studies with wider landscape research in an attempt to place the known sites into some sort of landscape context.

Research. Research and review. Is it possible to draw comparisons between ancient field names recorded in medieval and later documents with those mentioned on nineteenth century tithe and enclosure awards to re-create a map of ancient landscapes? Can this lead to the identification of discrete sites such as kilns (for example Potter's Field in Great Boughton or the port pool at Finchett's Gutter).

Aim 48.2: Survey and assessment of buildings and cellars in the city.

Survey. Truncation assessment mapping cellar disturbances and depths of known truncation where possible.

Archaeological Character Zones with a higher potential for addressing this aim: Zone 8, 23, 30.

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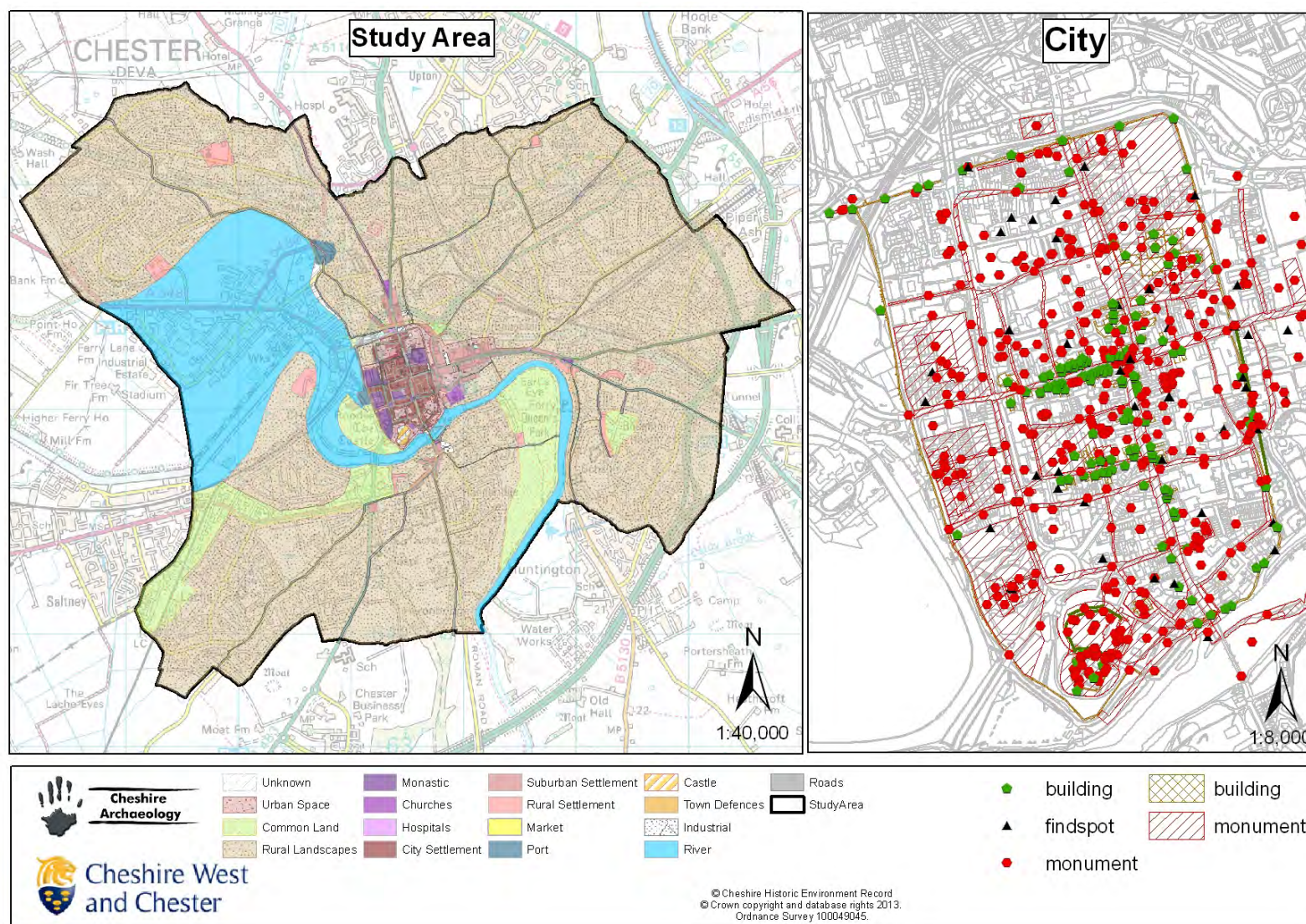


Figure 6: a) Chester UAD Study Area with medieval characterisation. b) Chester city historic environment records

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Theme 49: **Chronologies and dating**

Aim 49.1: Establishment of absolute dating for medieval sites in Chester through radiocarbon dating where possible.

Archaeological Investigation.

Aim 49.2: Improve the dendro-chronology sequence for standing buildings in Chester (Brennand, 2007: 97).

Archaeological Investigation. Inclusion of dendro-chronological dating for listed buildings of a seventeenth century or earlier date. So far seventeen buildings in Chester have been sampled for dendro-chronological dating, all from the Chester Rows with mixed results. Ten of the buildings returned viable results with the remainder proving inconclusive. The creation of a local or regional level reference collection of wood samples can assist in the more conclusive scientific dating of timbers that can then be compared at a wider level.

Aim 49.3: Production and dissemination of an up-to-date fabric type series of medieval pottery for the city.

Archaeological Investigation. Investigate the potential for updating the existing ceramic fabric collection for the Chester area to incorporate a dated form series detailing the full range of locally and regionally produced wares as well as imported types. Relative and absolute dating methods should be used to tie the series into a chronological sequence. All future excavation work should be undertaken with a view to reviewing and refining the sequence whenever possible. A dated type series will inform individual site chronologies as well as inform on the social and economic life of the city and its environs.

Environment and Artefacts

Theme 50: **Environmental analysis**

Higher levels of human activity and population density within urban environments have a significant effect on their climate and atmosphere (Hall and Kenward, 1982); research initiatives that could widen out knowledge (Chester Archaeology, 1999) include the following:

Aim 50.1: Investigation into the potential for environmental analysis to inform study of diet, living conditions, lifestyles of groups and individuals?

Archaeological Investigation.

Aim 50.2: Investigation into geological deposits in the city with the aim of building a database of complete stratigraphic samples from across the city for comparison purposes.

Archaeological Investigation. Systematic sampling from gravel deposits in particular has proved effective and illuminative in other cities such as Oxford to take geo-archaeological samples during archaeological investigations at particularly sensitive sites. Geo-archaeological sampling can provide a stratigraphic framework for archaeological deposits and interpretations of site formation processes as well as assessing the potential impact of development of significant sites (Brennand, 2007: 97).

Theme 51: **Artefacts**

Aim 51.1: Is there an opportunity now to revisit site archives from the pre PPG16 era in order to study medieval assemblages?

Research / Post Excavation Analysis. Although sites may have produced large quantities of medieval and post medieval assemblages, limitations on funding and time in the pre PPG 16 era often resulted in limited or summary publication of post Roman artefacts. It is known broadly when different ceramic wares were in use but work is required to attempt to produce dated type series and to define when and if stylistic and functional changes were made. Is it possible to determine ceramic phases across the city?

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Aim 51.2: Studies into the relationship between building materials and building status (Mellor, 1994: 25)?

Research / Post Excavation Analysis. Ceramic building materials such as floor tiles, roof tiles, louvers and other roof furniture need examination to understand the social context of their use, the location of productions and their chronology. The question of whether bricks were in use in the medieval period is a key question in understanding the development of construction techniques and aiding site chronologies.

Aim 51.3: Can pottery and finds assemblages in general give any indication of social and economic groupings within different areas of the city?

Research / Post Excavation Analysis. A better knowledge of the pottery in use would give a better knowledge of the people who used that pottery, their homes and living conditions and how people moved about the country. Can pottery and finds assemblages in general give any indication of social and economic groupings within different areas of the city? Can studies of artefact assemblages inform on the relationship between castle, town, village and monastery (Mellor, 1994: 25)?

Aim 51.4: Completion and publication of a medieval floor tiles census for Chester and Cheshire.

Research / Post Excavation Analysis. This will enable a better understanding of the technological and cultural influences at work regarding the production of tiles, spread of ideas and movement of tillers in the North West, West Midlands, North Wales and Ireland.

Aim 51.5: Synthesis on the distribution of medieval coins and tokens. What can this tell us about trade and exchange?

Research / Post Excavation Analysis.

Theme 52: Ecofacts

Aim 52.1: Systematic sampling of material from cess pits in order to build information on diet and environment.

Research. Review the existing assemblage.

Aim 52.2: All post medieval deposits should be targeted for the systematic recovery of shellfish and fish bone remains. They require analysis to record size, shape and parasitic infestations (Brennand, 2007: 120).

Archaeological Investigation. Fish, especially deep sea fish and fish oils, were an important part of diet and some manufacturing trades (e.g. tawyers) and fishing formed an important component of the economy of area with access to coast, river and estuary.

Aim 52.3: Study of large waterlogged or carbonised assemblages of plant macrofossils.

Archaeological Investigation / Post Excavation Analysis. Research into plant assemblages from well dated deposits could provide insight into diet, evidence of imported goods, the relationship between town and hinterland and industrial use (Harrison, 1997).

Aim 52.4: Systematic analysis of samples for pollen. Complete sequences from the late Saxon through to post medieval sequences can contribute to evidence for woodland clearance in the area and evidence for cultivation (Harrison, 1997).

Archaeological Investigation. Potential for the introduction of new exotic plants and animals in the medieval period (Chester Archaeology, 1999).

Aim 52.5: Targeted ecofactual analysis of samples from monument types with limited or no evidence such as monastic sites and medieval rural settlement (Gerrard, 2003: 203).

Archaeological Investigation.

Aim 52.6: Potential to produce a detailed synthesis of ecofactual assemblages similar to those produced at York and Lincoln.

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Archaeological Investigation. The studies at York and Lincoln were able to draw conclusions regarding economic, industrial and social activities both within and beyond the medieval city and allowed for a more sophisticated approach to dating and chronology. Can comparisons be drawn between urban assemblages at Chester and from rural manor or village sites exploring differences in the urban-rural relationship (Gerrard, 2003: 202)?

Settlement I: The Medieval City

Theme 53: Origins, Growth and Development

Aim 53.1: Research into the character, growth and function of the medieval town at Chester (Brennand, 2007: 102).

Research. Can we learn more about the devastation of the city immediately following the Conquest? What archaeological evidence is there for a boom in the thirteenth and fourteenth century and what affect did it have on society and economy?

Aim 53.2: Further investigation into medieval buildings in the city (Beckley & Radford, 2012c)?

What, if any, regional variations can be noted in documented and surviving medieval buildings in the city? Studies on construction techniques including framing (cruck or box frames), building materials (stone or timber), roofing materials (thatch or tile) and types (changes from crown post to queen post) may tell us about class and status in the medieval city?

Aim 53.3: How did space and division evolve inside the medieval building (Beckley & Radford, 2012c)?

How did kitchen spaces and hearths evolve? When did it move to detached buildings to the rear of the main house and when did it move back into the main dwelling?

Aim 53.4: To what extent were boundaries affected by the Norman Conquest? Is there evidence to suggest a redrawing of tenement boundaries in the later eleventh century (Beckley & Radford, 2012b)?

Research. Domesday notes that houses dropped from 431 houses to 226 following the Conquest, what affect did this devastation have on the layout of the city and the subsequent Norman manorial ownership?

Aim 53.5: Can we trace the origins and development of the street morphology within the city walls?

Research / Archaeological Investigation. Although we know that Bridge Street and the Watergate and Eastgate Street lines are of Roman origin, how did the remaining streets develop including the re-alignment of Northgate Street over the former Roman remains? Can archaeological investigation provide sequences of metalled surfaces from the Roman to medieval periods? Detailed late medieval accounts of ward boundaries and street names are presented in Morris' account (1894) of the city in the sixteenth century.

Aim 53.6: What is the extent of the evidence concerning regulations of cesspits and the removal of rubbish in the city?

Archaeological Investigation. Documentary records often discuss conditions in public streets and market places rather than private houses and garden (Keene, 1982), while recent investigations at Bridge Street have examined the archaeological evidence (Garner, 2008).

Aim 53.7: What is the potential for below ground survival of the documented stone halls, particularly along Lower Bridge Street and its environs?

Archaeological Investigation. Stone halls were often seen as a sign of economic prosperity, can we learn more about their origins and growth?

Archaeological Character Zones with a higher potential for addressing this aim: Zones 12, 18-20.

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Aim 53.8: Assess the potential for further evidence for the settlement of Gloverstone.

Research / Archaeological Investigation. Documentary records and limited place name evidence identify a small enclave by the Castle, known as Gloverstone, which enjoyed its own set of privileges and customs separate from that of the city corporation. What were the origins of this liberty? Could it have originated from ancient customs granted to a Hiberno-Nordic community burh? What is the archaeological potential for this community?

Archaeological Character Zones with a higher potential for addressing this aim: Zone 16.

Aim 53.9: Need to examine the relationship between the urban centre and the rural-urban fringe surrounding it (Brennand, 2007: 102).

Research.

Aim 53.10: Evidence from Oxford suggests that the medieval vaulted undercrofts had late Saxon origins based on Saxon cellar or sunken building forms. Can similar evidence be drawn from examples at Chester (Beckley & Radford, 2012b)?

Research / Survey.

Aim 53.11: Can we learn more about how urban spaces were used in the first half of the medieval period? How extensive were areas for gardens or waste? (Beckley & Radford, 2012b).

Research / Archaeological Investigation. Archaeological investigation and historic maps suggest large areas of relatively open space to the rear of the street frontage. To what extent were these areas cultivated and for what purpose?

Aim 53.12: Can we identify evidence of 'squatter dwellings' in areas of common or wastes? If so, is there a relationship between them and areas of industrial activity (Beckley & Radford, 2012b)?

Research.

Theme 54: The Chester Rows

Archaeological Character Zones with a higher potential for addressing these aim: Zone 8.

Aim 54.1: Re-survey of selected Row buildings in order to reassess dates of the vaults, in particular carry out a systematic cellar survey to record and type cellars and undercrofts (Matthews & Smith, 2006).

Survey. The Chester Rows Survey in the 1990s recorded visible features within the undercrofts and townhouses; however, more detailed building surveys of the historic buildings along the Rows may provide further information on their dating and origin.

Aim 54.2: Record and date (by means of an extensive dendro-chronological programme) all the historic timber framed buildings in the Rows.

Archaeological Investigation.

Aim 54.3: What processes were responsible for the ground level difference between the level of the street frontage and the level to the rear of the plots?

Archaeological Investigation. In some places it is as much as 4m. Is it actually accumulated occupational debris from Roman to post medieval times (Castlering Archaeology, 2005)?

Theme 55: Urban Life

Aim 55.1: Is it possible to map changes in consumption patterns across the city based on artefact and ecofact assemblages (Brennand, 2007: 122)?

Research / Post Excavation Analysis / Archaeological Investigation. Analysis of assemblages from across the city and its environs may be able to distinguish variations in consumption patterns that relate to chronology, social and cultural differences, economic variations, differing social and economic zones within and without the city. Can such studies reveal information that details variations within the population such as minority groups, ethnic diversity and other social groupings, for example, can merchant communities be identified?

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Aim 55.2: Is it possible to reconstruct patterns of social status based on built form?
Survey.

Settlement II: Suburban Settlement

Theme 56: The North Suburb

Aim 56.1: Can we learn more about the suburban settlement to the north of the city, was there a commercial focus to the northern suburb, and to what extent did trade affect settlement there?

Research / Archaeological Investigation. Was the north characterised by a particular activity such as quarrying to the rear of the plots, what was the effect of the abbey lands at the northern end of the street, did it result in a distinct social and economic focus in this area?
Archaeological Character Zones with a higher potential for addressing this aim: Zones 30, 31.

Aim 56.2: Did the re-location of the port anchorage to the port-pool outside the city influence settlement patterns and street layout in this area?

Research / Archaeological Investigation.
Archaeological Character Zones with a higher potential for addressing this aim: Zones 57, 58.

Aim 56.3: What is the potential for evidence for quarrying in the northern suburb during the medieval period?

Archaeological Investigation. Although there is evidence for Roman and early post medieval quarrying at the Gorse Stacks (Cuttler, 2012), there is as yet no evidence for medieval quarrying activity. Further investigation is required to determine this – what is the potential for medieval evidence to have been removed completely by later activity? Did quarrying move to other locations? If there was no quarrying here in the medieval period, why not?
Archaeological Character Zones with a higher potential for addressing this aim: Zones 30, 31.

Theme 57: The Eastern Suburb

Aim 57.1: What was the extent of commercial activity on Foregate Street?

Research / Post Excavation Analysis. Rescue investigation carried out along Foregate Street for much of the twentieth century largely focussed on the potential for Roman archaeology due to time and financial constraints as well as a perceived lack of interest in medieval and later periods. There is a good potential for these archives to highlight further medieval remains.
Archaeological Character Zones with a higher potential for addressing this aim: Zones 22-26.

Aim 57.2: Was Foregate Street a focus of leatherworking, and other related activity?

Research / Post Excavation Analysis. Archaeological investigations and documentary evidence have recorded evidence of medieval tanning in several locations along Foregate Street and close to the Bars, were they placed in close proximity to butchery sites and slaughter houses?
Archaeological Character Zones with a higher potential for addressing this aim: Zones 22-26.

Theme 58: Handbridge

Aim 58.1: What was the extent of activity in Handbridge during the medieval period?

Research / Post Excavation Analysis. So far there has been limited systematic archaeological investigation in this area and the extent and nature of the suburb here is uncertain. Investigation into medieval contexts, where possible, should be a priority.
Archaeological Character Zones with a higher potential for addressing this aim: 34, 35, 37.

Aim 58.2: What, if any, is the potential for below ground evidence of fire damage in Handbridge?

Research / Post Excavation Analysis. Documentary records indicate the suburb was razed by fire on several occasions; can this be illustrated in the archaeological record by burnt deposits?
Archaeological Character Zones with a higher potential for addressing this aim: 34, 35, 37.

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Settlement III: Rural settlement

Theme 59: Manors

Aim 59.1: Study of how dispersed settlement evolved across the townships, farmsteads and manors surrounding Chester (Brennand, 2007: 101).

Research. Can we trace the development of manors mentioned in Domesday through the medieval landscape?

Theme 60: Vills and Villages

Aim 60.1: Research into the location of Newbold hamlet, known to have been close to the southern boundary of Handbridge.

Research.

Aim 60.2: Research into the location of Claverton manor or hamlet, thought to have been close to the southern boundary of the Study Area at Eaton.

Research.

Aim 60.3: Place names study in the rural landscape. Can place and field names contribute to our understanding of activity around Chester?

Research. Field names may indicate specific forms of activity in a given area, for example field names to the north of Great Boughton include a reference to a 'potter's field' suggestive of pottery activity in the area.

Agricultural Land Use

Aim 60.4: Local studies based on the HLC and UAD Characterisation should be undertaken to attempt to recreate medieval land-use patterns around Chester (Brennand, 2007: 101).

Research. Was the woodland surrounding the city managed to provide fuel for heating, cooking, industry, construction? What was the impact on settlement patterns such as emerging village cores and farmsteads in the rural – urban fringe?

Aim 60.5: Investigation into surviving areas of ridge and furrow in order to examine soil structure to better understand the effects of medieval agriculture on earlier landscapes (Matthews & Smith, 2006).

Research / Archaeological Investigation.

Aim 60.6: Can the investigation of field banks and hollow way banks tell us anything about the evolution of the rural hinterland (Beckley & Radford, 2012c)

Research / Survey.

Aim 60.7: Earthwork survey of the Eaton Hall estate. Is it possible to identify medieval earthworks underlying the post medieval landscaping?

Research / Survey. The northern end of the Eaton Hall Estate extends into Chester parish including Duke's Drive from Hough Green to the estate.

Archaeological Character Zones with a higher potential to address this aim: Zone 45.

Theme 61: The Meadows

Archaeological Character Zones with a higher potential to address this aim: Zone 83.

Aim 61.1: Detailed topographic survey of the Meadows.

Survey. Topographic Survey. An assessment of the Meadows and a rudimentary survey of earthworks and field systems at the Meadows has been carried out; however, a detailed survey combined with a walkover survey could provide additional information on the survival of historic ridge and furrow as well as potential earthwork features not previously recorded.

Aim 61.2: Systematic sampling strategy across the Meadows.

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Archaeological Investigation. Systematic sampling. The palaeo-environmental potential for the Meadows is significant with the potential for waterlogged deposits containing evidence of past environments at a local and regional level.

Aim 61.3: Identification of crossing points along the eastern edge of the Meadows across the river Dee into Boughton.

Research / Archaeological Investigation. Review of fieldwork surveys, potential for structural remains of piers and fords.

Religion

Theme 62: The Friaries

Archaeological Character Zones with a higher potential to address this aim: Zone 15.

Aim 62.1: Investigation of the building form and function of urban friaries need to be a priority (Brennand, 2007: 107).

Research / Archaeological Investigation. Reasons for location of urban friaries, the development and expansion of their precincts, the response to late medieval decline and encroachment.

Aim 62.2: Extensive and site specific studies of cells, hospitals and other minor sites of the monastic order are required (Brennand, 2007: 107).

Research / Archaeological Investigation.

Aim 62.3: What is the potential for below ground survival of evidence from the friaries?

Research / Archaeological Investigation.

Aim 62.4: Where possible, monastic outer courts, ancillary buildings and precinct boundaries should be investigated through topographical and geophysical survey and selective excavation (Brennand, 2007: 107).

Research / Archaeological Investigation / Landscape Survey.

Aim 62.5: Can we trace the path of the medieval water system from the Abbey Well near Christleton to the abbey itself?

Research / Archaeological Investigation.

Aim 62.6: Was the former Roman aqueduct re-used during the medieval period?

Research / Archaeological Investigation. Is it possible that a medieval pipeline made use of the former Roman aqueduct from the Cherry Orchard at Boughton to the Black Friary? Can we use evidence from the known points of the Roman system to identify re-use in the medieval period?

Theme 63: St John's Church

Archaeological Character Zones with a higher potential to address these aims: Zone 21.

Aim 63.1: Investigation into St John's Church and its environs in order to better understand its origins from the Saxon to modern period both in the development of the physical structure and its impact on the growth of Chester (Matthews & Smith, 2006).

Survey. Record and study the upstanding buildings and ruins to understand their form and development. Investigation into the extent of the cemetery associated with the Church. Is there any evidence of re-use of the amphitheatre site in the medieval period, did Roman features survive (possibly including the 'concentric' wall) through incorporation into later structures?

Aim 63.2: Investigation into the status of St John's as a collegiate church in the medieval period.

Research. Can we learn more about the origin and status of the collegiate function of St John's? When did it achieve this status? Was it pre-Conquest? What structures were associated with the church? What evidence is there for its status as a cathedral seat in the eleventh century and

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how did this translate into the medieval world. Investigate location, plan and development of the confraternity chapel of St Anne and the chapel of St James.

Aim 63.3: Investigation into the medieval wall paintings at St John's Church (Matthews and Willshaw, 1995).

Research.

Theme 64: St Werburgh's Abbey

Archaeological Character Zones with a higher potential to address these aims: Zone 6.

Aim 64.1: Detailed building survey of the present Cathedral including production of phased plans of the development of the building from the Saxon to present day (Ward, 1995).

Survey. A detailed buildings survey can help identify the potential for surviving elements. Is there any evidence for re-use of Roman stonework within the current structure, the extent of reconstruction and the liturgical arrangements of the early medieval period; and the sequence and dating of construction of the present nave and transept the extent of reconstruction and the liturgical arrangements of the later medieval period.

Aim 64.2: Resistivity survey of the Deanery Fields and Cathedral area with the aim of identifying surviving below ground remains of the Abbey infirmary and the buildings disposed around the little cloister (Matthews & Smith, 2006).

Survey.

Aim 64.3: Survey and investigation of the medieval chapel of St Thomas within the extant structure of the Bishop's Palace at Abbey Square?

Survey.

Aim 64.4: Investigate the potential for medieval human remains at St Werburgh's Abbey, who was permitted to be buried at the abbey at this time?

Research. The uppermost levels of human remains around the cathedral have been investigated archaeologically, and date largely to post medieval times. What is the potential for earlier remains to have survived in an undisturbed form?

Aim 64.5: Was Chester a major pilgrimage destination?

Research. Although not a widely known centre for pilgrimage there were competing roles of the shrine of St Werburgh at the Abbey and the fragment of the True Cross at St John's. Would it have been sufficiently important as a destination in its own right or was it a stopping point on the way to Hilbury Island?

Aim 64.6: What was the extent and function of the archaeological feature in St Werburgh Street, known as the 'dip'?

Research / Archaeological Investigation. Recent archaeological investigations in the street recorded evidence of a substantial feature infilled with seventeenth century material. Although the base of the feature was not reached on this occasion, it has been suggested that this represents a quarry of some size. Its position close to the abbey suggest further that the raw stone may have been used for a late medieval phase of construction, is it possible to further investigate this feature?

Theme 65: The Parish Church

Aim 65.1: Building analysis using modern approaches and techniques is required for churches to identify medieval fabric and reveal their structural evolution (Brennand, 2007: 107)

Survey. Few churches have been subject to detailed building survey in part due to the limited development pressure on these spaces; however, phased plans combined with historical research may inform us on their architectural development and historical significance. Can they advance our knowledge of their initial date of construction, their form and development?

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Aim 65.2: What evidence is there of Dissent prior to the Dissolution of the Monasteries?

Research. There are records of heretics being executed at the gallows in Boughton, can we learn more about dissent in Chester in the later medieval period?

Aim 65.3: Churches need to be assessed in their urban context. Can parallels be drawn between social demographics and parish boundaries?

Research. What can we learn about the affect of Norman control in their design and function?

Theme 66: Burials

Aim 66.1: Can we identify the full extent of burial sites associated with medieval churches and chapels within the city?

Research / Archaeological Investigation.

Theme 67: Hospitals

Aim 67.1: Investigation on the character and extent of hospitals at Chester (Beckley & Radford, 2012b).

Research. Can we learn more about the buildings and site layout within hospitals? Where was their water supply from?

Aim 67.2: Can we identify the extent of any burial grounds associated with the hospitals (Beckley & Radford, 2012b)?

Research. What can they tell us about diet, health and medical practice, social status or gender?

Defences, warfare and military activity

Theme 68: The City Walls

Archaeological Character Zones with a higher potential to address these aims: Zones 1, 14-19, 21, 22, 24.

Aim 68.1: Further investigation into why the medieval defences were extended to the south and west of the Roman fortress.

Research / Archaeological Investigation. The medieval phase of the city defences dates to the mid 12th century while the friaries along the western edge of the city were not introduced until the mid 13th century, what was the character and extent of settlement in this area in the period prior to the introduction of the friaries?

Aim 68.2: Further investigation into the town defences, in particular the surviving and below ground remains of the medieval towers (Brennand, 2007: 102).

Research / Archaeological Investigation. Including the location, appearance and development of the gates, although their final form pre-demolition is generally known from historic pictures.

Theme 69: The Castle

Archaeological Character Zones with a higher potential to address these aims: Zone 16.

Aim 69.1: Further investigation into the structural remains of the castle both above- and below-ground (Brennand, 2007: 109).

Survey / Research. A combination of non-intrusive techniques (Building survey, geophysical and topographic survey) and documentary research should be used to inform on our understanding of the castle in the medieval period.

Aim 69.2: What affect did the introduction of the castle have on settlement and activity in Chester at the start of the Norman period? How did this change as the medieval progressed and the castle rebuilt?

Research / Archaeological Investigation.

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Technology and Production

Theme 70: The Role of the Monasteries

Aim 70.1: Identification of likely medieval industrial complexes within the monastic holdings at Chester (Brennand, 2007: 112).

Research / Archaeological Investigation.

Archaeological Character Zones with a higher potential to address these aims: Zones 15, 27.

Aim 70.2: Research into the monastic organisation of industry in relation to trade patterns (English Heritage, 2010c).

Research.

Archaeological Character Zones with a higher potential to address these aims: Zones 15, 27.

Theme 71: Extractive and metal working industries

Aim 71.1: Identification of possible metalworking sites in the city (Brennand, 2007: 112)

Archaeological Investigation. A scatter of objects relating to metal working have been found within the city walls e.g. stone mould, cauldron mould but it is currently difficult to locate production areas within the city. What was the extent and significance of production? How was waste managed?

Aim 71.2: Can we identify where locally quarried stone was used? (Mason-Welland, 2001)

Research. It has been suggested that quarrying at Gorse Stacks may have provided stone for the late fifteenth century phase of construction at the Cathedral. Is it possible to prove this through documentary and structural analysis?

Theme 72: Mills and mill sites

Aim 72.1: Detailed investigation of mill sites along the river Dee (Brennand, 2007: 112).

Archaeological Investigation. Review of the mills mentioned in Domesday, can we locate them, trace their history through time? Are there any below ground or underwater remains of the mills at the Dee Bridge?

Archaeological Character Zones with a higher potential to address this aim: Zones 34, 39.

Aim 72.2: Can we identify the location of the windmills at Chester?

Research. A windmill is recorded on Hough Green and the back lane parallel with Upper Northgate Street, suggesting the mill may have been located some distance from the fixed point of the Northgate itself, was it perhaps located to the north close to the chapel of St Thomas a Becket and the abbey courts?

Archaeological Character Zones with a higher potential to address this aim: 31, 42, 44, 47.

Theme 73: Manufacturing

Aim 73.1: What evidence is there for the medieval guilds and their guild-houses in the City (Beckley & Radford, 2012c)?

Research / Archaeological Investigation. Documentary sources provide a substantial body of evidence, can this be translated into a spatial distribution of members throughout the city and can this be used to target future archaeological investigation?

Aim 73.2: Where were pottery and ceramic building materials produced (Edwards, 1994)?

Research / Post Excavation Analysis. Waste from pottery and roof tile production have been found just outside the city walls and medieval tile kilns have been excavated on the Deanery Field and at the site of the HQ building. Four pottery production sites have been excavated in rural Cheshire; what was the extent of their distribution and chronological timescale? Is it possible to locate further production sites? Is it possible using scientific analysis to identify potential production sources from excavated ceramic assemblages?

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Aim 73.3: Investigation of urban-based industries, using available scientific techniques to provide information on developing technologies and on the role of Chester as a centre of production (Brennand, 2007: 113).

Research. Evidence for a variety of crafts and productions have been revealed from excavations such as metal working, shoe making, cobbling, tanning and skinning but the precise location of production sites, their provisioning of water and fuel and the status of the craftsmen is unclear.

Trade and Exchange

Theme 74: Ports and Maritime Trade

Aim 74.1: Can we identify the exact location of the medieval harbour (Matrix, 2000)?

Research / Archaeological Investigation. There are references to harbour activity in several locations along the riverbank to the west of the city from the medieval Shipgate near the Castle round to the Water Tower. Is it possible to identify further evidence to support a principle location for the harbour? From where was it managed?

Archaeological Character Zones with a higher potential to address this aim: Zone 39, 53, 54.

Aim 74.2: What is the potential for further below ground evidence for the medieval port infrastructure, boats and/or artefacts associated with it? (Giffords, 2001)

Archaeological Investigation. Study the development of the Roodee by means of geophysical and borehole investigations.

Archaeological Character Zones with a higher potential to address this aim: Zones 39, 53, 54.

Aim 74.3: Can we learn more about the medieval Port Pool and its environment?

Research / Archaeological Investigation. The anchorage of the Port Pool was established by the thirteenth century, possibly in response to increased silting of the main harbour. To what extent did this affect industries in the city? What, if any, physical evidence survives at its proposed location in the Stonebridge/Cheyney Road area?

Archaeological Character Zones with a higher potential to address this aim: Zones 30, 58, 59.

Theme 75: Leatherworking

Aim 75.1: Further investigation into the leatherworking industry in Chester.

Research. To what extent was it a major part of the city's economy (Edwards, 1994)? Documentary evidence has suggested that over a fifth of the craftsmen in Chester were involved in leatherworking by the late medieval period. Was this a common trend throughout the medieval period? Who were the craftsmen, was there a defined centre for the industry?

Theme 76: Markets

Aim 76.1: Market spaces and early market halls should be studied to understand the physical development of markets and their relationship to their urban or proto-urban settings and hinterlands. (Brennand, 2007: 130)

Research / Archaeological Investigation. Can archaeology reveal evidence for the location and character of market places and fairs within the city? The markets and fairs would have attracted large numbers of people into the city; many travelling long distances can archaeology reveal evidence for this transient population?

Archaeological Character Zones with a higher potential to address this aim: Zones 2, 8.

Theme 77: Roads and Route-ways

Aim 77.1: Study of the medieval road network through maps and physical evidence (Matthews, 1999).

Research / Survey. Can we produce a projected network of roads from major to minor in the rural landscape? Studies in the Chilterns have examined patterns in medieval to post medieval

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road networks, a similar model could be used in Cheshire as an enhancement of the existing HLC database (Green, 2005).

Aim 77.2: What evidence is there of management of watercourses in the medieval period (Beckley & Radford, 2012b)?

Research / Survey. There are several watercourses surrounding Chester including Finchett's Gutter and Flookersbrook, not to mention the river Dee itself, to what extent were they managed as a resource or as representatives of land divisions?

Theme 78: Legacy

Aim 78.1: Research into the historic liberty, administrative and manorial boundaries (L-P Archaeology, 2009).

Research. Potential for study of their preservation or change over time; preservation of boundaries in modern / recent developments; important historical changes to them? To what extent to they survive in the modern landscape? Survey of boundary stones.

Post Medieval Research Agenda

Period Summary

The start of the post-medieval period for archaeologists traditionally begins with the Dissolution of the Monasteries, a period which saw a dramatic redistribution of land, property and wealth and in a time when religious institutions played a part in every aspect of daily life this had a significant social, economic and cultural impact. The creation of the new diocese of Chester led to St Werburgh's Abbey becoming the cathedral church and the ongoing modification of the former abbey complex throughout the post-medieval period. The collegiate church of St John's was reduced to the status of a parish church, the east end demolished and the various properties were sold and/or converted to largely residential use but survived into the seventeenth century. Although the friaries and nunneries were similarly disbanded their land within the city faced a slower period of change with some buildings surviving into the seventeenth century while redevelopment was minimal.

The fifteenth and sixteenth century is identified nationally as a period of transition as the effects of the Renaissance, Reformation and the expansion of world trade routes contributed to social and cultural changes. The period is a key area for research and debate regarding issues of continuity and change.

This period also saw the rise of industry and industrial processes with technological advances paving the way for the late eighteenth century industrial revolution. A greater degree of trade and exchange on an international level – coupled with the opening up of new trade routes to the New World, Africa and the Far East also affected society and economy as the period progressed. Settlement also saw gradual changes with new building designs, such as the enclosure of the Rows, and expansion of town suburbs along Boughton Road and small rural settlements at Flookersbrook and Newton-by-Chester, also increased throughout the post medieval. The Civil War and Interregnum violently divided the country and society, and Chester as a Royalist stronghold was subject to several periods of siege between 1643 and 1646, resulting in the construction of significant defensive and artillery earthworks surrounding the city as well as the systematic razing of the suburbs in advance of the Parliamentary army.

At the close of the post medieval period - for the purposes of this report in 1750 - the city had seen major infrastructure changes including the 1734-37 canalisation of the Dee, the opening of the canal in 1779 and the loss of its pre-eminence in the region as other towns and cities developed and prospered. It was however on the threshold of further major changes with the expansion of the canal, development of the railway and the continuing industrial revolution.

The conclusion of the Chester Urban Archaeological Database enhancement project has created 418 post medieval records of archaeological or historical interest. The evidence for these records comes from a body of over 900 archaeological investigations in the study area since the seventeenth century, existing structures, and documentary sources.

General Themes in Post Medieval Studies

Theme 79: Chronologies and dating

Aim 79.1: Excavated clay tobacco pipe assemblages need to be examined and recorded by suitably experienced artefact specialists able to assess the potential of the assemblage to augment existing knowledge regarding the dating and production of pipes in the city.

Post Excavation Analysis. Clay tobacco pipes have the potential to closely date the deposits in which they are found. The work of Rutter and Davey (1980) and more recently Higgins (2008) sets out a dated series of tobacco pipes for the city and surrounding area but there is the potential for further refinements to this series.

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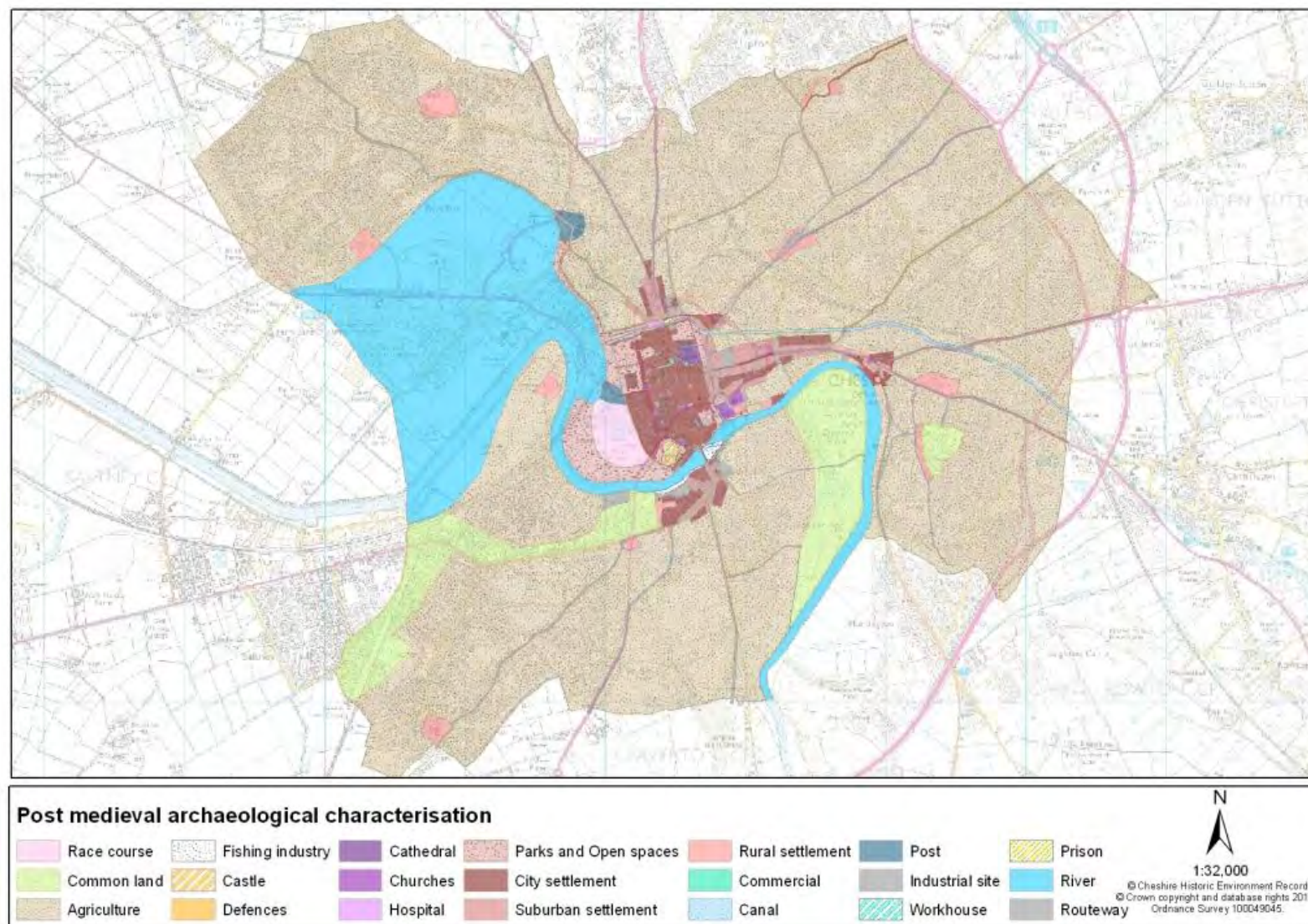


Figure 7: Post medieval archaeological characterisation

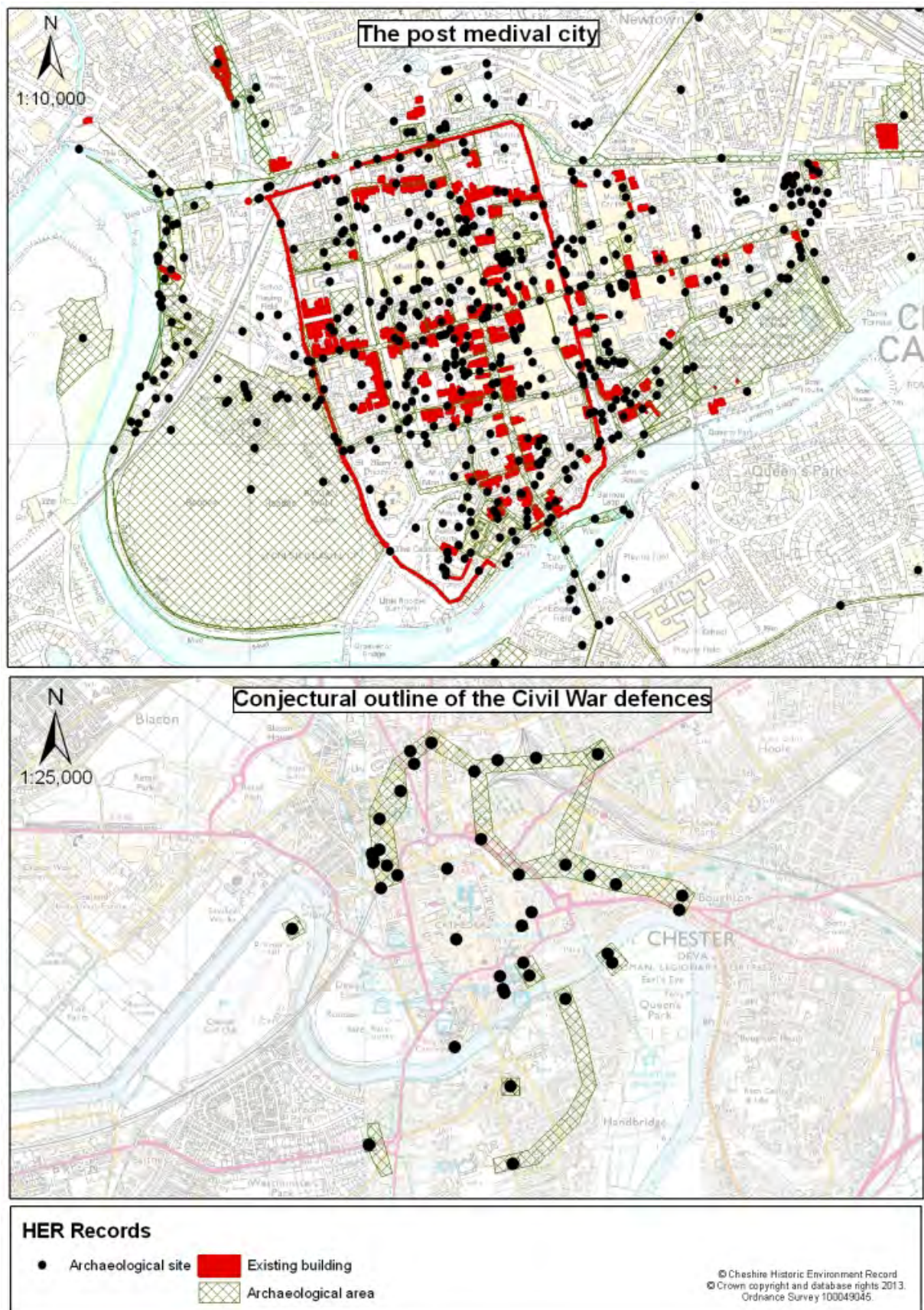


Figure 8: Post medieval archaeological sites

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Aim 79.2: Much knowledge exists regarding the sequence of pottery use in the city, however, chronological studies would benefit from the expansion and updating of the existing ceramic fabric collection for the Chester area.

Post Excavation Analysis. A form series for each identified ware should be incorporated to detail the full range of locally and regionally produced wares as well as imported types. Relative and absolute dating methods should be used to attempt to tie the series into a chronological sequence. All future excavation work should be undertaken with a view to reviewing and refining the sequence whenever possible. The analysis of ceramic assemblages from 25 Bridge Street (Edwards, 2008) and 10 Commonhall Street (Edwards, *pers comm*) outline a chronological framework for the mid-sixteenth to early eighteenth century however more securely stratified and independently dated assemblages and deposits are required to test the framework, fill gaps in the sequence and to extend its time-span. A dated type series will inform individual and intra site chronologies and material culture studies relating to themes regarding the social and economic life of the city and its environs.

Theme 80: **Future Archaeological Investigation in Chester**

Aim 80.1: Link place name studies with wider landscape research in an attempt to place the known sites into some sort of landscape context.

Research. Is it possible to draw comparisons between ancient field names recorded in medieval and later documents with those mentioned on nineteenth century tithe and enclosure awards to re-create a map of ancient landscapes? Can these field names suggest land use/function particularly in relation to crafts and industries e.g. kilns, tanyards, textile production, which supplied Chester and assisted its economy?

Theme 81: **Buildings Archaeology**

Aim 81.1: Sites of well preserved house remains where possible and their environs should be identified and targeted for excavation (Brennand, 2007: 118).

Survey. In order to aid the understanding of the socio-economic context of their construction and any subsequent adaption and modification. This should apply to both elite and non-elite housing and should encompass the redevelopment of ecclesiastical buildings after the Dissolution and the housing of the poor. Identification of potential sites could come from cartographic analysis, documentary research and the Local and National Listed Buildings Register.

Aim 81.2: Map the surviving extent of sixteenth and seventeenth century structures (Brennand, 2007: 118).

Survey. Although the Rows Research Project has gone some way to accomplishing this task in the historic core, more detailed surveys of all historic buildings in the city it recommended along with the surviving elements of proto-industrial settlements. This would inform conservation policies and enable characterisation of the resource in order to examine the nature and impact of new monuments types in the transition from medieval to Georgian patterns of living. Identification of potential sites could come from cartographic analysis of the listed buildings register.

Aim 81.3: Can we establish the extent of brick use in buildings at Chester? What is the socio-economic context of its use?

Research. The introduction of brick buildings and the stimulus for the increasing use and production of bricks needs further investigation. How and when did brick making become established in Chester? The earliest known brick built house in Chester is, at present, Randle Holmes' 1620 house. Work has begun to characterise bricks and potential production technologies (25 Bridge Street and unpublished amphitheatre and Grosvenor Park assemblages) but more, well-stratified and independently dated, assemblages are required.

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Aim 81.4: How did the brick making and the location and character of works vary over the period?

Research. When did the works at Hough Green become established?

Aim 81.5: Research into changing styles in roof construction and material type throughout the post-medieval period is required.

Research. Late seventeenth century records suggest thatch was still being used in the city centre how prevalent was the use of thatch in the post-medieval period and what was its social context, did it totally cease with the late seventeenth century assembly ruling regarding roofing materials? Is there evidence of wood shingles as a roofing material at Chester?

Aim 81.6: Can we learn more about changes in style and size of ceramic floor tiles and how long were they in use?

Research / Post Excavation Analysis. Evidence from the Cathedral, Bridge Street and Grosvenor Park suggest a change in the style and size of ceramic floor tiles in the late fifteenth or sixteenth century does this represent a change in fashion or production?

Aim 81.7: When did the production of decorated floor tiles cease locally?

Research.

Environmental Study and Artefacts

Theme 82: Environmental Analysis

Aim 82.1: Sample appropriate deposits for environmental evidence where possible to gain information on the exploitation of plants and animals especially in relation to changes in consumption (Brennand, 2007: 119)?

Archaeological Investigation. For example, changes in animal husbandry and the date of introduction of new plant and livestock species.

Aim 82.2: The opportunity should be undertaken, to investigate the impact, if any, of the Little Ice Age and the effects of coastal change (Brennand, 2007: 119).

Research. What was the impact of the Little Ice Age on Chester? Can this period be identified in soils and deposits? Can any social/economic/physical impacts be detected archaeologically? Changes in farming/rural settlement that impact on provisioning of the town?

Theme 83: Ecofacts

Aim 83.1: What is the potential for the introduction of new exotic plants and animals in the post medieval period following the discovery of tomato seeds in Oxford and Taunton in post medieval contexts (Chester Archaeology, 1999)?

Archaeological Investigation / Post Excavation Analysis. For example, discoveries of tomato seeds in post medieval contexts at Oxford and Taunton follow their introduction in the late sixteenth century. At Chester, tomato seeds have so far only been found in nineteenth century contexts at 25 Bridge Street (Garner, 2008).

Theme 84: Artefacts

Aim 84.1: Analyse and publish existing assemblages of post medieval artefacts (Brennand, 2007: 130).

Research / Post Excavation Analysis. This can help us acquire a better understanding of patterns of consumption, production, distribution, provisioning within and outside the city. Analysis and comparison of assemblages would aid an appreciation of access by individuals and groups to material culture i.e. artefacts and food and to identify chronological, socio-economic and spatial differences in consumption.

Aim 84.2: All post medieval deposits should be targeted for the systematic recovery of shellfish and fish bone remains. They require analysis to record size, shape and parasitic

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infestations in order to establish location of sources and any seasonality of harvesting (Brennand, 2007: 120).

Archaeological Investigation. Fish especially deep sea fish and fish oils were an important part of diet and some manufacturing trades (e.g. tawyers) and fishing formed an important component of the economy of area with access to coast/river/estuary. What might the distribution of these remains tell us about society and economy?

Aim 84.3: Can patterns relating to the distribution of particular artefact types (high status or imported items for example) and the character of residential areas within the post medieval city be determined?

Research / Post Excavation Analysis. In particular with regard to ethnic, religious or cultural/social groupings that may not be revealed (or not accurately revealed) in documentary records.

Settlement I: The Post Medieval City

Theme 85: General Themes

Aim 85.1: Research into the character and function of the post medieval town (Brennand, 2007: 102).

Research. In the medieval period Chester was a significant city with a wide area of influence covering the modern day North West/ West Midlands and North Wales, its prominence as a port, market, ecclesiastical centre and a centre of royal and provincial power. Can changes in significance and the impact of periods of change such as the Dissolution, Reformation, Renaissance, Civil War and rebellions be detected archaeologically?

Aim 85.2: Creation of mini urban atlas charting and categorising the growth and development of Chester based on the UAD Characterisation (Brennand, 2007: 122).

Research. The creation of an urban atlas for Chester could contribute to wider regional studies on the growth of the post medieval town.

Aim 85.3: Investigation into the function and significance of the City Walls between the end of their defensive or regulatory role and their development as a recreational space and a tourist attraction.

Research. Eighteenth and nineteenth century maps record long arrangements of small single room structures built against the City Walls and structures were subsequently demolished in the early twentieth century following road widening schemes. What was the purpose of these structures, were they industrial units, workers cottages? What is their level of preservation? To what extent did they affect the City Walls themselves?

Aim 85.4: What was the extent of survival of the amphitheatre area in the post medieval period?

Research / Post Excavation Analysis. The evidence from recent investigations at the amphitheatre suggest that at least part of the structure was still upstanding in the early post medieval period, to what extent was it open and above ground?

Archaeological Character Zones with a higher potential to address this aim: Zone 21.

Aim 85.5: How did the area of the amphitheatre develop into a high status area of mansions and gardens?

Research / Post Excavation Analysis. Excavations in Grosvenor Park have suggested that St John's precinct and potentially the post Dissolution town house of Sir Hugh Cholmondeley extended further into the parkland area than suggested on the historic maps. Can further information regarding the post-Dissolution use of the amphitheatre and its environs in respect of land use and individuals be revealed through further excavation and review of existing archives?

Archaeological Character Zones with a higher potential to address this aim: Zones 21, 27-29.

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Theme 86: **The Chester Rows**

Aim 86.1: Chart the changes to the town-houses through the post medieval period. When and why did they disappear in their medieval format?

Research. Can parallels be drawn between the Row buildings and Pantin's study of the post medieval town-house in Oxford (Pantin, 1947)?

Aim 86.2: Can we plot with some degree of accuracy the progress of enclosure along the rows in the post medieval period?

Research.

Aim 86.3: Did the inhabitants of the Rows change in this period with regard to social status, trade and wealth?

Post Excavation Analysis / Archaeological Investigation. Recent excavations in the backlands have produced assemblages that have provided evidence of the material culture of the inhabitants; further such assemblages may enable comparisons between Rows and over time.

Theme 87: **Urban Life**

Aim 87.1: Is it possible to detect and map changes in consumption patterns across the city based on artefact and ecofact assemblages (Brennand, 2007: 122)?

Research.

Aim 87.2: What was the impact of the Conduit at the Cross at the start of the post medieval period?

Research / Archaeological Investigation. Who had ownership of and access to the Conduit, what impact did it have on wells in the immediate or wider area?

Aim 87.3: Is it possible to reconstruct patterns of social status based on built form and finds assemblages?

Research. Documentary evidence suggests rich and poor lived in close proximity, for example, wealthy houses on the street frontage and courts behind, is there any evidence of social or cultural or occupational groupings/zones within the city and do the suburbs follow similar patterns? Can changes in the use of internal space inform in changing attitudes to gender and class?

Aim 87.4: Further investigation into sport and leisure in the post medieval period (Beckley & Radford, 2012d).

Research / Archaeological Investigation. Can we relate documented leisure facilities such as boat houses, tennis courts, bowling courts and jousting courts with below ground archaeological remains through advancing a programme of investigation?

Aim 87.5: Can we learn more about the growth of Chester as a regional service and retail centre and as a centre for tourism from the eighteenth century (Appleby, 1994)?

Research.

Aim 87.6: Further investigation on the emerging civic infrastructure of the post medieval period (Beckley & Radford, 2012d)

Research / Archaeological Investigation. Further investigation on the location of poor houses, courtrooms, prisons, schools, apothecaries, doctors and hospitals.

Aim 87.7: Can we learn more about the treatment of the poor through a combined documentary and archaeological study of the almshouses and poorhouses of Chester?

Research.

Aim 87.8: What does the material culture of these buildings relay about the inhabitants, their health and lifestyle?

Research.

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Settlement II: Suburban Settlement

Theme 88: **The North Suburb**

Archaeological Character Zones with a higher potential to address these aims: Zones 30-32.

Aim 88.1: **Can we learn more about the suburban settlement to the north of the city?**

Research / Archaeological Investigation. Was the north characterised by a particular activity such as quarrying to the rear of the plots, what was the effect of the abbey lands at the northern end of the street? What industries were present, what was the social demographic of the suburb?

Aim 88.2: **Was there a disruption in land use and settlement due to changes in the Port or the effects of the Civil War?**

Research / Archaeological Investigation.

Aim 88.3: **What was the impact of the quarries on the previous environment or were they a continuation of previous activity?**

Research.

Theme 89: **The Eastern Suburb**

Archaeological Character Zones with a higher potential to address these aims: 23, 25, 26, 74.

Aim 89.1: **Was Foregate Street the focus of the leatherworking industry, and other related activity?**

Research / Archaeological Investigation. Archaeological investigations and documentary research have recorded evidence of medieval and post-medieval tanning in several locations along Foregate Street and out towards the Bars. To what extent were the leatherworking industries deliberately located in close proximity to each other?

Aim 89.2: **What was the spatial and chronological extent of industrial activity along Foregate Street into Boughton?**

Post Excavation Analysis / Archaeological Investigation. Excavation and documentary evidence suggests metal working was carried in these locations. Was it a continuation of activity in the medieval period or a new development? If the latter what was the stimulus?

Aim 89.3: **What can artefact assemblages tell about the character of the population?**

Post Excavation Analysis.

Aim 89.4: **Did the character of this suburb change over time or did certain quarters of the area differ in character from others?**

Research. For example, Forest House built in the late eighteenth century was a particularly large fine building with gardens.

Theme 90: **Handbridge**

Archaeological Character Zones with a higher potential to address these aims: Zones 35-38.

Aim 90.1: **What was the extent and character of the suburb in the post medieval period?**

Archaeological Investigation. Archaeological and documentary evidence indicate industrial and craft activity (pottery production, mills) located along the edge of the Dee, how far did such activity extend inland and what was the economic status of the inhabitants prior to the development of the later suburb?

Settlement III: Rural settlement

Theme 91: **Farmsteads**

Aim 91.1: **Investigation into the life of historic farm and village sites around Chester (Brennand, 2007: 122).**

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Research / Archaeological Investigation. There are several locations where historic farmsteads have been subsumed within the modern urban landscape of Chester including Brewers Hall, now part of Chester Golf Course; Blacon Hall farm, now suburban settlement and Overleigh Manor, destroyed during the Civil War are rebuilt in an entirely new location on Eaton Road.

Aim 91.2: Can we trace the form and function of farmsteads in the rural hinterland surrounding Chester?

Research / Archaeological Investigation. What will this tell us? Perhaps the question should be posed re the impact of Chester, as a centre of consumption and trade, on the surrounding landscape and its hinterland. There is also the impact of the post-medieval estates on the landscape, for example, recent excavations at Aldford of the model farm – how can the two impacts be distinguished?

Theme 92: Manors and country residences

Aim 92.1: Survey of the later country estates around Chester and its suburbs, can a combined archaeological and documentary study inform on the social status of their inhabitants?

Research / Survey. Who lived in these estates? Were they the newly created upper middle classes or the landed gentry? To what extent did their gardens emulate the eighteenth century landscape garden ideal?

Aim 92.2: What was the interaction between the country mansions and estates and the city?

Research.

Theme 93: Villages

Aim 93.1: Can we trace the growth of the small villages around Chester, what encouraged their growth and to what extent were they affected by proximity to Chester and its arterial network of routes?

Archaeological Investigation. Several small villages make their appearance in the post medieval period; Flookersbrook is first mentioned by name in 1550 while Newton-by-Chester (although referred to in Domesday) appears to have become a small nucleated village.

Agriculture and Land Use

Theme 94: Agricultural Use

Aim 94.1: Examine and map pre-eighteenth century enclosure across the Chester area using the HLC and UAD Characterisation as a starting point (Brennand, 2007: 120).

Research. Are there occasions where former field boundaries survive in the modern urban townscape as suburban settlement boundaries? To what extent do the field boundaries correspond with areas of historic ridge and furrow? To what extent do they survive in the modern landscape? Although aerial photographs record several surviving zones of ridge and furrow, is there the potential for greater survival in open areas surrounding modern school sites for example.

Aim 94.2: What, if any, was the character and extent of private and market gardening with the town and suburbs (Beckley & Radford, 2012d)?

Research / Archaeological Investigation. What can this tell us about subsistence and patterns of food production and wealth distribution? Did post medieval practices lead to the 19th century nursery industries in the rural hinterland surrounding the city?

Theme 95: Land Use

Aim 95.1: Can we identify the character and extent of commons and waste land in the later medieval and post medieval period (Beckley & Radford, 2012d)?

Research.

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Aim 95.2: Survey of surviving earthworks in the Brewer's Hall area (Matthews and Smith, 2006)

Survey. What can this tell us about activity on this peninsula in the post medieval period? To what extent was Brewer's Hall altered and used during the post medieval period?

Archaeological Character Zones with a higher potential to address these aims: Zone 55.

Aim 95.3: Examine the extent and use of the salt marshes and wetland areas around Chester prior to the reclamation of the zones around the river in the eighteenth century.

Archaeological Investigation. To what extent did they impede movement through these zones, were routes taken around them or through them? What can they tell us about use of marginal zones? What may be preserved here, for example what is the potential for surviving evidence of fish traps and birding.

Theme 96: Fishing industry

Aim 96.1: Can we map the extent of the fishing industry along the river Dee in the post medieval period?

Research / Archaeological Investigation. Are there surviving traces of fishing activity such as nets, boats etc in the area around the Dee Bridge? Or even further a-field? Although national research has been carried out into the post medieval fishing industry there has only been limited investigation in the north-west area. What was the permissible extent of the fishing industry? What was the architecture of the industry in the river and along the river bank?

Religion

Theme 97: Impact of the Dissolution on Ecclesiastical Foundations

Aim 97.1: What evidence is there for re-use of the friary complexes in the city in the immediate post-Dissolution period?

Research. Archaeological evidence has identified post medieval re-use of certain friary buildings and demolition layers. Such evidence should be synthesized and combined with analyses of historical documentation relating to the post-Dissolution use of these important facilities.

Theme 98: Chester Cathedral

Aim 98.1: Assessment of the development of Chester Cathedral through a detailed building survey of the present Cathedral (Ward, 1995).

Survey. A detailed buildings survey can help identify the sequence and dating of construction of the present nave and transept the extent of reconstruction and the liturgical arrangements of the post medieval period as well as the recording and analysis of floor surfaces.

Archaeological Character Zones with a high potential to address this research aim: Zone 6.

Theme 99: Burials

Aim 99.1: Can we identify the extent and survival of churchyards associated with churches and chapels of Chester?

Survey. An assessment of survival and preservation of tombstones in order to assess the potential extent of buried human remains.

Aim 99.2: Examine post medieval cemeteries, burial sites and memorials in the city (Matthews and Smith, 2006).

Research / Survey. Can this provide further information on social attitudes and practice regarding death and burial Can changes be detected?

Theme 100: The Parish church

Aim 100.1: What was the impact of the Reformation and counter-Reformation on the interiors and exteriors of parish churches and on their parishioners?

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Survey. Few churches in Chester have been subject to detailed building survey in part due to the limited development pressure on these spaces, however, phased plans and historical research may inform us on the architectural development and historical significance of these buildings.

Theme 101: Non conformity and minority groups

Aim 101.1: Survey of buildings and purpose built chapels used by early dissenting and non-conformist congregations in the early post medieval period (Brennand, 2007: 126).

Research / Survey.

Aim 101.2: To what extent are religious minorities and non-conformists detectable by their material culture?

Research / Post Excavation Analysis. Can groups such as crypto-Catholics and Jews be identified particularly during periods of religious intolerance, for example during the late sixteenth and early seventeenth century?

Defences, warfare and military activity

Theme 102: The City Walls

Archaeological Character Zones with a high potential to address these aims: Zones 1-3, 8, 12, 14-16, 18-20.

Aim 102.1: Does the earthen bank against the city wall at the Frodsham Street car park represent a civil war defensive feature?

Post Excavation Analysis. Braun's plan 1581 shows the medieval ditch some distance away from the wall and a bank here (Earthworks, 2011: 37-38). Although the dating of the bank is uncertain, it may date to the Civil War.

Aim 102.2: What is the role of the city walls in this period? Can the change in significance from a defensive and regulatory role to that of a recreational and tourist attraction be better understood from the ongoing works on the Walls?

Research.

Theme 103: The Castle

Archaeological Character Zones with a high potential to address this aim: Zone 16.

Aim 103.1: Consolidate and synthesize the available documentary evidence for post medieval adaptations to Chester Castle (Brennand, 2007: 131).

Research. Although there is a substantial amount of available information on the construction and alteration of the castle from archaeological and documentary sources, this has yet to be consolidated into a synthesized body of research.

Theme 104: The Civil War

Aim 104.1: Review of archival material from excavations carried out in the past to examine and consolidate potential evidence for the siege of Chester (Brennand, 2007: 132).

Research. Artefact studies of the distribution of artillery and ammunition might have the potential to inform about activity during this period. Can archaeology and material culture studies provide evidence for the impact of the war on society, economy and culture? What was the impact on everyday life and the health of the population during the periods of siege?

Aim 104.2: What is the evidence for the systematic destruction of the suburbs around Chester during the siege of Chester?

Archaeological Investigation. There are many documentary sources pointing to the systematic razing of buildings and areas in the immediate environs of Chester. Targeted research-led archaeological investigations might produce direct evidence of these events.

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Archaeological Character Zones with a higher potential to address this aim: Zones 23, 24, 25, 26, 31, 68.

Aim 104.3: What is the evidence for Civil War earthworks in the Garden Lane area? (Mason-Welland, 2002)

Archaeological Investigation. A 1920s reconstruction plan of the Civil War defences suggests that substantial earthworks were present in the Garden Lane area while recent investigations at Tower Wharf have suggested some degree of below ground preservation (SLR). A review of archival material relating to the archaeology of this area, combined the available documentary resources will provide a valuable synthesis for future research.

Archaeological Character Zones with a higher potential to address this aim: Zone 31.

Aim 104.4: What is the potential survival of earthworks of the Parliamentary artillery battery in the Brewers Hall area?

Survey. Archaeological Character Zones with a higher potential to address this aim: Zone 55.

Technology and Production

Theme 105: Extraction and Metal Working Industries

Aim 105.1: What is the potential for further stone quarrying in the Upper Northgate Street area? (Mason Welland, 2001).

Research / Archaeological Investigation. Historic maps have recorded a fairly substantial area of stone quarrying to the rear of properties on the eastern side of Upper Northgate Street; however they do not reveal the full extent of activity throughout the post medieval period. Given the extent of evidence recovered from the Gorse Stacks quarry site including substantial deposits of post medieval material culture as infill as well as evidence of extraction itself, there is a good potential for further quarrying particularly to the north.

Archaeological Character Zones with a higher potential to address this aim: Zones 31, 32.

Aim 105.2: Excavations and documentary evidence suggests metal working was carried out on a variety of sites in the city (Foregate Street, Boughton, Rows and Rows back-lands) what was the nature and extent of production?

Research / Archaeological Investigation. What was the spatial and chronological extent of this industrial activity? Was it a continuation of activity in the medieval period or a new development? If the latter what was the stimulus?

Theme 106: Mills and Mill Sites

Aim 106.1: What changes were introduced to the process of milling in the post medieval period, in particular the increased industrialisation of mill sites? How were they received by the local people?

Research.

Aim 106.2: To what extent did the introduction of mills along the canal affect the existing historic mills on the Dee? Did they take business away from the Dee?

Research.

Theme 107: Manufacturing

Aim 107.1: Further investigation in the location of post medieval factories and warehouses.

Research. To what extent do they survive in the modern landscape? Have they been converted or re-appropriated for other purposes?

Aim 107.2: Early industries should be studied in relation to their landscape setting (Brennand, 2007: 128).

Research. Is there significance to where in the city certain industrial processes are taking place? A concentration of eighteenth century tanning industry features were found along Foregate

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Street for example; can any relationships between the character of particular residential neighbourhoods and industrial processes taking place within them be defined? What industrial processes (if any) were confined to rural, sparsely inhabited locations?

Aim 107.3: Can a study of artefact assemblages assist in identifying where industries in Chester procured their raw materials?

Research / Post Excavation Analysis. The assemblages from 25 Bridge Street, for example, indicate small scale brewing can this be detected elsewhere?

Theme 108: Ceramics

Aim 108.1: Evidence for medieval ceramic roof tile production has been discovered in the city, did this continue into the post-medieval period or did supply shift totally to production centres outside Chester, for example, Buckley in association with the use of stone slates.

Research.

Aim 108.2: Can evidence from Chester reveal information on the establishment, expansion and decline of the North East Wales ceramics industry (pottery and building material)?

Research / Post Excavation Analysis / Archaeological Investigation. Can more information be gained about the extent and range of pottery production in Handbridge? Where were the waste dumps for this pottery; the river, nearby fields (some waste has been found at Heronbridge), can they be used to understand the full range of ceramics produced in Handbridge. Why did the pottery fail?

Aim 108.3: Clay tobacco pipe production began in Chester in the early seventeenth century and continued to World War I, what was the stimulus for establishment of production and why did it become so widespread through-out the city. Can more information be gained about early production, the spread of manufacturing technology and the markets for Chester pipes both within and outside the city?

Research / Post Excavation Analysis.

Theme 109: Glassware

Aim 109.1: Who supplied Chester's glassware?

Research / Post Excavation Analysis.

Theme 110: Sugar Trade

Aim 110.1: Did the late seventeenth and eighteenth century sugar refineries exist just to serve the local population, where were the markets for the sugar?

Research. There is evidence that manufacturing equipment, such as moulds acquired from Liverpool, but did the earliest ceramic equipment come from elsewhere such as North Wales? How did the manufacturing become established and were there more sugar houses than those that appear in the documents?

Theme 111: Textiles

Aim 111.1: What was the extent and importance of home-workers to local trade and industry of textiles and clothing?

Research.

Theme 112: Leatherworking

Aim 112.1: Environmental analysis of insect or plant remains from the tanning site at the Bars to provide additional evidence regarding the site (Matthews and Smith, 2006).

Post Excavation Analysis.

Aim 112.2: What was the character of leatherworking at Chester during the post medieval period?

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Research. Early records of guild membership in the late medieval to post medieval transition suggest one fifth of the craftspeople in the city were involved in this industry. What was the distribution of workers amongst the various industries? Can we use spatial analysis to plot their distribution in the city?

Theme 113: Brewing

Aim 113.1: To what extent was brewing a localised industry in the post medieval period?

Research. Can we develop a chronology of brewing in Chester? At what point did it move beyond the small-scale into a more mass-produced, industrialised process? What was the extent of brewing ale after the introduction of hops? Who supplied the brewers with raw materials?

Trade and Exchange

Theme 114: Ports and Maritime Trade

Aim 114.1: Review of the known evidence for the port during the early post medieval period (Brennand, 2007: 130).

Research. Did it continue to function in Chester itself despite the main anchorage moving further west along the river estuary. Was there a diversification of industry along the Roodee during the post medieval period?

Archaeological Character Zones with a higher potential to address this aim: Zones 39, 53, 54.

Aim 114.2: Where did the merchants and their staff and the townspeople in the Port area live?

Research.

Aim 114.3: What do we know about the extent of trade during the post medieval period from the mid-sixteenth century onwards?

Research / Archaeological Investigation. What was the extent of Chester's trade with the New World? Can this be illustrated through Chester's sugar manufactories? Who were the main trading points for Chester – Ireland, the New World?

Aim 114.4: Study of the economic and social impact of the decline of the port of Chester in contrast to the rise of Liverpool (Appleby, 1994).

Research / Archaeological Investigation.

Aim 114.5: Environmental sampling along the present harbour in an attempt to identify the former creeks and inlets recorded on seventeenth and eighteenth century maps.

Archaeological Investigation. Were these creeks artificially created or altered?

Archaeological Character Zones with a higher potential to address this aim: Zone 54.

Aim 114.6: What was the character of reclamation in this area in the eighteenth century?

Research / Archaeological Investigation. Although the major phase of canalisation occurred in the mid-eighteenth century at Chester there were frequent periods of silting and flooding and this area is often referred to as salt marshes on eighteenth century maps. What is the potential for surviving soil deposits from this area prior to the eighteenth century reclamation programme? Can samples from here tell us anything about the medieval and earlier landscape? Archaeological Character Zones with a higher potential to address this aim: Zone 54.

Aim 114.7: Further investigation into the survival of the wharf at the Cheese Warehouse, dissemination of results (Matthews and Smith, 2006)

Research / Post Excavation Analysis. Archaeological Character Zones with a higher potential to address this aim: Zone 54.

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Theme 115: **Ship-building**

Aim 115.1: **Investigation into the character and extent of the ship-building industry in Chester.**

Research. Was it a major element of the post medieval period? To what extent was it a major production centre? What associated industries were active in Chester as part of the ship-building industry (e.g. rope making).

Theme 116: **Roads and Route-Ways**

Aim 116.1: **Study of the post medieval road network through maps and physical evidence. (Matthews, 1999)**

Research / Survey. Can we produce a projected network of roads from major to minor in the rural landscape? Studies in the Chilterns have examined patterns in medieval to post medieval road networks, a similar model could be used in Cheshire as an enhancement of the existing HLC database (Green, 2005).

Theme 117: **Markets**

Aim 117.1: **What is the potential survival for archaeological remains relating to the post medieval market buildings along Northgate Street?**

Archaeological Investigation.

Aim 117.2: **What is the potential for archaeological evidence for markets and trade buildings elsewhere in the city?**

Archaeological Investigation.

Aim 117.3: **Market spaces and early market halls should be studied to understand the physical development of markets and their relationship to their urban or proto-urban settings and hinterlands (Brennand, 2007: 130).**

Research.

Evidence of Early Industrialisation in Chester

Theme 118: **The Late Eighteenth Century**

Aim 118.1: **What changes were introduced to the process of milling in the post medieval period, in particular the increased industrialisation of milling? How were they received by the local people?**

Aim 118.2: **Thematic investigation into the dramatic expansion of industrial facilities in the post medieval period, and the gradual lead up to the nineteenth century (English Heritage, 2010b)?**

Increases in population, relative personal wealth and the growth of colonial trade all influenced trade and industry in the post medieval industry; to what extent can artefact analysis be used to document this transition from domestic production to factory-based manufacture?

Industrial Research Agenda

The latter half of the eighteenth century saw a gradual shift towards the industrialisation of the manufacturing process, trade and exchange. The canal network reached Chester in 1779, while early factories were established at several locations around the city. In the early nineteenth century the introduction of the railways and improvements in technology allowing mass production led to a second, more significant, period of industrialisation.

There has been little systematic archaeological investigation into the industrial past; however, recent thematic strategies produced by English Heritage (2010c) have sought to address the significance of industrial remains under two broad topics. These include:

- Understanding the impact of industry on the landscape including domestic and industrial remains,
- Sustaining the legacy of industrialisation and providing the evidence base for the understanding, protection, re-use and management of the industrial heritage.

Meeting the Challenge of an Extensive Resource

Any study of the industrial period faces many challenges, not least of which is the sheer scale of the resource available to the archaeologist. Prior to any archaeological investigation this can include vast quantities of documentary, map-based and photographic evidence that require assessment, and the potential for oral histories of the recent past. The archaeological record then provides a further, physical dimension to the documentary research - it can tell us what actually happened, what people used, what they ate, how their lives changed so drastically over so short a period.

A major factor in considering the industrial period is the huge rate of change; mass production meant cheaper products and a substantial increase in the buying power of the working classes who could now afford items previously considered luxury goods. At the same time there was a greater variety of products available at a national and international level. Linked to this was the introduction of, and rapid technological advances in, new products on a domestic to industrial scale. For example, the introduction of gas and electricity in the nineteenth century and the rapid improvements in industry, street-lighting and domestic spheres as a result, or the introduction of the steam engine in the late eighteenth century that rapidly went from providing stationary power in industrial complexes to powering locomotives and eventually the motorised vehicle. The industrial archaeological site is therefore already faced with a potentially vast body of material culture leading to inevitable questions on retention of artefacts before the structural remains of the industrial past can even be considered.

Similar challenges also exist with respect to the structural remains for the industrial period. Map sources and documentary research can often provide detailed plans of industrial buildings such as warehouses, mills and factories that can then be supported by the archaeological record. New technology resulted in the introduction of new requirements in built form, warehouses and factories needed access at multiple levels and the means to transport goods within them, mills and industrial complexes needed space for the internal combustion engine and the proliferation of working sheds for specialist stages of production. Domestic housing was also radically altered with increased sub-division of space as well as new demands for plumbing and electricity and later for the provision for motor access and storage.

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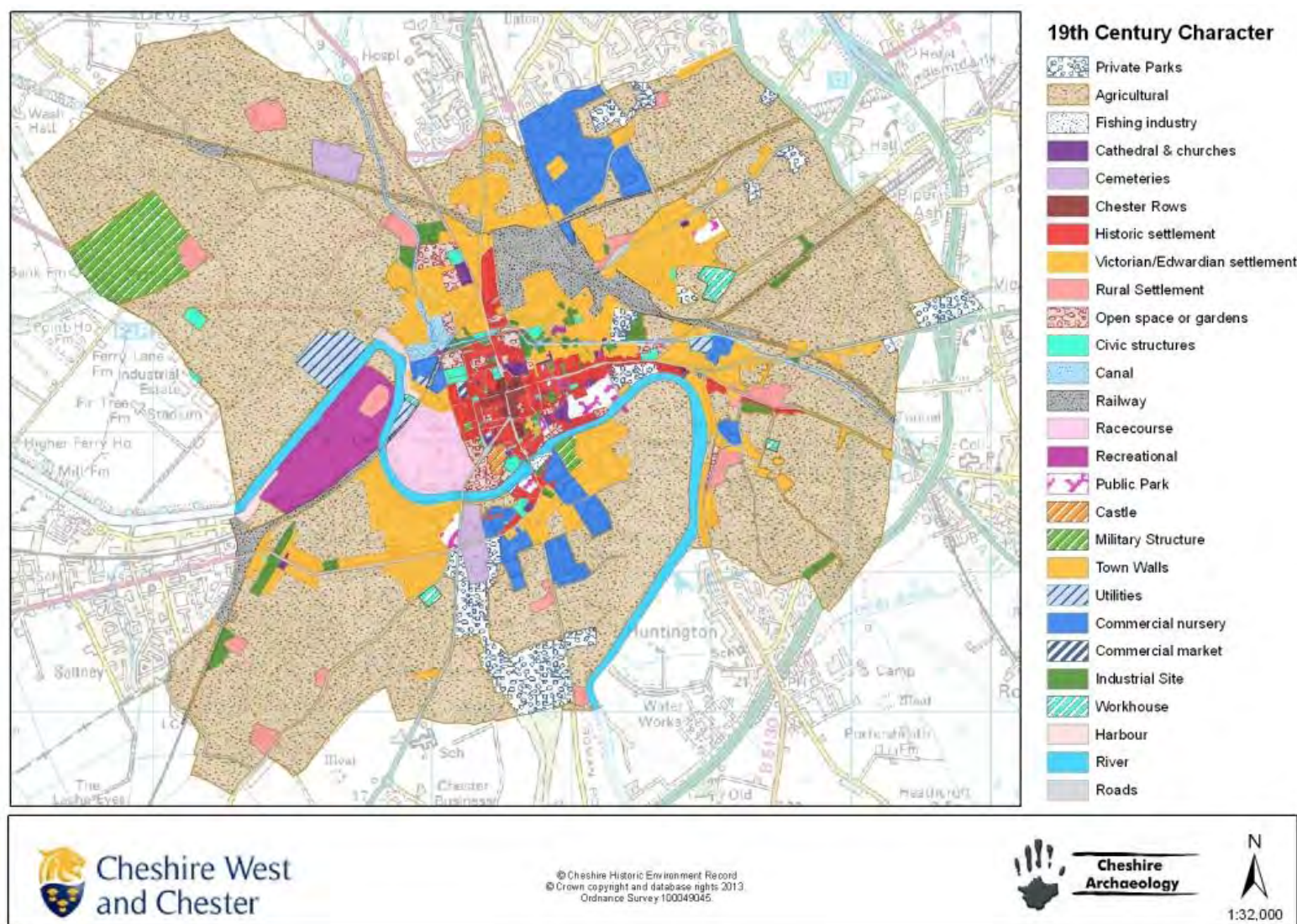


Figure 9: Historic Character of Chester in the late nineteenth to mid-twentieth century

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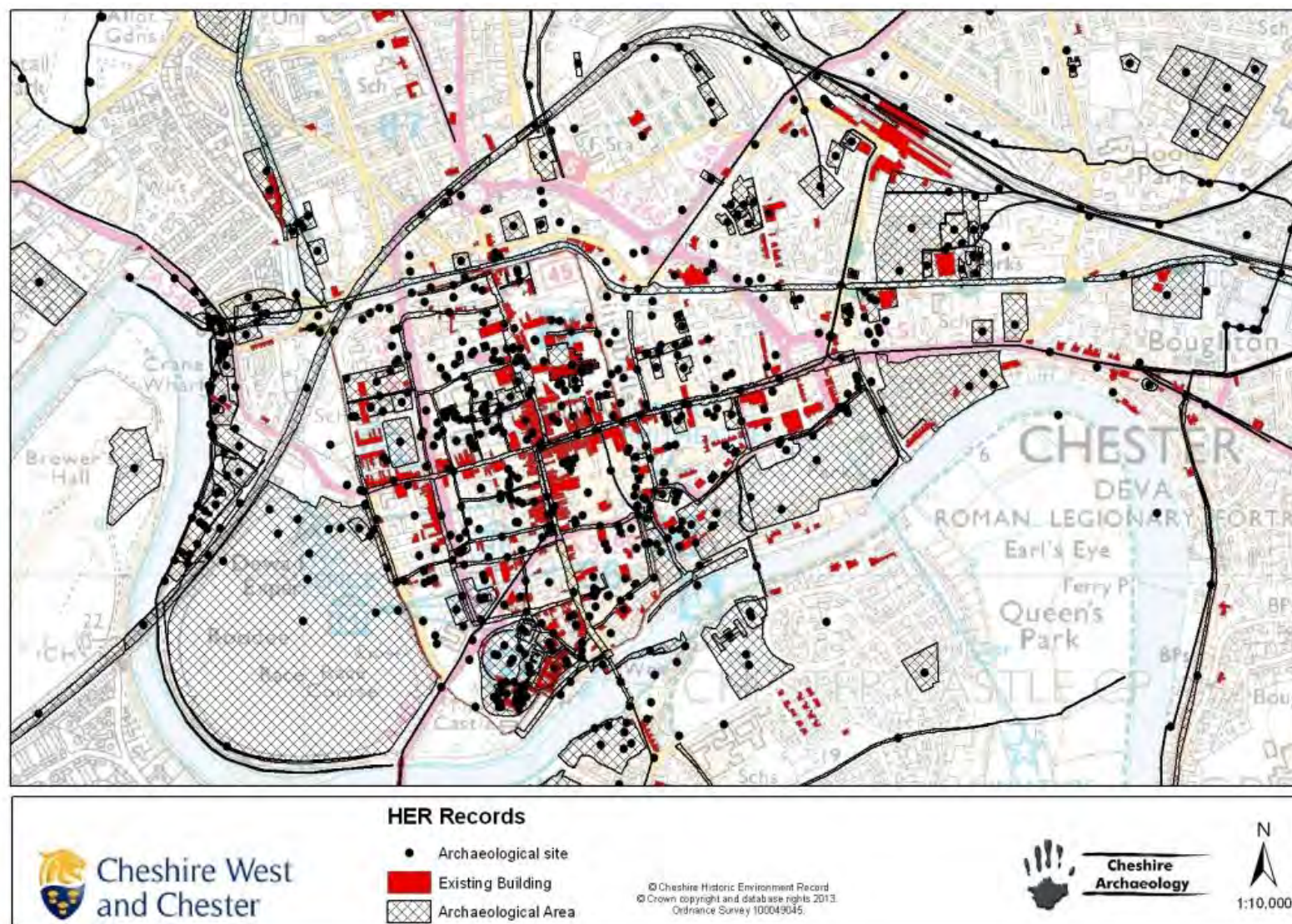


Figure 10: HER Records for Chester in the industrial period

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Archaeological Approaches to Research in the Industrial Period

From its inception, industrial period archaeology has concentrated primarily on the remains of the industrial past such as mills and factory's, however, more recently the scope of the discipline has been widened to include modern military archaeology including remains from the World Wars, domestic remains of the nineteenth and twentieth century's, and material culture studies. Key aims for the future of industrial period archaeological research should be focused on producing synthetic works at a local level that can be compared to regional and national research frameworks.

The conclusion of the Chester UAD enhancement project has created 842 industrial period records of which 404 represent standing structures included on the Listed Buildings register. The remaining 438 records represent former buildings, archaeological sites, isolated finds of nineteenth century material and landscapes such as late nineteenth century public parks, rail and canal infrastructure. The evidence for these records comes from a body of over 900 archaeological investigations in the study area.

Theme 119: Broad Themes on Industrial Archaeology in Chester

Aim 119.1: What does the archaeology of Chester contribute to a wider understanding of the industrial period in Britain?

Research. Because of its generally excellent survival, Chester's archaeology provides an excellent arena in which to investigate the extent to which the pre-industrial urban features were retained or transformed in this period. Case studies could include industrial production (e.g. animal processing and the leather trades, clay-tobacco pipe manufacture, domestic industry), urban zoning, housing, elite culture, institutions and religious practice etc.

Aim 119.2: Can the archaeological record (whether through built remains or finds assemblages) help to detect and illuminate the continuity of movement of local populations, the influence of immigration from further afield and the presence of 'hidden' communities?

Research / Post Excavation Analysis.

Aim 119.3: An assessment of archived planning submissions or any archival materials to uncover documentary material relating to Chester's Industrial period.

Research. Planning archives may contain heritage statements, plans, historical maps, photographic records or conservation statements that could enhance our knowledge of heritage assets in the city (Beckley and Radford, 2012e).

Early Industrialisation in Chester

Theme 120: The Early Nineteenth Century

Aim 120.1: How did the introduction of the railways affect economy and society at Chester? Why was this response different to that of the introduction of the canal system?

Research. It was common practice to locate railway works away from the historic centre of the town, however, the unprecedented success of the railways frequently resulted in a shift in economic, social and settlement focus towards the new railway hub. In Chester this resulted in two new loci of settlement at Newtown but also at Saltney on the Welsh border.

Aim 120.2: Development of archaeological techniques for the study of industrial remains.

Research / Post Excavation Analysis. Improvements are needed in archaeological techniques, metallurgical analysis and the assessment and recording of industrial buildings and landscape in order to understand the techniques of production and manufacture, technological change and process flow (English Heritage, 2010c).

Aim 120.3: Thematic investigation into the dramatic expansion of industries in the nineteenth century? (English Heritage, 2010b).

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Research. Increases in population, relative wealth and the growth of colonial trade all influenced trade and industry in the post medieval industry, to what extent can artefact analysis be used to document the transition from domestic production to factory manufacture?

Material Culture

Theme 121: Artefacts

Aim 121.1: Review of the nineteenth and twentieth century fabric series for Chester and the surrounding region.

Research / Post Excavation Analysis. Pottery assemblages for the industrial period are substantial and wide ranging. The expansion of the reference collection to include mass produced wares to enable standardisation of terminology is desirable. It is therefore essential that all WSIs for archaeological projects of this period should include a ceramic specialist familiar with the ceramics of the period, a clay-tobacco pipe specialist and a glass specialist.

Aim 121.2: Study and compare the material culture of industrial worker's households in urban communities with that from the rural villages surrounding the city (Brennand, 2007: 139).

Post Excavation Analysis. Materials assemblages from urban, urban-fringe and rural environments can be used to track changes in consumption over the eighteenth to twentieth century's. Can this inform on use and activity in different settlement environments?

Aim 121.3: Investigation into a fabric series of clay-tobacco pipes.

Post Excavation Analysis. Chester has a nationally important group of assemblages associated with clay pipe manufacture and use, commencing in the post medieval period but continuing into the twentieth century. Can further investigation into existing and future artefact assemblages assist in providing a local fabric series of pipe manufacturers including their marks and stylistic differences?

Aim 121.4: Can a study of the material culture associated with shops and businesses in Chester contribute to a greater understanding of the city as a regional retail centre and county town?

Post Excavation Analysis. For example, studies of groups of assemblages can indicate the variety and extent of commercial activity in the city from apothecaries, china and glass suppliers or exotic goods.

Aim 121.5: Can we identify the introduction of new materials in Chester through the archaeological record?

Post Excavation Analysis. While it is common knowledge that the introduction of modern materials, such as vulcanized rubber and plastics has revolutionised material culture, can we chart these developments in the city's archaeological record and what is the significance of these changes?

Theme 122: Ecofacts

Aim 122.1: Further investigation into the known assemblages of faunal remains in Chester

Post Excavation Analysis. Chester has one of the most important collections of eighteenth or nineteenth century faunal material relating to animal processing in Britain (such as leather trades, butchery), and it is likely that much more remains to be discovered.

Settlement I: Urban Settlement

Theme 123: General Themes

Aim 123.1: Need to investigate in-filled urban cellars (Brennand, 2007: 146).

Survey. What information can they provide on social status and economic activity?

Archaeological Character Zones with a higher potential to answer this aim: Zones 1-26, 30.

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Aim 123.2: Recording and classification of shop fronts and fascias (Brennand, 2007: 147).
Survey.

Archaeological Character Zones with a higher potential to answer this aim: Zones 2, 8, 19, 23.

Aim 123.3: Identification of historic graffiti in the city, with particular reference to World War II era markings.
Survey.

Aim 123.4: Identification of surviving civic and private street furniture and infrastructure (Beckley & Radford, 2012e).
Survey. Such as fire insurance plaques, building decoration and ornaments, inscriptions, pumps, post-boxes, lamps and manhole covers.

Aim 123.5: Can we learn more about the working class in an urban environment through archaeological investigation into the buried remains and material culture?
Research / Post Excavation Analysis / Archaeological Investigation. Of particular note are the courtyard developments in the city centre, and the 'hidden' evidence for small-scale backyard industry. There is further potential to build on this, for example by illuminating sub-groups, the economic role of women and children, and levels of poverty/prosperity.

Settlement II: Suburban Settlement and Modern Growth

Theme 124: Historic Suburbs: Change and Continuity

Aim 124.1: What is the evidence of change in the historic suburb in the nineteenth century?
Research. How did the historic suburban areas accommodate the significant changes of the nineteenth century? How have historic buildings been altered to allow for public utilities, road widening schemes, modern renovation as offices and shop space?
Archaeological Character Zones with a higher potential to answer this aim: Zones 31, 38, 40, 41, 42, 71.

Aim 124.2: Investigate the decline of industrial processes in the historic suburbs.
Research. At what point did the character of the suburbs change? In the medieval and early post medieval periods, the suburbs were the location of the poorer classes as well as industrial activities such as tanning, slaughter houses and coach and carriage works. As the nineteenth century progressed the suburbs became increasingly residential or commercial only.

Theme 125: Suburban Growth

Aim 125.1: Building audit within areas of 19th century suburban growth.
Research / Survey. Can a detailed survey of the surviving built form contribute to an understanding of their formation? What is the evidence of speculative building programmes by builders within the suburb, how did this differ between the villa suburbs in Handbridge and the terraced suburbs at Newtown? Key aspects such as built form, building materials and style should be identified and used to preserve the character of an area of historic suburban settlement whilst not impeding modern, complementary development.

Aim 125.2: Further investigation into coherent blocks of Victorian domestic housing and their wider infrastructure (Beckley and Radford, 2012e)?
Archaeological Investigation. Although this has been achieved on a few occasions in the city, most notably at Hamilton Place, further recording of Victorian settlement surviving above ground or as below ground features would help inform us on social and economic conditions.

Aim 125.3: What is the character and extent of early twentieth domestic housing at Chester, with a particular focus on pre-1945 Local Authority examples (Beckley and Radford, 2012e)?
Research / Survey. Where do they survive and how have they fared within the modern townscape?

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Aim 125.4: What are the key characteristics of the suburb?

Research / Survey. Can a detailed survey of the surviving built form contribute to an understanding of its formation? What is the evidence of speculative building programmes by builders within a terraced suburb? What are the stylistic changes evident from one stretch of housing to the next? Where are the original amenities located within the suburb, such as pubs, chapels or mission rooms? Do they survive or have they been converted to other uses?

Settlement III: Rural settlement

Theme 126: Country Residences and Estates

Aim 126.1: Examine the character and potential for remains for country house and residences surrounding Chester (Brennand, 2007: 142).

Research / Archaeological Investigation. A number of small country houses are recorded on nineteenth century maps, particularly to the north-east of the city, including Hoole House, Hoole lodge and Newton Hall. In addition there are a number of large villa residences that did not form part of a larger suburb such as the Abbotsfield area, Brook House and Stretfield House. Can we learn more about these houses in terms of built style and landscaping? What did they contribute as innovators and consumers?

Archaeological Character Zones with a higher potential to answer this aim: Zones 70, 71, 72, 73.

Aim 126.2: Landscape survey of Duke's Drive and surrounding area to identify recent parkland or World War II features associated with the Hall (Matthews and Smith, 2006).

Landscape Survey. Only the northern half of the Eaton Hall estate extends into urban Chester, however, this includes almost a stretch of Duke's Drive some 0.8 miles in length and an extensive area of woodland parkland surrounding the Drive. A number of features within this extent have been identified using LiDAR, aerial photography and walkover surveys; however, the collection of this information has so far not been systematic.

Archaeological Character Zones with a higher potential to answer this aim: Zones 74, 75.

Agriculture and Land Use

Theme 127: Fishing Industry

Aim 127.1: Synthesis of the nineteenth century fishing industry at Handbridge.

Research / Survey. What evidence survives in the modern settlement to indicate past use for fishing, for example, pins and rings for boats and nets, or graffiti?

Archaeological Character Zones with a higher potential to answer this aim: Zones 34, 36, 39.

Theme 128: Agricultural Industry

Aim 128.1: To what extent was the rural landscape changed as a result of Enclosure in the nineteenth century? What was the extent of loss of field boundaries, routes and woodland?

Research. Archaeological Character Zones with a higher potential to answer this aim: Zones 56, 61, 47, 48, 62, 69, 72, 73, 77, 81, 82, 83.

Aim 128.2: What were the processes and effects behind the transition from a society based largely on agricultural production with some industry, to a society based largely on industrial processes?

Research. How did this affect economic and social aspects of the city?

Industrialisation and Infrastructure at Chester

Theme 129: Health and Education:

Aim 129.1: Review of nineteenth century educational institutions including National, British, Ragged and other independent school systems, reading rooms and the introduction of colleges and their impact on the working class.

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Research / Survey. The nineteenth century saw a substantial increase in educational facilities as a result of changes in social awareness, for the first time education became available to the poor and working classes. Schools and reading rooms represent a key social change in the urban environment and contribute significantly to a sense of place and local character. The identification and survey of these structures may contribute to our knowledge of teaching in Chester.

Aim 129.2: Review of health facilities in Chester in the industrial period.

Research. Although the Royal Infirmary represented the main hospital throughout the nineteenth century, is it possible to identify other forms of health facilities in the city, including hospitals associated with workhouses, almshouses and cottage hospitals? The start of the twentieth century also introduced the need for temporary isolation hospitals for smallpox, tuberculosis and other infectious diseases while World War I and II also saw the need for temporary hospitals to treat injured soldiers.

Theme 130: Recreation and Community

Aim 130.1: How did Chester develop as a tourist city as the industrial period progressed?

Research. Arguably, the most influential development affecting Chester's townscape and fabric in this period was its reinvention as one of the earliest and most successful modern-era tourist cities in Europe. Chester emerged as a tourist destination in the eighteenth century with the deliberate retention of the full circuit of City Walls and Rows and the modification of the gateways and towers as viewpoints and visitor destinations. Other, later, tourist-related features include displays of individual monuments, the creation of Water Tower Gardens, the Roman Gardens, the hotels, and the various interpretive media used at different times across the city.

Aim 130.2: Can we compare the growth and adaptation of Chester as a tourist destination to other regionally significant pre-industrial towns that did not develop this role, what can this tell us about the special circumstances in Chester?

Research. Nationally, the archaeological study of tourist cities is in its infancy. Chester has already accumulated considerable archaeological data for this subject as a by-product of schemes of monument repair and conservation, and re-investigation of earlier excavations. In addition to the monuments there is good potential to investigate the material culture of tourism. Assemblages have been excavated containing 'imports' which rather than commercially traded goods, could be interpreted as evidence of travel. Consequently there exists good scope for further original archaeological research into this field within the city.

Aim 130.3: Survey and investigation into the buildings of the Roodee Racecourse. What is the potential for surviving below-ground remains of earlier features associated with it?

Research / Survey. What can the organisation and division of space in the racecourse structures tell us about changes to society in the nineteenth and twentieth century?

Archaeological Character Zones with a higher potential to answer this aim: Zone 54.

Aim 130.4: Review of political and other social clubs in Chester (Brennand, 2007: 139).

Research.

Aim 130.5: Investigation into social space in Chester including theatres, early cinemas and music halls (Brennand, 2007: 139).

Research.

Aim 130.6: Investigation into community spaces in Chester including parish and community halls.

Research.

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Aim 130.7: Identify, record and classify municipal pleasure grounds and parks, bowling greens and tennis courts in Chester (Brennand, 2007: 150).

Research.

Theme 131: **Public Utilities:**

Aim 131.1: Investigation into surviving elements of the nineteenth century public utilities and other public institutions such as local government buildings and market halls in Chester (Brennand, 2007: 139).

Research / Archaeological Investigation.

Aim 131.2: Examination of the role that the Boughton waterworks played in the development and expansion of suburban Chester, and/or this facilities relationship with the other little one.

Research. Archaeological Character Zones with a higher potential to answer this aim: Zone 76.

Religion

Theme 132: **The Parish Church**

Aim 132.1: Investigation into the redrawing and consolidation of parishes within the city. How did the introduction of widespread non-conformity affect the traditional social aspect of the parish church?

Research.

Aim 132.2: What was the relationship between the parish church at Chester and the Catholic Church?

Research. The nineteenth century saw a resurgence in Catholicism in Britain and in Chester and Chester's population included a diverse cultural mix.

Aim 132.3: Is it possible to trace the introduction of other faiths in Chester, what impact have they had on society and cultural diversity?

Research. When were the first synagogues and mosques introduced into the city? At what point did they introduce purpose-built structures and what impact will that have on the traditional parish church?

Theme 133: **Burials**

Aim 133.1: How did the introduction of municipal cemeteries affect burial practices?

Research.

Aim 133.2: Survey and audit the current condition of cemeteries and churchyards in Chester. Including burial grounds, monuments and landscape features.

Research / Landscape Survey.

Theme 134: **Non Conformity**

Aim 134.1: Survey of survival of non-conformist chapels and mission rooms in Chester.

Research. The UAD project has identified 38 non-conformist chapels based on nineteenth and early twentieth century maps, however, this likely does not represent the entire dataset as smaller chapels and meeting rooms may appear on other sources. What is the extent of loss or alteration to these chapels?

Aim 134.2: Study of the relationship between chapels and working class communities including the predominance of non-conformist chapels over Church of England.

Research.

Defences, Warfare and Military Activity

Theme 135: **The City Walls**

Aim 135.1: Investigation into the recently discovered doorway at the Northgate Steps.

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Research / Post Excavation Analysis / Archaeological Investigation. This blocked up door way leading to a small open space within the walls was recorded during archaeological investigation to the west of the Northgate, What was its function?

Archaeological Character Zones with a higher potential to answer this aim: Zone 1.

Theme 136: The Castle

Aim 136.1: Consolidate and synthesize the available documentary evidence for modern adaptations to Chester Castle (Brennand, 2007: 131).

Research. Although there is an amount of available information on the construction of new elements and the expansion of the castle's complex of buildings, particularly about the many programmes of repair that were necessary to maintain the structure over such a prolonged period of time, in addition to the results of archaeological data and building surveys for certain elements, these resources have yet to be consolidated as a synthesized body of research.

Archaeological Character Zones with a higher potential to answer this aim: Zone 16.

Theme 137: Twentieth Century Military Structures

Aim 137.1: Investigation into the location and variation of air raid shelters and Anderson shelters across the city during World War II.

Research. Some of these structures are known only from archaeological excavation, for example, Frodsham Street car park (Earthworks, 2011: 46).

Aim 137.2: Survey and preservation of the underground bunkers at Queen's Park.

Survey. The bunkers below the Headquarters of the Western Command were considered to be in too dangerous a condition as recently as 2010 (Castlering Archaeology, 2011), which strongly implies they are falling apart and at least an assessment of some sort to evaluate what is needed to stop this process should be in order. Note they are not listed nor have any other protection other than being in a conservation area (Handbridge).

Archaeological Character Zones with a higher potential to answer this aim: Zone 40.

Aim 137.3: Investigation into the use and decline of the barracks on St Nicholas Street.

Research. Archaeological Character Zones with a higher potential to answer this aim: Zone 15.

Technology and Production

Theme 138: Mills

Aim 138.1: Survey of water powered mills and the comparative rise of machine powered mills in the city (Brennand, 2007: 154).

Research / Survey.

Theme 139: Manufacturing

Aim 139.1: What was the effect of modern industrial techniques on factories and warehouses (English Heritage, 2010b)?

Research. What effect did the introduction of steam and later power supplies have on internal organisation of buildings and the layout of industrial sites?

Aim 139.2: Investigation into industrial warehouses and factories, are there any worthy of preservation? (Brennand, 2007: 154).

Research.

Aim 139.3: Was there a decline in the leatherworking industry following the eighteenth or nineteenth century's?

Research. Although a large tannery survived on Queen Street into the twentieth century, what evidence is there for the consolidation of smaller facilities (Edwards, J, *pers comm*)? To what extent were the tanneries re-used? To what extent do they survive as below ground remains,

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and how can these questions be answered archaeologically? Was a decline in the industry greater in the eighteenth or in the nineteenth century?

Aim 139.4: Investigation into the proliferation and subsequent decline of public houses in the nineteenth and twentieth century?

Research. The nineteenth century saw a dramatic increase in public houses, inns and taverns as a result of significant urban expansion. An article on the Inns and Taverns of Chester was published in 1858 (Hughes) detailing a large number of sites, to what extent do they survive in the modern landscape?

Theme 140: The Leadworks

Aim 140.1: Is it possible to identify surviving below ground remains of the former Leadworks complex as recorded in 1833 and in 1872? (L-P Archaeology, 2000).

Archaeological Investigation. Historic maps from the nineteenth century have recorded the Leadworks as a substantial complex while recent programmes of archaeological investigation have suggested there is a good below ground survival of industrial remains at the site. To what extent do they survive and how should the remains be treated? The Leadworks are of national significance at least as a major industrial company surviving into the late twentieth century. Archaeological Character Zones with a higher potential to address this aim: Zone 66.

Aim 140.2: What was the impact of the Leadworks industry on the surrounding landscape?

Research. The leadworks was originally built some distance from the city centre in a largely rural landscape. Historic maps indicate significant subsequent expansion in the area following the introduction of the leadworks, how much of this was directly related to the leadworks? Is there any evidence of the company financing workers cottages?

Archaeological Character Zones with a higher potential to address this aim: Zones 25, 59.

Trade and Exchange

Theme 141: Ports and Maritime Trade

Aim 141.1: Research into the extent and development of the harbour in the nineteenth century?

Research. Is it possible to identify functions associated with the harbour industry in the area surrounding the riverbank such as secondary industries – rope making, timber processing, also workers cottages built by larger companies specifically for their workers?

Archaeological Character Zones with a higher potential to address this aim: Zone 54.

Aim 141.2: Survey of the surviving earthworks of the Cop flood defences.

Survey / Archaeological Investigation. To what extent do the earthworks survive? Is there an opportunity to recreate lost portions as a raised promenade along the former harbour front?

Archaeological Character Zones with a higher potential to address this aim: Zones 53, 54.

Aim 141.3: Excavation and scientific analysis of eighteenth and nineteenth century dock deposits from Chester Harbour (Brennand, 2007: 156)

Archaeological Investigation. Archaeological Character Zones with a higher potential to address this aim: Zone 54.

Theme 142: Markets

Aim 142.1: Are there any surviving below ground remains associated with the nineteenth century market halls?

Archaeological Investigation. Examples are recorded on Foregate Street, Frodsham Street and Linenhall Street and the corn exchanges on Eastgate Street.

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Communications

Theme 143: Roads and Route-Ways

Aim 143.1: Routeway studies looking at the technological and social archaeology of roads and canals are urgently needed to investigate their impact as engines of change for both landscape and culture (Brennand, 2007: 139).

Research. What was the extent of the relationship between different forms of transport? Is it possible to draw parallels between the location of the railways in relation to the canals?

Aim 143.2: Survey of the landscape of the existing turnpike era roads in Chester.

Research / Survey. Is it possible to identify surviving architecture associated with the turnpikes including bridges, fords, milestones, turnpike barriers and toll-houses.

Aim 143.3: Investigation into the impact of motorised transport in the urban environment in the twentieth century.

Research / Survey. The introduction of motor transport has led to substantial change in the urban environment from the basic road infrastructure (road widening schemes, and new purpose-built roads) to associated road architecture (car parks, motor hotels in the 1950s and service stations). There are the associated industries such as the car show room from the early twentieth century and car manufacturing plants. In the domestic environment too, motor transport has led to significant shifts in housing development with a growing emphasis on garage space from the 1950s on.

Theme 144: The Canal

Aim 144.1: To what extent did the canal affect suburban development to the east of the city centre?

Research.

Theme 145: Railways and Tramways

Archaeological Character Zones with a higher potential to address these aims: Zones 47, 49, 54, 60, 63, 64.

Aim 145.1: Is it possible to identify architecture such as tram stops, perhaps as converted bus stops, and rail lines within the present city (Brennand, 2007: 139)?

Survey / Archaeological Investigation.

Aim 145.2: Survey into the potential for below ground survival of former railway or tram lines?

Archaeological Investigation.

Aim 145.3: Survey into the surviving railway architecture along the railways.

Archaeological Investigation. What is the current condition of signal boxes, railway crossings, bridges etc along the path of the railways?

Aim 145.4: What is the below ground potential for the former wagon-works at Chester and Saltney?

Research / Archaeological Investigation. Archaeological Character Zones with a higher potential to address this aim: Zone 49.

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