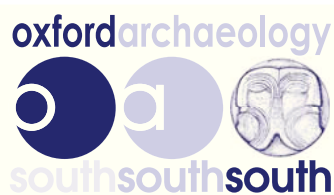


Repairs to the Castle  
Mill Stream Wall  
Paradise Street  
**Oxford**



**Archaeological  
Watching Brief Report**



April 2011

**Client: St Peter's College**

Issue No: 1

OA Job No: 4484

NGR: SP 5094 0612



**Client Name:** St Peter's College, Oxford

**Client Ref No:** -

**Document Title:** Repairs to the Castle Mill stream wall, Paradise Street, Oxford

**Document Type:** Archaeological Watching Brief

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**Date:** 26 April 2011

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**Illustrated by** Julia Moxham

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## Wall Repairs, Castle Mill Stream, Paradise Street, Oxford

### *ARCHAEOLOGICAL WATCHING BRIEF REPORT*

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## SUMMARY

*In August 2009, Oxford Archaeology (OA) carried out an archaeological watching brief during repairs to the wall flanking the northern side of Castle Mill Stream adjacent to Paradise Street, Oxford (NGR: SP 5094 0612). The work was commissioned by St Peter's College during work to dismantle and rebuild part of the castle mill stream wall. The watching brief showed that the standing wall was constructed in at least two phases. While no dating evidence was recovered, the southern part is probably contemporary with the revetment wall on the southern side of Swan Bridge and Paradise Street and dates to the 18th century while the northern part may date from the period of construction of the prison wall during the mid 19th century.*

## 1 INTRODUCTION

### 1.1 Scope of work

- 1.1.1 On August 2009 Oxford Archaeology (OA) carried out an archaeological watching brief during the dismantling and rebuilding of part of the Castle Mill Stream wall, adjacent to Paradise Street, Oxford (NGR: SP 5094 0612). The work was commissioned by St Peter's College.
- 1.1.2 Due to the potential for exposing earlier phases of walling associated with the Castle Mill streamway, a requirement for an archaeological watching brief to be maintained during the work was issued by the City Archaeologist, David Radford (OCC, 2009).
- 1.1.3 OA produced a written Statement of Investigation (WSI) showing how it would meet these requirements (OA, 2009).

### 1.2 Location, geology and topography

- 1.2.1 Paradise Street is located on the southern edge of the historic centre of Oxford, immediately south of the site of Oxford Castle (Fig. 1). The wall under repair was sited on the northern bank of the Castle Mill Stream which runs along the southern wall of the former prison before turning south and running under Paradise Street at Swan Bridge.
- 1.2.2 Immediately to the north (upstream) of the site the stream is divided into two parts. The main channel to the west is controlled by a weir maintaining the water level to the north and is probably built on the site of the old castle mill and a smaller eastern channel taking the overflow from behind the weir. The two channels join approximately 8 m north of the site.
- 1.2.3 The wall is stone built and separates the stream from the grounds of a St Peter's College accommodation block. The underlying geology comprises the southern spur of the Summertown-Radley gravel terrace, located to the east of the river Thames and

to the west of the river Cherwell (BGS Sheet 236). The site lies at approximately 57 m OD.

### 1.3 Historical background

1.3.1 The following has been taken from 'Paradise Street, Oxford' Post-Excavation Assessment (OA, 2006).

1.3.2 The wall lies on the northern side of the Castle Mill Stream branch of the Thames which fronts onto the north side of Paradise Street. Oxford Castle is sited approximately 12 m to the north-east of the stream. The castle moat originally formed a separate branch running north of the Castle Mill Stream before presumably emptying into the Castle Mill Stream. A map drawn up for Christ Church College in c.1615 shows a building astride the moat, with paired arches to the Mill Stream at water level. This may be a watergate, or alternatively a sluice house controlling the water level in the moat. The mapped building on Paradise Street could be the residue of more extensive medieval settlement on what was the direct route from the West Gate of the town to St Thomas parish and Oseney Abbey. By Taylor's map of 1750 the castle moat had been allowed to silt up with only a residual watercourse on the centre line of the ditch. Additional buildings are shown along the street, together with possible alterations to the sluice house. Within 39 years the prison had been built and the site is shown as a garden.

1.3.3 OAU carried out a desktop study of the Castle Mill Weir, approximately 20 m to the north-west of the site, prior to its refurbishment and as part of the planning application to OCC. The existing weir is on the site of the Castle Mill, demolished in 1930 after a millennium of use. Records from the 1930s suggest that the remains of an early mill were found beneath the 18th-century building, but it is uncertain whether any of these survive. The Castle mill is one of the well-documented early mills in Oxford, held by the Constable of Oxford, Robert d'Oilli, recorded in the Domesday Book (1086). It was rebuilt in 1781 and the building that was demolished in 1930 was almost certainly of that period.

1.3.4 Previous work by OA in 2004 on the site now occupied by the accommodation block revealed stone and wood revetting between the castle moat and castle Mill Stream, a ford or weir and later water management channels.

### 1.4 Archaeological background

1.4.1 The following is a brief summary of results from recent archaeological work carried out in the vicinity of the proposed development site.

#### *1977 Test Pits (Oxford University Archaeological Society)*

1.4.2 Test pits excavated on the Canteen Site (see below) by OUAS revealed 12th-century deposits truncated by a 15th-century structure.

*The West Gate of Oxford Castle: Excavations at Boreham Yard, Tidmarsh Lane, Oxford 1994-5 (OA 2003b)*

- 1.4.3 A programme of archaeological work in advance of redevelopment by St Peter's College revealed a sequence of cobbled surfaces and other structural fragments probably of 12th-14th century date outside the west gate of Oxford Castle, c 50 m to the north-west of the proposed development. Part of a 13th-century wall and the possible position of the gate were located. The external surfaces probably fronted onto the river channel (Castle Mill Stream) to the west, while a possible channel linking the river with the water-filled moat of the castle was located at the northern end of the site. Post-medieval developments included the establishment of a ditched boundary and successive realignments of the river channel before the construction of 18th- and 19th-century buildings, some of which still survived immediately prior to the redevelopment.

*Oxford Castle Mill Weir Desktop (OAU 1996b)*

- 1.4.4 OAU carried out a desktop study of the Castle Mill Weir, approximately 20 m to the north-west of the proposed development, prior to its refurbishment and as part of the planning application to OCC. The existing weir is on the site of the Castle Mill, demolished in 1930 after a millennium of use. Records from the 1930s suggest that the remains of an early mill were found beneath the 18th-century building, but it is believed that these have been removed by more recent works in the area. The Castle mill is one of the well-documented early mills in Oxford, held by the Constable of Oxford, Robert d'Oilli, recorded in the Domesday Book (1086). It was rebuilt in 1781 and the building that was demolished in 1930 was almost certainly of that period.

*Paradise Street (N), Thames Water Authority Depot (OAU 1991)*

- 1.4.5 An archaeological evaluation was carried out by OAU on the site of the former Thames Water Authority depot on Paradise Street, immediately adjoining the wall of Oxford Prison and c 40 m to the south east of the current investigation area. Two trenches were dug and revealed two water courses. One followed the line of the Castle ditch on the 17th-century plans and beneath the exposed silts there was evidence of wattle sided water courses. The second water course was a stone culvert which was aligned towards 17th-century (or earlier) houses on the abutments of Swan Bridge and was probably a water supply to the same.

*Former Canteen Site, Paradise Street, Oxford (OAU 1993a - b)*

- 1.4.6 OAU undertook a field evaluation for Thomas and Co. on the former canteen site at Paradise Street, Oxford during November 1993 in advance of the construction of flats and a car park. The site was located on the southern side of Paradise Street, c 50 m to the south of the proposed development. Two 10 m long trenches revealed a stone lined and capped culvert which presumably carried out a similar function to that observed during the 1991 evaluation on the northern side of Paradise Street (i.e. a



water supply to the house(s) on Swan Bridge). Additionally, a small section of stone wall was revealed and may correspond to a phase of 12th-century building noted during the test pitting in 1977. This could possibly be interpreted as part of a building on the Paradise Street frontage.

## 2 PROJECT AIMS AND METHODOLOGY

### 2.1 Aims

- 2.1.1 To identify and record the presence or absence, extent, condition, quality and date of archaeological remains in the areas affected by the development.
- 2.1.2 To preserve by record any archaeological deposits or features that may be disturbed or destroyed during the course of this phase of ground works.
- 2.1.3 To provide information to determine a mitigation strategy for the main phase of construction.
- 2.1.4 To make available the results of the archaeological investigation.

### 2.2 Methodology

- 2.2.1 The work was undertaken to make good displacement of the stones caused by a tree stool growing out of the wall and whose stump and roots had dislodged many stones, tumbling some into the stream. The wall consisted of two parts: the stream wall, which steps back approximately 1 m from the main line of the stream at this point, and a triangular stone 'bastion' or robin which butts up against the wall protecting the step from erosion. The top of this bastion was originally smoothed off with cement but cracking had allowed silts and seeds to collect. A tree had grown within the cracks and over time its roots had lifted the courses of both the bastion and the wall behind it causing it to become unstable and part of it to tumble into the stream bed. The remedial works undertaken before the wall was reconstructed included the grinding out of the tree stump and diverting the stream flow around the site allowing the tumbled stone to be retrieved.
- 2.2.2 The rebuilding of both the wall and the bastion required the removal of the loosened courses of stone prior to reconstruction. This work had the potential to expose earlier phases of the stream wall's construction and for the collection of dating evidence from within the wall. The watching brief was undertaken as a series of site visits during this phase of work in order to examine the exposed stonework, in addition a photographic and descriptive record was made of the wall prior to the start of the conservation works.
- 2.2.3 All excavations and any recorded sections were photographed using digital colour photography and black and white print film. Recording followed procedures detailed in the *OA Field Manual* (ed D Wilkinson, 1992).

### 3 RESULTS

#### 3.1 Description of deposits

3.1.1 The revetment being rebuilt consists of two distinct parts at this point, the main stream wall and the bastion. The two elements will be described separately followed by an overall discussion.

##### *The Stream Wall*

3.1.2 The stream wall flanking the northern edge of the stream rises approximately 3.8 m above the stream bed. North of the site the wall turns slightly to the north-east before turning and running alongside the old prison wall. At the site of the collapse the wall turns sharply to the east for approximately 1.8 m forming what appears to be a butt joint with the wall which leads southwards heading towards Swan Bridge.

3.1.3 The bottom 1 m of the wall leading southwards from the butt joint towards Swan Bridge is composed of roughly dressed sandstone blocks averaging 0.7 m long by 0.2 m deep (4). These were bonded with lime mortar with small stone slips used to accommodate variations in thickness. Areas of this coursing have been flush pointed in the past, while all the stones display signs of erosion and frost damage. Built upon this base was a 0.6 m high band of similarly roughly dressed sandstone blocks, but of smaller dimensions, 0.46 m long by 0.14 m deep (3). This was also bonded with lime mortar and displayed a similar degree of weathering. The height of these two bands of stonework combine to roughly approximate the ground level of the surrounding area.

3.1.4 Built directly upon (3) were two phases of ashlar blocks forming the boundary wall along the western edge of the college property. The bottom 1.2 m of this wall was built using well dressed blocks roughly measuring 0.8 m long by 0.23 m deep and 0.47 m long and 0.14 m deep (2). These were laid in alternating courses of the two different sizes. The blocks were laid using a thin joint of lime mortar. The edges and corners of the blocks had been rounded to a degree by weathering and frost damage had damaged the faces of individual blocks. The upper 1.1 m of the wall was formed of ashlar blocks similar in appearance but smaller in size, approximately 0.41 m long by 0.21 m deep and 0.41 m long by 0.1 m deep (1). These were also laid in alternating layers but the lime mortar joint was much thicker. The wall was capped using 0.07 m thick stone slabs.

3.1.5 The bottom 1.25 m of the wall to the north of the collapse was constructed using very roughly dressed sandstone blocks approximately 0.35 m by 0.25 m (7). The courses are very irregular and are bonded with thick lime mortar joints. Built upon this base was a 1.2 m high band of slightly larger stones roughly dressed sandstone blocks (6). This was also bonded using thick lime mortar joints, but areas had been repointed using cement mortar. The remaining 1.4 m height of the wall was built using roughly dressed smaller blocks of sandstone bonded using thick lime mortar

joints (5). This length of wall was capped by two sloping courses of limestone tile forming a triangular peak over the wall (8).

- 3.1.6 An area measuring 3.6 m long by 1.8 m deep at the corner of the step between the northern and southern walls shows evidence of having been rebuilt or possibly consolidated using a cement mortar (9).

### *The Bastion*

- 3.1.7 This is a triangular piece of stonework filling in the step between the northern and southern walls. It measured 4.5 m long by 1.8 m wide and was originally 2 m high (10). It appears to have been constructed separately and is only spasmodically tied into the SW corner of layer (7), while the eastern edge butts up against layers (3) and (4). Only the edge facing the stream had been carefully constructed using coursed stonework while the remainder was a mixture of rubble infill and lime mortar. Few of the bottom courses of stone remain intact but it appears to have been built using roughly dressed sandstone blocks approximately 0.5 m long by 0.18 m high.
- 3.1.8 All the stonework showed evidence of smoke incrustation, but the areas facing directly south had lost most of this deposit, probably through weathering.

## 3.2 Finds

- 3.2.1 No dating evidence was recovered from within the dismantled walls.

## 3.3 Palaeo-environmental remains

- 3.3.1 No deposits suitable for palaeo-environmental sampling were observed during the course of the watching brief.

## 4 DISCUSSION AND CONCLUSIONS

- 4.1.1 The presence of the butt joint between the northern and southern lengths of the wall suggests that there is at least two phases of construction evident at this point.
- 4.1.2 The southern wall (1, 2, 3 and 4) represent the earliest phase of construction and appears to respect the southern boundary of the plot now occupied by St Peter's College. The bottom two layers of stonework (3 and 4) may represent the original height of the revetting at this point and may have ended flush with ground level. The two distinct strata of stonework may be an indication of two separate campaigns of building.
- 4.1.3 The two layers of well dressed ashlar blocks (1 and 2) appears to have been constructed as a boundary wall and is probably associated with properties originally built between the prison walls and Paradise Street in the 18th century. No evidence for window openings could be observed in its construction suggesting that it was a yard wall rather than structural. The two different layers may indicate that the wall was raised at some point, but may also indicate two campaigns of building.

- 
- 4.1.4 The present day property boundary marked by a wooden fence along the western edge of the modern development is set back approximately 1.8 m from the streamway and may mark the original line of this wall prior to the construction of the northern section of the wall.
- 4.1.5 The line of the wall would have truncated the 17th-century water courses observed during the 2004 OA excavations which may give an indication of the earliest date for its construction.
- 4.1.6 The revetment wall along the eastern side of the streamway south of Swan Bridge shows similarity of construction and that it is possible that the two lengths of wall together with Swan Bridge may represent a major reconstruction of the area around Paradise Street.
- 4.1.7 The northern wall (5, 6, 7, 8 and 9) marks a later phase of development. This wall forms the eastern side of the overflow channel running from the Castle Weir 20 m to the north-west, which runs alongside, and butts up to, the southern wall of the prison. This portion of the prison wall was constructed in the mid 19th century giving a provisional date for the walls construction.
- 4.1.8 The mill itself was rebuilt in 1781 and it is probable that this wall was constructed later in order to avoid erosion undermining the prison walls. As with the southern wall the different bands of construction visible within the wall may represent different campaigns of construction topped by boundary wall.
- 4.1.9 The bastion (10) appears to be a later addition and may have been intended to streamline flow along this stretch of the channel and also to prevent erosion caused by eddying at this point. An additional possibility is that it may have also been intended as a buttress supporting either, or both the walls. The area of rebuilding (9) suggests that there may have been structural problems in the past at the junction between the two walls.

## APPENDICES

## APPENDIX 1 ARCHAEOLOGICAL CONTEXT INVENTORY

<i>Context</i>	<i>Type</i>	<i>Height</i>	<i>Width</i>	<i>Comments</i>	<i>Finds</i>	<i>Date</i>
1	Wall	1.1 m	0.7 m	Base courses of the southern section of the wall	-	C18th/ C19th
2	Wall	1.24 m	0.7 m	Campaign of construction within the southern section of the wall	-	C18th/ C19th
3	Wall	0.47 m	0.7 m	Campaign of boundary wall construction along the southern section of the wall	-	C18th/ C19th
4	Wall	1 m	0.7 m	Campaign of boundary wall construction along the southern section of the wall	-	C18th/ C19th
5	Wall	1.4 m	0.7 m	Base courses of the northern section of the wall	-	C19th
6	Wall	1.2 m	0.7 m	Campaign of construction within the northern section of the wall	-	C19th
7	Wall	1.06 m	0.7 m	Boundary wall construction along the northern section of the wall	-	C19th
8	Wall capping	0.3 m	0.8 m	Limestone capping above wall 7	-	C19th
9	Wall	1.7 m	0.7 m	Rebuilding/ repointing of the corner of the northern wall	-	C19th/ C20th
10	Wall	1.8 m	1.8 m	Later bastion constructed within the step between the northern and southern walls	-	C19th/ C20th

**APPENDIX 2 BIBLIOGRAPHY AND REFERENCES**

David Radford, 2009 *Wall Repairs, Castle Mill Stream, Paradise Street, Oxford: Brief for an Archaeological Watching Brief and Photographic Recording*

EH, 2006 *Understanding Historic Buildings □ A Guide to Good Recording Practice*

IFA, 2008 *Standards and Guidelines for Archaeological watching Briefs*

OA, 2006 Paradise Street, Oxford □ Post-Excavation Assessment

OA, 2003 The West Gate of Oxford Castle: Excavations at Boreham Yard, Tidmarsh Lane, Oxford 1994-5

OAU, 1991 Paradise Street (N), Thames Water Authority Depot

OAU, 1992 *Field Manual* (ed. D Wilkinson)

OAU, 1996b Oxford Castle Mill Weir Archaeological Desktop Study

**APPENDIX 3 SUMMARY OF SITE DETAILS**

**Site name:** Paradise Street, Oxford, Oxfordshire

**Site code:** OXPSWA 09

**Grid reference:** Centred at SP 5094 0612

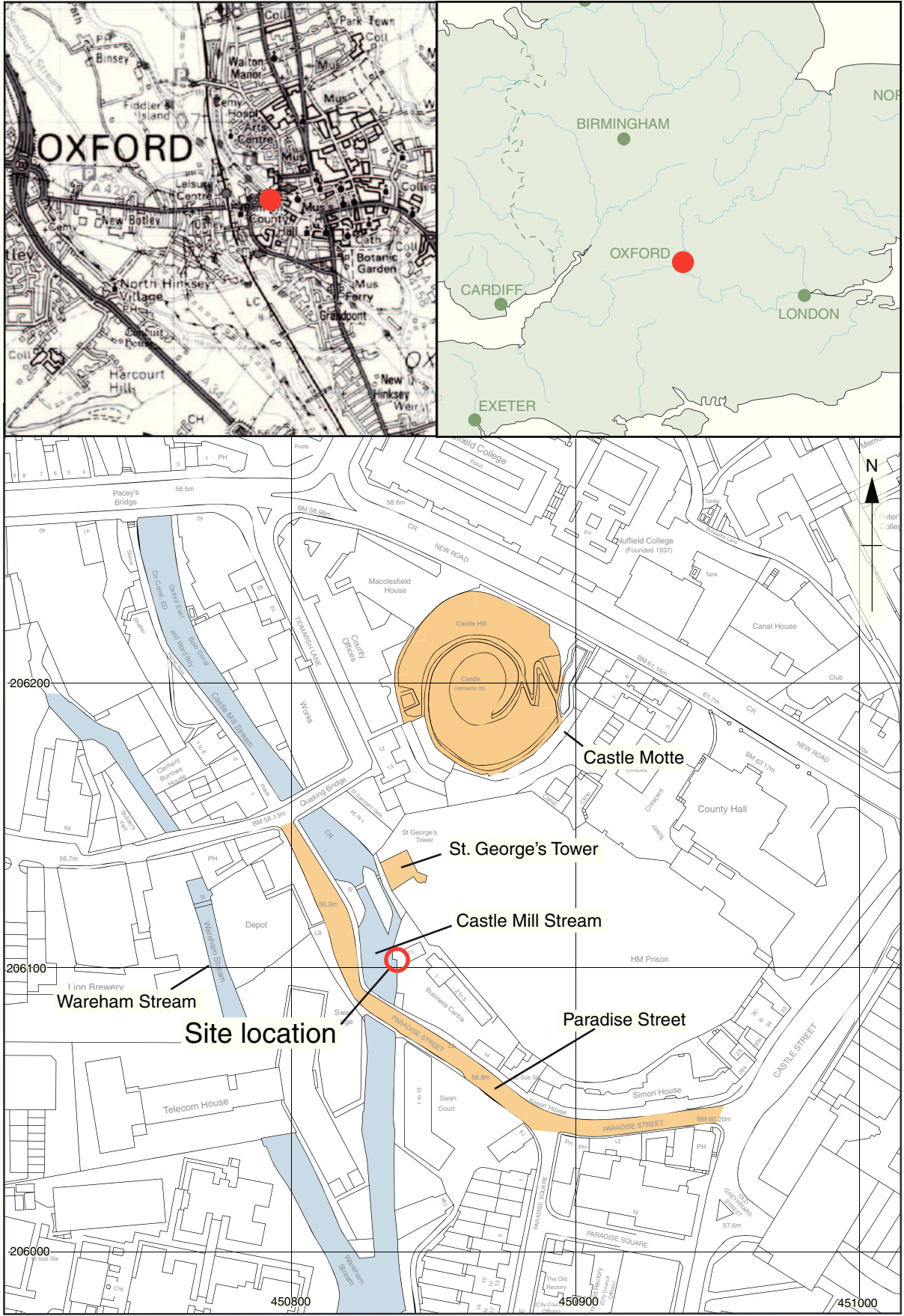
**Type of watching brief:** Reconstruction of a collapsed section of the Castle Mill stream revetment wall.

**Date and duration of project:** 2nd to 30th August 2009, three site visits

**Area of site:** c100 m<sup>2</sup>

**Summary of results:** The watching brief showed that the standing wall was constructed in at least two phases. While no dating evidence was recovered, the southern part is probably dates to the 18th century and is contemporary with the revetment wall on the southern side of Swan Bridge and Paradise Street while the northern part may date from the period of construction of the prison wall during the mid 19th century.

**Location of archive:** The archive is currently held at OA, Janus House, Osney Mead, Oxford, OX2 0ES, and will be deposited with Oxfordshire County Museums Service under the following accession number OXCMS:2009.71.



Scale 1:2000

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Figure 1: Site location







Plate 1: Repair work underway





Plate 2: Phases of work within wall



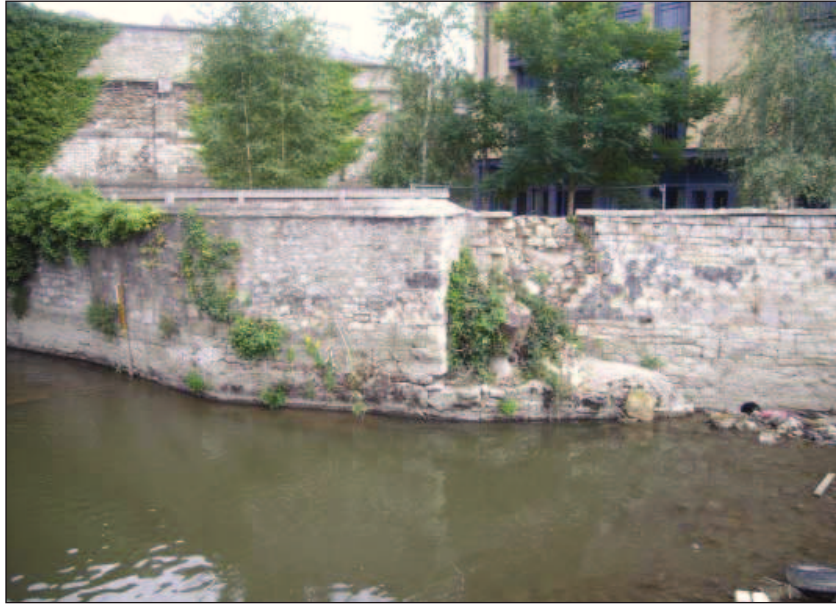


Plate 3: General view of wall prior to start of conservation works



Plate 4: General view of wall from south with St George's Tower in background



Plate 5: Revetment wall to south of current area





Plate 6: View of area collapse prior to conservation



Plate 7: Core of wall during dismantling (north side)



Plate 8: Core of wall during dismantling (south side)









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