NORFOLK ARCHAEOLOGICAL UNIT

Report No. 849

An Archaeological Impact Assessment of 63-65 Bethel Street, Norwich

David Adams, Kenneth Penn and John W. Percival September 2003

© Norfolk Archaeological Unit

Contents

Summary

- 1.0 Introduction
- 2.0 Geology and Topography
- 3.0 Archaeological and Historical Background
- 4.0 Documentary Evidence
- 5.0 Cartographic Evidence
- 6.0 Previous Excavations and Observations
- 7.0 The Modern Site
- 8.0 Archaeological Potential and Conclusions

Acknowledgements Bibliography

Figures

- Fig.1 Study area location
- Fig.2 Location map, showing the study area and sites recorded in the Norfolk Historic Environment Record
- Fig.3 Map of the medieval walled city, showing the study area, the Late Saxon town and other features
- Fig.4 Detail of Cunningham's view (1558), showing the study area
- Fig.5 Detail of Cleer's map (1696), showing the study area
- Fig.6 Detail from Hochstetter's map (1789), showing the study area
- Fig.7 Detail of Ordnance Survey map (1883), showing the study area

Local Authority No.076759

Fig.1 is based upon the Ordnance Survey 1:10,000 map with the permission of the Controller of H.M. Stationery Office © Crown Copyright 'Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings' Norfolk County Council, County Hall, Norwich (25/03/2003). **Reference copy: no further copies to be made.**

Location:	63-65 Bethel Street, Norwich
NGR:	TG 2260 0853
Date of work:	August 2003

Summary

This archaeological impact assessment has been researched and prepared by the Norfolk Archaeological Unit on behalf of Purcell Miller Tritton. The assessment considers a block of land located at 63-65 Bethel Street, Norwich. The site is currently occupied by a building that was purpose-built as a garage in the 1920s or 30s. The building is presently used as a bicycle shop.

Recent large scale excavation within the western parts of the medieval walled city of Norwich, and other evidence, demonstrate that the site has potential for survival of prehistoric, Late Saxon to Norman and medieval remains, including late medieval undercrofts or similarly architecturally significant structures.

Construction of the garage is likely to have caused some damage to any surviving archaeology.

1.0 Introduction

(Fig.1)

This archaeological desktop assessment has been researched and prepared by the Norfolk Archaeological Unit (NAU) on behalf of Purcell Miller Tritton. It was undertaken in accordance with a Brief issued by Norfolk Landscape Archaeology (NLA Ref: AH/22/10/02) supported by a generic method statement produced by the NAU.

The purpose of this report is to provide a framework of information that can act as a foundation for any possible future archaeological work connected with the site. It will assess the archaeological potential of the site and assist in defining the character and extent of any archaeological remains within the proposed redevelopment area. The results will enable decisions to be made by the Local Planning Authority with regard to the treatment of any archaeological remains found.

The assessment considers a block of land at 63-65 Bethel Street Norwich. The site comprises an area of approximately 383m² and is currently a business premises.

In accordance with government guidelines set out in (PPG 16), *Planning and Policy Guidance 16 — Archaeology and Planning* (Department of the Environment 1990). This assessment uses the available archaeological, topographic and land-use information to report on the significance and potential of the site.

The assessment comprises of an examination of the Norfolk Historic Environment Records (HER) and results of nearby archaeological works. Historic land-use is demonstrated through a map regression exercise

A site visit was carried out in connection with this study on the 6th of August 2003. No reference has been made to Listed Buildings information or other present planning constraints.

1.1 Planning background

In November 1990 the Department of the Environment issued Planning Policy Guidance Note 16 (PPG 16) "Archaeology and Planning". The aim was to provide guidance for planning authorities developers and other interested parties concerning the preservation, investigation and record of archaeological remains.

When considering any planning application the local planning authority will have due regard to the policy framework as set out in PPG 16, supported by local county policy.

The local development plan policy framework is provided by the Norfolk Structure plan.

2.0 Geology and Topography

(Figs 1 to 6)

The study area is located in the south-west of Norwich and lies within the historic core of the city as defined by the medieval town walls.

Published geological information (British Geological Survey 1:50,000 series Solid and Drift, England and Wales Sheet 161) indicates the site is located on Norwich Crag consisting of glacial sands and gravel. This overlies upper chalk of the Cretaceous period.

Natural sand subsoil was encountered across the whole extent of the recent Millennium Library excavation (Site 26437) just to the east of the development site. The implication is that natural soils within the area of the study site will consist of sands and gravels.

The study area is positioned at the northern limit of a slight plateau which includes an area covered by Chapelfield Gardens and the former Nestle chocolate factory. The study area is positioned between the 20m to 25m contour lines, and at the edge of a gentle downward slope, northwards to the church of St Giles. This slope represents the southern edge of the River Wensum valley.

The location suggests there unlikely to have been any past period when the site was not suitable for human occupation activity.

To the knowledge of the authors no geotechnical survey has been undertaken within the study area.

3.0 Archaeological and Historical Background

(Figs 1 to 7)

3.1 Introduction

(Figs 1 & 2)

A search was made of all archaeological sites recorded within a 300m radius of the study site. This information is kept on the HER database. Reference has also been made to archaeological excavations located beyond this radius.

3.2 Time Scales

The times scales referred to within this report are tabulated below:

Prehistoric		
Palaeolithic	450,000 to 12,000 BC	
Mesolithic	12,000 to 4,000 BC	
Neolithic	4,000 to 1,800 BC	
Bronze Age	1,800 to 600 BC	
Iron Age	600 BC to AD 43	
Historic		
Roman	AD 43 to 410	
Saxon to early Medieval	AD 410 to 1066	
Medieval	AD 1066 to 1539	
Post-medieval	AD1539 to Present	

Table1: Time scales covered in this report.

3.3 Prehistoric Periods

3.3.1 Palaeolithic

No finds pertaining to this period have been recorded within 300m of the study site

3.3.2 Mesolithic

A flint pick of Mesolithic date was retrieved from ground works to the south of the study area at 60-102 Chapelfield (HER Site 196).

3.3.3 Neolithic

Worked flint believed to date from this period have been recorded within 300m of the study site, from excavations at the Millennium Library (HER Site 26437).

Excavations at the Chapelfield redevelopment (HER Site 38129) to the south-east of the study site have also revealed prehistoric activity, evidenced by pits containing worked flint. A Neolithic date is suggested for the date of this activity (D.Whitmore pers. comm.).

A polished stone axe of Neolithic date was retrieved during building works at Bedford Street/Little London Street (HER Site 479).

3.3.4 Bronze Age

No finds pertaining to this period have been recorded within 300m of the study site.

Within Norwich little Bronze Age activity has been recorded, though a possible Bronze age building and Neolithic-to-Bronze Age palaeosoil were uncovered during excavations at Palace Street in 2000 (Emery and Ashwin 2001). The inference is that activity from this period favoured higher ground, removed from the immediate river valley margins.

3.3.5 Iron Age

No finds pertaining to this period have been recorded within 300m of the study site.

3.4 Historic Periods

3.4.1 Introduction

Unlike many other English historic cities Norwich has no direct Roman antecedent. The Romano-British regional capitol Venta Icenorum lay 5km south of modern Norwich at Caistor St. Edmund The adjacent medieval parishes of St Giles and St Peter Mancroft lie within the walled area of the medieval City of Norwich. The city's origins lie in the Middle Saxon period, probably in the 8th century, becoming truly 'urban' only in the Late Saxon period, by the later 9th or early 10th century. Following the Norman conquest, a new market was laid out by the King and Earl, and possibly too, another new market street by the Bishop, along St Giles Street.

3.4.2 Roman

Evidence of Roman activity within the walled medieval city of Norwich is sparse, and usually represented by the retrieval of small quantities of residual finds. Recent evaluation work at Old Barge Yard and St Anne's Wharf (Percival and Shelley 2003) to the south–east of Norwich recovered a small quantity of large, unabraided sherds of Roman date. This limited evidence might indicate Roman activity, perhaps along higher ground to the west.

Excavations to the east of the study area at 30-32 St Giles Street (HER Site 26504) recovered a copper alloy protected-loop terret of an elaborate type.

Excavations to the south of the study area at the Chapelfield redevelopment (HER Site 26527) are ongoing at the time of writing. Finds of Roman pottery and associated ditches revealed by the excavation are interpreted as representing elements of a Roman field system.

Roman pottery sherds have also been recovered from the west of Theatre Street (HER Site 700).

3.4.3 Late Saxon and early medieval

(Fig. 3)

Norwich was an important Anglo-Saxon trading port (a *wic*). The River Wensum has clearly influenced and, in part, determined the focus and character of its growth throughout its long history. The centre of the Anglo-Saxon town was probably the great market-place at Tombland and the long north-to-south street (King Street–Magdalen Street) linking the discrete parts of the town lying to the north and south of

the river. The Late Saxon town was enclosed by a defensive bank to the north of the river, and possibly by a corresponding set of defences on the south. The Study Area at this time probably lay within open fields some 500m to the west of the enclosed Anglo-Saxon town, although Late Saxon activity in the area is suggested by recent archaeological discoveries (see 6.0 below: HER Site 26437).

Norwich was one of the foremost towns in Late Saxon and Norman England, acquiring a royal castle (c.1067), a new market and associated church (St Peter Mancroft) and a cathedral by the end of the 11th century. Both market and church were entirely new, forming elements of a 'French Borough' laid out just outside the Late Saxon town in the 1070s. This area was later enclosed within the town by the building of the present walls around 1300. The earliest references to a street name date to the 13th century at which time Bethel Street is referred to as variations of Neweport or Newport. It has been assumed that this name was originally given to the French settlement, with the etymology suggesting it derives from port, or 'A town with market rights' (Sandred and Lindstrom 1989). The name of Newport Inferior. A further implication of these place names is their association with areas that had extended beyond market areas, effectively as over-spill.

The Late Saxon enclosed town was much smaller than the medieval walled city, whose post-conquest expansion encroached upon any extra-mural settlement within the town fields. Thus, before the present city walls were built — at first as an earthwork rampart in the mid-13th century — this area lay in the town fields, farmed by the inhabitants of the town. In Domesday Book (1086) references to the city's agricultural lands indicate that they either lay or had lain mostly in the south-west and north-east. They probably included the area of St Giles parish and areas even closer to the medieval city centre: *Mancroft* (a name which may mean 'common croft') to the south implies that open fields existed immediately to the south of the development site (Campbell 1975, 7 n75). The area was then apparently part of the Late Saxon open fields or common grazing. Recent excavations however, on the Millennium Library site have revealed evidence for Late Saxon activity there, possibly even some occupation.

3.4.4 The creation of the French Borough and urban growth

The origins of St Giles (parish, church and urban form) as part of the urban site probably lies in the creation in the 1070s of the French Borough itself. This appears to have had three main elements, each of them associated with Norman authority (Blomefield 1806, 125, 130, 134 and 137):

- 1. St Peter (Mancroft) and market-place; developed jointly by King and Earl, 1070s and subsequently,
- 2. St Giles Church and St Giles' Street; held by the Cathedral Priory. St Giles Church was in existence by 1121X1145 (*First Registe*, 61) but is likely to date from the period of first Norman expansion of Norwich.
- 3. St Stephen's Church and 'vicus de Needham'; held by the Cathedral Priory (see below).

Urban growth after the Conquest was rapid. Roads leading into the city began to be built up, possibly as early extra-mural market streets, by 1300. Among them, as evidenced by the Enrolled Deeds, was St Giles. As already explained the town's expansion in the early medieval period, first with the creation of a new Norman French Borough west of the Anglo-Saxon town, led to the development of the parish of St Giles, whose church lies in the northern part of the parish. It is likely that St Giles' Street was deliberately laid out at some time as a 'market street' with an associated church.

To summarise, the church and any associated settlement may have been established in the early post-Conquest period (Campbell 1975, 3 n24) as part of Norman expansion, possibly connected with the Cathedral Priory which was itself established around 1094. St Giles was neither a Late Saxon urban parish nor a separate 'rural' parish (like Eaton, Heigham or Lakenham) but was a Norman creation, perhaps cut out of that of St Peter Mancroft and with a church built to serve, and possibly supervise, a new market street.

3.3.5 The later medieval period

By the early 14th-century the expansion of Norwich had led to an increased population within the city. As a result occupation in the parish of St Giles would reflect this. The city was now enclosed by the city wall and able to rival London in terms of population and complexity. Open areas within the city still survived with Chapelfield an example of this.

The effects of the black death which struck in 1349 reversed this trend of expansion, reducing the population by a third with a consequential affect on the economy of the city (Ayers 2003). By the 15th-century recovery from these events was evident, with construction of the market place Guildhall in 1406 an indication of increasing prosperity.

The survival of a 15th century undercroft in a property at Ninhams Court (HER Site 26143) immediately to the south of the study area also attests to economic improvement. The presence of undercrofts can be taken as indication of mercantile activity, generally being associated with merchants. Other undercrofts have also been identified along St Giles Street. The suggestion is that the area of the study site was built up at this point.

3.5.6 The post-medieval period

Several post medieval buildings are present along Bethel Street and in the immediate vicinity of the study area. These include the properties at No. 61 and 67 with the building at No. 71 dating from 1730 (see 6.0 below).

The property at No 67 Bethel Street (HER Site 26280) to the immediate west of the study area is a single cell building dating from the 17th-century. The first floor walls are timber framed with the ground floor altered and incorporated into the adjoining showroom. Abutting the study area to the south is Ninhams Court. The building within this plot (HER Site 26143) is considered to have originally been four houses, now converted into two. A 17th-century undercroft is present within this building and the core fabric of the build is of 16th to 17th century date with later alterations and 19th century restoration. At 61 Bethel Street a 17th century building (HER Site 26278) is ranged along the street. Built of flint rubble a second floor was added in the 18th-century. The 1885 Ordnance Survey map indicates that two properties were present on the study area.

4.0 Documentary Evidence

(Figs 1 & 2)

The Enrolled Deeds are a major source of documentary evidence for medieval Norwich, especially for the period 1285-1340 by which time the main streets of Norwich, including were well-occupied and the major ecclesiastical foundations and their precincts had become established. The Deeds are in effect a land register covering the period from the height of medieval expansion to the Black Death. From the work done on reconstructing the ownership of land and tenancies recorded in the Enrolled Deeds, it is possible to say that Upper Newport was fully inhabited by the late 1200s. Long plots stretched southwards to Chapelfield. Common lanes ran from Newport to Chapelfield. The alleyway next to 63-65 Bethel Street was one of these common lanes. The rear of the long plots against Chapelfield were mostly open fields or tenter grounds.

5.0 Cartographic Evidence

(Figs 4 to 7)

Norwich is provided with a good series of maps, the earliest of them dating to the mid-16th century, after the dissolution of the monasteries that were a major influence on the form of medieval Norwich. They illustrate the growth of the city and the character of the occupied area, and also the continuing existence of large open spaces, such as Chapel Field, within the walled area until modern times. These maps show St Giles Street completely built up as far south as it's Gate.

A selection of the historic maps available for the study area is listed below:

- 1558: The earliest representation of the area, Cunningham's plan or view of 1558 (Fig. 4) records the city after much 15th- and 16th-century rebuilding, which had replaced single-storey buildings set in courts and yards with many two-storey structures (Campbell 1975, 17). Much of the area to the rear of the Bethel Street frontage appears as open ground
- *1696:* Henry Cleer's map of 1696 (Fig. 5) is in some respects very schematic, but shows the situation little changed since Cunningham's time
- *1789:* The first accurately-measured map of Norwich was produced in 1789 by Anthony Hochstetter (Fig. 6) who depicts area between the Bethel Street frontage and Chapelfield occupied by buildings for the first time
- *1885:* This Ordnance Survey map (Fig. 7) shows two properties standing on the study area with the line of the frontage as it survives today

6.0 **Previous Excavations and Observations**

HER Site 12: Fire Station, Bethel Street

1933: medieval-post-medieval sherds, glass etc. included a possible Roman sherd.

HER Site 13: YMCA, Bethel Street

2001 to 2002: A watching brief within the hospital ground revealed nothing other than remains relating to various phases of the hospital (Underdown 2002). The Bethel Hospital was founded in 1713 as the first purpose built establishment for 'distressed lunaticks'. Prior to that parts of the site were occupied by the Comittee House, a public building used as an arsenal during the English Civil War. This building was destroyed by a massive explosion in 1648 when the cache of gunpowder was set alight during a riot. The explosion was powerful enough to kill around 40 people and blow most of the windows out of St. Peter Mancroft and St. Stephen's churches.

HER Site 14: YMCA, Bethel Street

1961: Late medieval sherds found. Part of brick cellar recorded.

HER Site 40: St Giles Street

1965: behind City Hall. Medieval pottery in building works.

HER Site 57: Central Library

1960: early medieval pottery found during excavations.

HER Site 193: 34 St Giles Street

1973: Post-medieval pottery from cess pit in cellar. Medieval pottery from builders' spoil. Medieval well recorded.

HER Site 475: City Hall

1935: Worked flint found during building work.

HER Site 532: 12 Chapelfield North

1964: Roman coin found in garden.

HER Site 682: Rear of 61 Bethel Street

Two medieval sherds found on builders' spoil heaps.

HER Site 767:49 Bethel Street

Post-medieval finds.

HER Site 26437, Norwich Millennium Library Excavations 1998-99:

Excavations on the site of the former car park adjacent to the remains of Norwich Central Library took place in advance of its reconstruction. The site is bounded to the north by Bethel Street, to the west by Esperanto Way (formerly Lady Lane) and to the south by Theatre Street. The eastern margin of the site runs approximately parallel to St Peter's Street, 29m west of the tower of St Peter Mancroft Church and 100m north of St Stephen's Church. Historical evidence (above) suggests that the site was town fields in the late Saxon period. In the immediate post-conquest period the site lay within the French Borough itself. Somewhat unexpectedly the excavations revealed a number of Late Saxon features, including several small ditches which appear to have formed a narrow rectangular plot or enclosure. If this was a tenement boundary it challenges the long-held view that the area was undeveloped and still used as common land (*maene croft* = Mancroft) before the French Borough was laid out in the 1070s. If so, was this part of the unlocated Needham, lying some 400m away from the enclosed town, across the Great Cockey and its wide valley now occupied by the market-place?

In general the greatest density of archaeological remains was encountered along the Bethel Street frontage. The foundation trenches of two substantial stone buildings, probably of 12th- or 13th-century date, have been uncovered along with a well-preserved late medieval brick-lined cellar with barrel-vaulted extensions. Over the whole area of the site a dense concentration of wells, pits and garderobes, largely dating the 14th to 18th century, have been uncovered. These indicate a growing intensity of occupation after the creation of the French Borough. Evidence of specialist metalworking and other industrial activities has been collected from these features. There is also good evidence that many property boundaries had their origins with the 12th-century French Borough and remained in use until wholesale redevelopment in the 1960s.

HER Site 26469: Ninhams Court Garage

1997: Two trenches dug by builders revealed a medieval flint wall and other later walls, surfaces and a cellar.

HER Site 26495: Bethel Street/St Peters Street

Post-medieval deposits etc in pipe-trench.

HER Site 26504: rear of 30-32 St. Giles Street

Late Saxon ditch with pottery. Medieval ditches, pits, postholes. Residual Roman object (Whitmore, 1999).

7.0 The Modern Site

During the first half of the 20th-century the study area was dramatically altered. The two separate buildings observed on the 1885 Ordnance Survey map were demolished, and in their place a brick and metal-girder garage constructed. It is not clear if elements of the demolished buildings have incorporated into this garage. The style of the frontage onto Bethel Street suggests the garage is of 1920 to 1930 in date. The premises were operated as a garage until the late 1980s. The study area is currently used as a bicycle showroom called 'Pedal Revolution'.

8.0 Archaeological Potential and Conclusions

The site is at the periphery of higher ground overlooking a gentle slope down to the southern edges of the valley of the River Wensum. Topographically such locations are considered prime areas for prehistoric activity. For hunter-gatherer communities they allow for exploitation of the mixed environments present within river valleys, and for early agriculturists the light nature of sand and gravel soils make them relatively easy to work. Though no evidence of finds or sites has been indicated within 250m of the site, archaeological excavation at the Millennium Library (Percival and

Hutcheson, in prep) and Chapelfield (Whitmore, in prep) have both recorded a low density of prehistoric features. Taking into account the size of the site it would be realistic to suggest that the area of the study has a low potential for archaeology from the prehistoric period.

The Millennium Library excavations also demonstrate the potential of the area to yield some Late Saxon remains. The characterisation of any such remains along with any evidence relating to the French Borough is likely to be a focus of any possible future archaeological research. Given the level of modern, post-medieval and late medieval truncation that is likely to have taken place the site has a low to moderate potential for the discovery of meaningful Late Saxon and Norman features.

Much of the medieval archaeology encountered in recent large scale excavations in the western part of the walled city of Norwich, such as the Millennium Library Site (Percival and Hutcheson in prep) and the Chapelfield Development (Whitmore in prep) was dominated by large sand and gravel or clay extraction pits. Most of these pits were subsequently used for the disposal of domestic or industrial waste. Whilst these pits are a well understood phenomena only a proportion of them yield significant artefacts. Their presence can have the secondary affect of truncating much of the earlier and arguably more interesting archaeology. Aside from the possibility of discovery undercrofts and other similar structures the potential for significant medieval remains on the site must be considered low.

Given the nature of historic buildings that surround the site it is possible that remains of architecturally significant Late Medieval or early post-medieval undercrofts or other similar structural remains could be encountered. The site does lie well within the topographic zone defined by Smith and Carter (1983) as containing the majority of the surviving or recorded undercrofts in Norwich. The potential for discovering undercrofts or other architecturally significant remains must be considered moderate to high. Depending on the importance of any such remains it is possible that they may acquire legal protection that forces a preservation *in situ* rather than a preservation by record strategy.

Archaeological or architectural remains of all periods are likely to have been damaged by the construction of the garage, particularly as it was likely to have been equipped with on or more vehicle inspection pits. Compared to a building constructed in the 1960s or 1970s the degree of damage is likely to be relatively low. It still could, however, have significantly compromised the survival of many types of remains.

According to the bicycle shop staff there is a cellar under the counter of the shop, west of the garage frontage. The character and age of this cellar has not been defined.

Given the prior use of the site as a garage there is a high likelihood below-ground contamination from hydrocarbons. A thorough site investigation prior to any below-ground works, archaeological or otherwise must be considered as a priority.

Acknowledgements

The writers are grateful to Martin Horlock and Andrew Rogerson of NLAS for their help with access to the HER. Andy Hutcheson (formerly NAU) kindly provided information about the Millennium Library excavations. Additional material for this report was provided by John Percival. This report was edited by Andy Shelley and Alice Lyons. The report was illustrated and produced by Maggie Foottit.

Bibliography

Primary Sources

Enrolled Deeds Manuscript collection of annotated maps reconstructing the topography and landownership of Norwich 1285–1340 from the Enrolled Deeds (Norfolk Record Office Minor Collection 146/52).

Secondary Sources

Ayers, B.S.,	2003	Norwich, A Fine City second edition Tempus Publishing
Blomefield, F.,	1806	The History of the City and County of Norwich Vol II William Miller, London
Campbell, J.,	1975	Historic Towns Atlas: Norwich
Emery, P. and Ashwin, T.,	2001	<i>Excavations at Palace Street, Norwich,</i> NAU Report 498 (unpublished)
Percival, J.W.,	2003	Report on an Archaeological Evaluation at Old Barge Yard and St. Anne's Wharf, Norwich, NAU Report 780 (unpublished)
Percival, J.W. and Hutcheson, A.R.J.,	in prep	Excavations within the French Borough (Between Theatre Street and Bethel Street) 1998-1999, East Anglian Archaeology
Sandred, K.I. and Lindström, B.,	1989	The Place-names of Norfolk: Norwich English Place Names Society LXI
Smith, R. and Carter, A.,	1983	'Function and Site: Aspects of Norwich Buildings before 1700' Vernacular Architecture 14:1-14
Underdown, S.,	2002	Report on an watching Brief at the Bethel Hospital, Bethel Street, Norwich, NAU Report 540 (unpublished)
Whitmore, D.,	1999	Report on an Archaeological Evaluation at 30-32 St. Giles Street, Norwich, NAU Report 385 (unpublished)
Whitmore, D.,	in prep	Former Nestle Factory and Chantry House, Chapelfield Development, Norwich; Assessment Report and Updated Project Design, NAU Report 823 (unpublished)

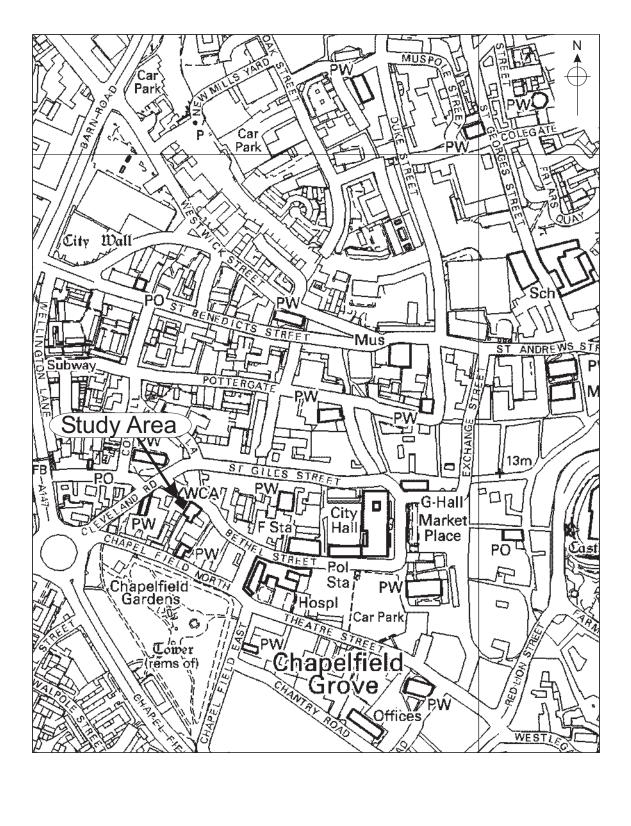
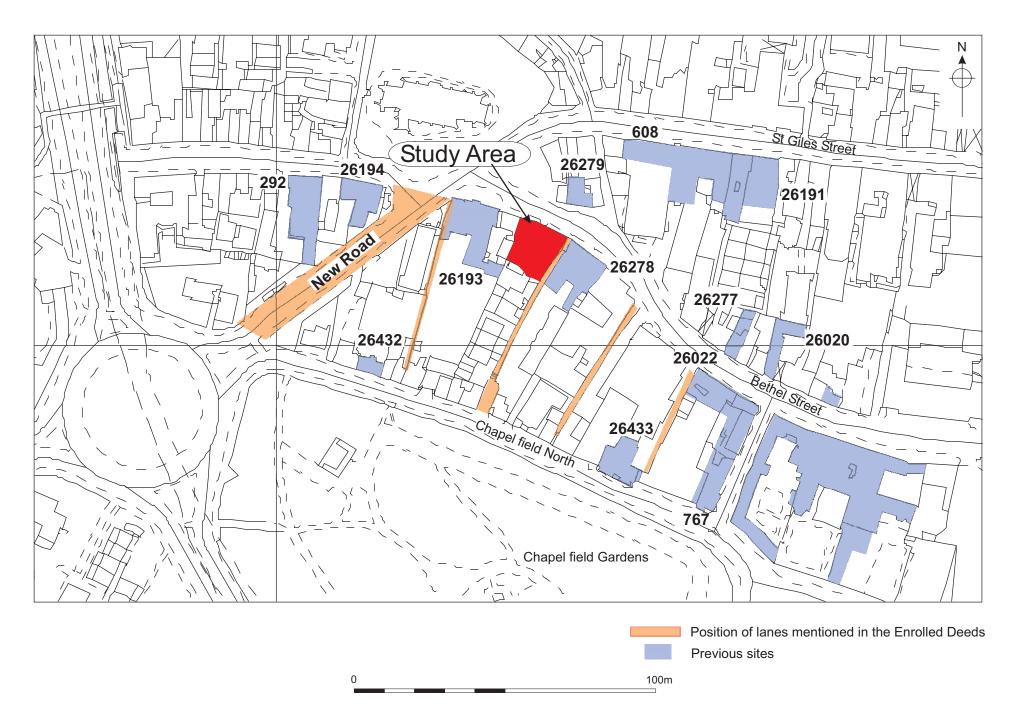
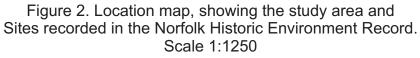




Figure 1. Study area location. Scale 1:5000





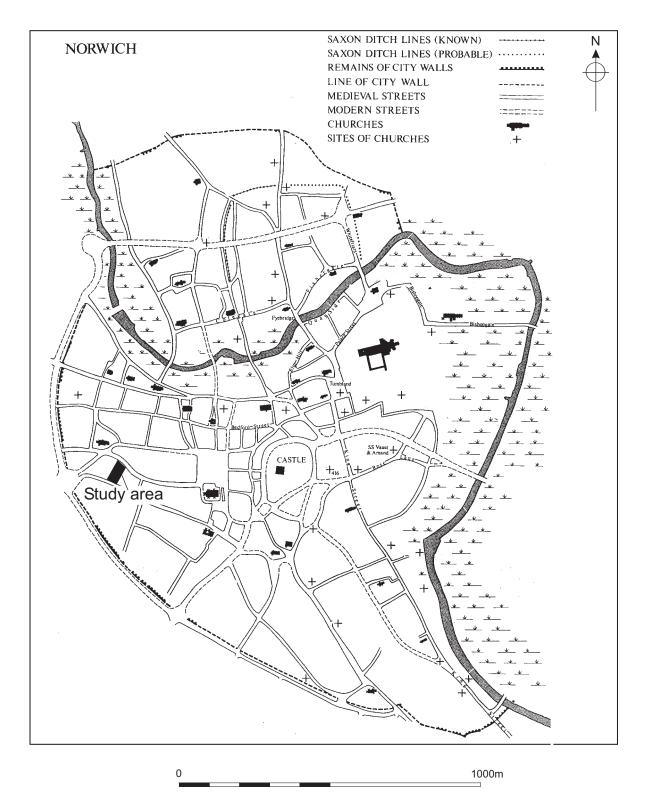


Figure 3. Map of the medieval walled city, showing the study area, The late saxon town and other features. Scale 1:12,500

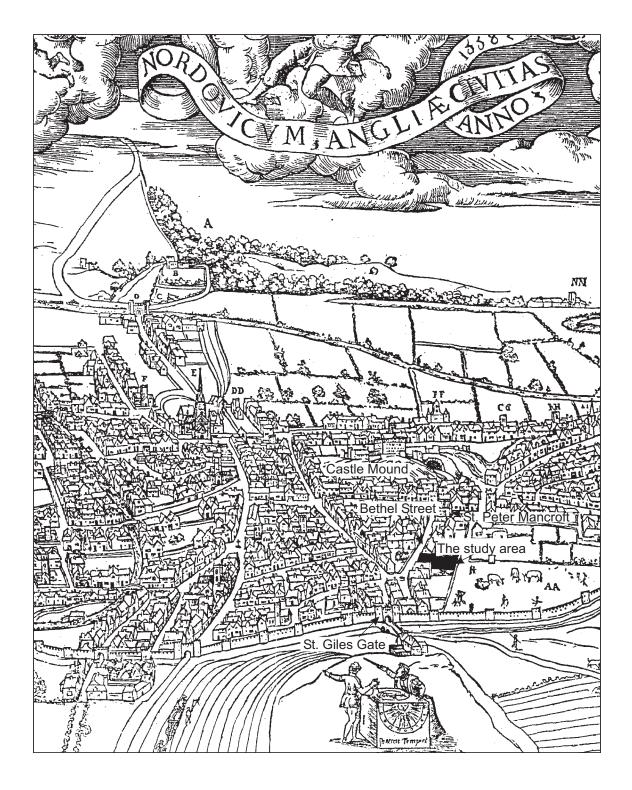


Figure 4. Detail of Cunningham's View (1558), showing the study area. Not to scale

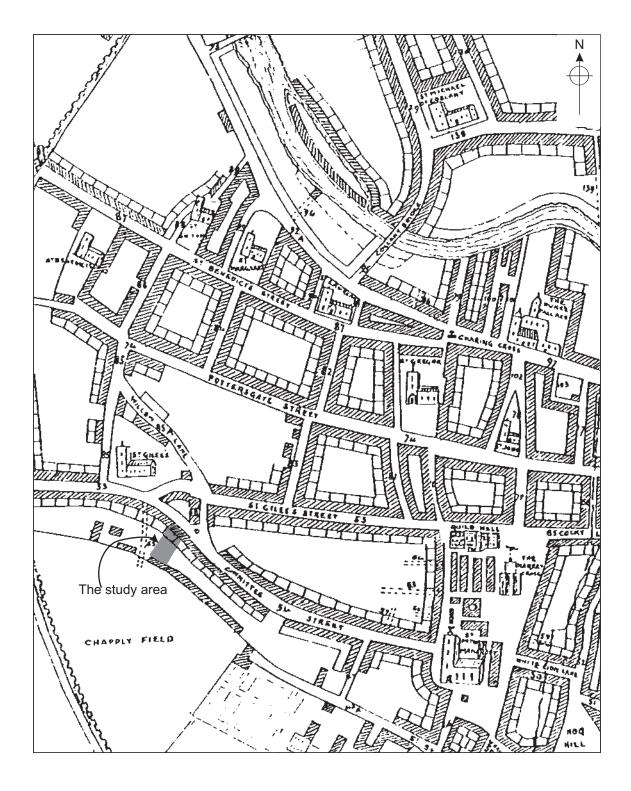


Figure 5. Detail from Cleer's map (1696), showing the study area. Not to scale

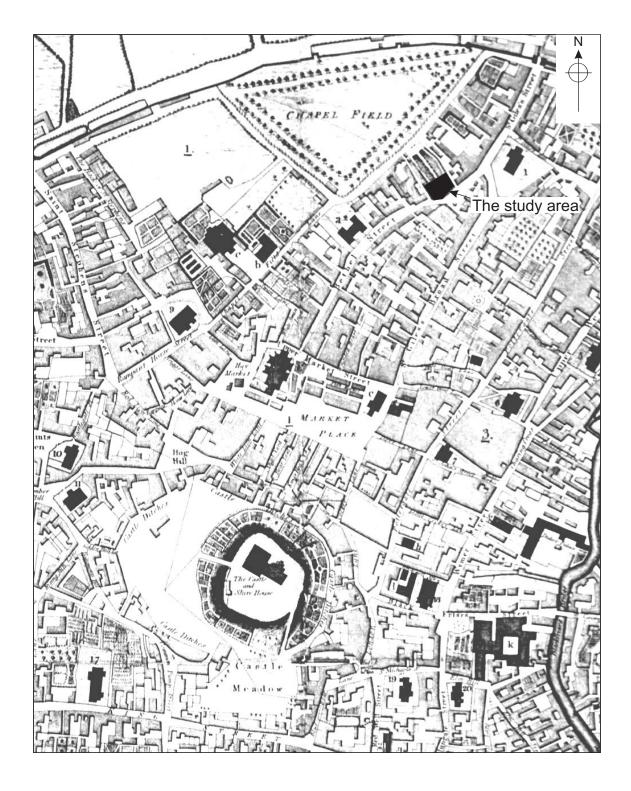


Figure 6. Detail of Hochstetter's map (1789), showing the study area. Not to scale

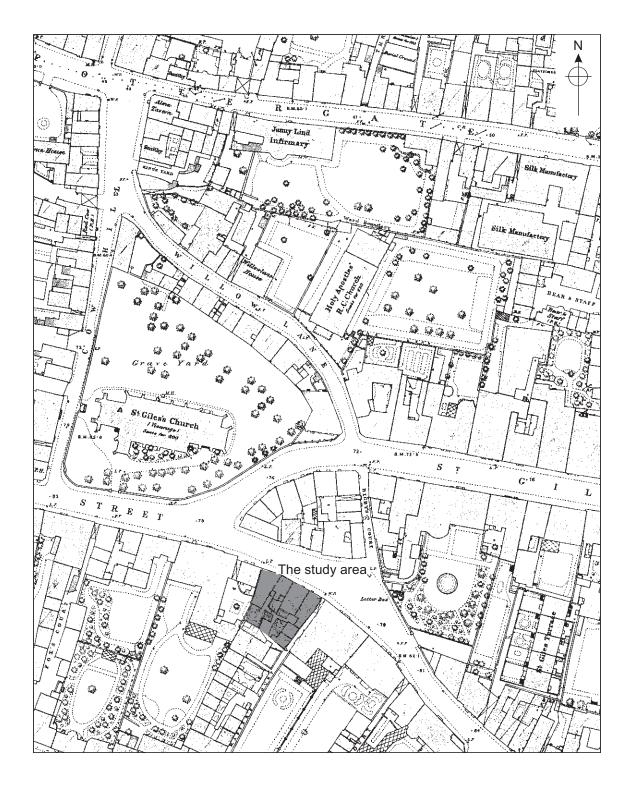




Figure 7. Detail of Ordnance Survey map (1883), showing the study area. Scale 1:1250