

**CAMBRIAN ARCHAEOLOGICAL PROJECTS LTD.**

# **Windsor Castle Lower Ward Service Trenches**

Archaeological Watching Brief



By  
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CAP Report No. 509

ARCHAEOLOGICAL WATCHING BRIEF

**Windsor Castle,  
Lower Ward Service Trenches**

By  
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Prepared for:  
Martin Ashley Architects

On behalf of:  
The Deans and Canons of Windsor

CAP Report No: **509**

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## **Non Technical Summary**

*This report results from work undertaken by Cambrian Archaeological Projects Ltd (CAP) for Martin Ashley Architects on behalf of their client the Deans and Canons of St. Georges college, Windsor. An archaeological watching brief was carried out during the excavation of trenches to accommodate new water and gas services in the Castle's Lower Ward. A watching brief was also carried out on the excavation of postholes prior to the construction of a contractors compound adjacent to St' George's chapel.*

### **1 Introduction**

#### **1.1 Location and scope of work**

1.1.1 In February - March 2008 Cambrian Archaeological Projects (CAP) carried out an archaeological watching brief on the excavation of pipe trenches as part of the renewal of water and gas services within the Lower Ward at Windsor Castle, Berkshire. The excavation of post holes dug in advance of construction of a contractors compound adjacent to St. George's chapel was also observed under the watching brief.

1.1.2 Windsor Castle (NGR: SU 9698 7702 – Fig 1) is located on top of an isolated chalk dome, which has been cut away on the north to form a steep cliff, by the Thames. At its highest the dome rises to approx. 52 m OD. To the west the site is bounded by Thames Street, the northern extension of Windsor High Street. To the north, east and south the greater part of the castle limits are surrounded by the more rural setting of the Home Park. The Scheduled Ancient Monument (Ref: WN 80) is c. 5.3 ha in area.

#### **1.2 Soil & Geology**

1.2.1 The site is situated on an outcrop of upper chalk in places covered with 'clay with flints' and surrounded by Terrace Gravels (Geological Survey of Great Britain, Sheet number 269).

1.2.2 The underlying natural chalk is not known in detail in this area, although excavation adjacent to St Georges House in 2001 (Evans, 2001) located natural chalk at a depth of 1.6m below the tarmac. Deposits recorded below the tarmac further west in the area of Denton's Commons (Jones, 2005) comprised stone chippings 0.80m thick, over brick and stone rubble 0.40m thick and over chalk rubble and clay 0.40m thick. Lower levels in the area are unknown.

### 1.3 Archaeological and historical background

- 1.3.1 Over a period of nearly 1,000 years Windsor Castle has been inhabited continuously, and altered and refurbished by successive monarchs. Some were great builders, strengthening the Castle against uprising and rebellion; others, living in more peaceful times, created a palatial Royal residence.
- 1.3.2 William the Conqueror chose the site, high above the river Thames and on the edge of a Saxon hunting ground. It was a day's march from the Tower of London and intended to guard the western approaches to the capital.
- 1.3.3 The outer walls of today's structure are in the same position as those of the original castle built by William the Conqueror in the 1070s. So too is the central mound supporting the Round Tower and the Upper Ward, where successive monarchs have had their private apartments since the fourteenth century.
- 1.3.4 In the 1170s Henry II rebuilt - in stone instead of wood - the Round Tower, the outer walls of the Upper and most of the Lower Ward, and the Royal apartments in the Upper Ward. This build included the Great Hall built in the Lower Ward against the castle north curtain wall.
- 1.3.5 Documentary sources, in the form of Liberate Rolls dated 4<sup>th</sup> January 1239-40, state that :
- “The King to Walter of Burgh greeting. We command you that in the castle of Windsor you cause to be made a certain lodging (*camera*) for our use near the wall of the same castle, 60 feet long and 28 feet wide, and another lodging for the use of our queen, 40 feet long, which is to be joined to our lodging and be under the same roof along the same wall, and a certain chapel, 70 feet long and 28 feet wide, along the same wall. So that a certain sufficient space be left between the aforesaid lodgings and the chapel itself to make a certain grassplat.” (from St. J. Hope’s *New Works of the Thirteenth Century, in Windsor Castle I 1913, p35*).
- 1.3.6 Between 1352 and 1355 Edward III erected lodgings for the whole community of canons and priest vicars serving his newly established college of St George. These were squeezed around a courtyard between the 12th-century great hall of Henry II's palace, now given over to the college for its own use, and the Dean's Cloister. The lodgings were built in timber-frame and were arranged on two stories, the upper jettied out over the lower to create an internal cloister walk at ground level. There must originally have been about twenty-six sets of chambers within the cloister. It has been suggested that those on the upper floor served to house the canons and the lower their juniors, the priest vicars.
- 1.3.7 Remarkably, much of the medieval timber framing for these medieval lodgings has survived to the present day, though it is now obscured in many places by a host of later extensions and adaptations. The cloister is probably the earliest surviving example of

timber framed collegiate architecture in Britain and continues as the home of the canons to the present day.

- 1.3.8 St George's Chapel was begun by Edward IV (r. 1461-70 and 1471-83) and completed by Henry VIII. It is dedicated to the patron saint of the Order of the Garter, Britain's highest order of chivalry, and ranks among the finest examples of late medieval architecture in Western Europe.
- 1.3.9 Ten British monarchs lie buried in the chapel: Edward IV, Henry VI, Henry VIII, Charles I, George III, George IV, William IV, Edward VII, George V and George VI.
- 1.3.10 Oliver Cromwell captured Windsor Castle after the Battle of Edgehill in 1642, and for the rest of the Civil War it became a prison as well as the headquarters of the parliamentary forces.
- 1.3.11 In 1648 Charles I was held there before his trial and execution in London; his body was brought back for burial in St. George's Chapel during a snowstorm.
- 1.3.12 Following the Restoration, Charles II was determined to make the Castle as splendid as possible. He created a new set of State Apartments in the 1670s, using the skills of the architect Hugh May, the artist Antonio Verrio for murals and ceiling paintings, and the famous wood-carver Grinling Gibbons.
- 1.3.13 The King's Dining Room and the Queen's Presence and Audience Chambers retain many of these original features. Charles II also laid out the 5km Long Walk leading due south from the Castle into Windsor Great Park.
- 1.3.14 George IV was a great lover of art and fine decoration. Much of Windsor Castle's present appearance is due to the alterations he instigated in the 1820s with his architect, Sir Jeffry Wyatville. The buildings were refashioned in the Gothic style, with the addition of crenellations, turrets and towers.
- 1.3.15 In the Upper Ward the private apartments were moved from the north side of the quadrangle to the south and east side. The rooms on the north side were designated, as now, as for use on formal occasions and State visits.
- 1.3.16 One of George IV's most remarkable additions was the Waterloo Chamber, which was created in the 1820s to show portraits commissioned from Sir Thomas Lawrence to commemorate the defeat of Napoleon at the battle of Waterloo in 1815.
- 1.3.17 They represent the monarchs, soldiers and statesmen who were involved in that defeat and its aftermath. They include George III, George IV and the future William IV, the Duke of Wellington, Field Marshal von Blücher, the Emperors of Austria and Russia, the Kings of Prussia and France, and Pope Pius VII.
- 1.3.18 Queen Victoria and Prince Albert were devoted to Windsor, where they spent much of their time. It was during the reign of Queen Victoria that, in 1845, the State Apartments were first opened to the public.

- 1.3.19 Prince Albert died of typhoid at Windsor in 1861 and was buried in a spectacular mausoleum that Queen Victoria constructed at Frogmore in the Windsor Home Park.
- 1.3.20 During the Second World War, Windsor Castle was home to the young Princesses Elizabeth and Margaret Rose while their parents supported the war effort in London and around the country. Today the Queen uses the Castle regularly, spending most of her weekends there.
- 1.3.21 The twentieth-century history of the Castle is dominated by the major fire that started on 20 November 1992. It began in the Private Chapel, when a spotlight came into contact with a curtain and ignited the material.
- 1.3.22 It took 15 hours and one-and-a-half million gallons of water to put out the blaze. Nine principal rooms and over 100 other rooms over an area of 9,000 square metres were damaged or destroyed by the fire, approximately one-fifth of the Castle area.
- 1.3.23 The next five years were spent restoring Windsor Castle to its former glory. It resulted in the greatest historic building project to have been undertaken in this country in the twentieth century, reviving many traditional crafts.

## 2 Aims and Objectives

### 2.1 Watching Brief

In accordance with the IFA's *Standards and guidance*, the aims of an archaeological watching brief are:

- To allow, within the resources available, the preservation by record of archaeological deposits, the presence and nature of which could not be established (or established with sufficient accuracy) in advance of development or other potentially disruptive works.
  - To provide an opportunity, if needed, for the watching archaeologist to signal to all interested parties, before the destruction of the material in question, that an archaeological find has been made for which the resources allocated to the watching brief itself are not sufficient to support treatment to a satisfactory and proper standard.
- 2.1.1 A watching brief is not intended to reduce the requirement for excavation or preservation of known or inferred deposits, and it is intended to guide, not replace, any requirement for contingent excavation or preservation of possible deposits.
- 2.1.2 The objective of a watching brief is to establish and make available information about the archaeological resource existing on the site.



### 3 **Watching Brief Methodology**

#### 3.1 **Scope of Fieldwork**

- 3.1.1 The work undertaken involved the excavation of around 40 post holes (400mm x 400mm) to a depth of around 0.5m adjacent to St. George's chapel and the excavation of several narrow trenches to accommodate new water and gas pipes. No groundworks exceeded one metre in depth with all trenches typically around 0.4m wide and 0.6m deep.
- 3.1.2 Company Director Kevin Blockley and Project Managers Chris E Smith and Richard Jones each undertook the watching brief at different stages. All plans and sections were recorded and drawn at a scale of 1:20. All groundworks were photographed using high resolution digital photography.
- 3.1.3 All works were undertaken in accordance with both the IFA's *Standards and Guidance: for an archaeological watching brief* and current Health and Safety legislation.

#### 3.2 **Finds**

- 3.2.1 Finds were recovered by hand during the course of the excavation and bagged by context.

#### 3.3 **Palaeo-environmental evidence**

- 3.3.1 No deposits suited to environmental sampling were located during the watching brief.

### 4 **Watching Brief Results**

#### 4.1 **Soils and ground conditions**

- 4.1.1 Generally the site and weather conditions were mixed sun and rain during the on site works.

#### 4.2 **Distribution of deposits**

- 4.2.1 The vast majority of cultural deposits were made up of a dark brown silt and/or demolition rubble. No natural deposits were encountered.

#### 4.3 **Contractors Compound Postholes**

- 4.3.1 The contractor's compound is located adjacent to St. George's chapel on site of the former Dentons Commons building (Fig 2, Plate 1). It measures approximately 25m in length and 15m in width. Approximately 40 postholes were excavated during its construction so as to house the upright supports of the compound walls. Typically the

postholes measured 400mm x 400mm and were around 0.5m deep (Plate 2). Owing to the almost 'keyhole' nature of the excavations observations were limited. Those postholes excavated on the south and eastern walls of the compound encountered the most difficulty with an array of unmarked services being located which then had to be avoided. These were predominantly drainage services located on the south wall of the compound adjacent to the edge of the paving slabs around St. George's chapel. The drains all appeared 19<sup>th</sup> or early 20<sup>th</sup> century in date and were located in heavily disturbed soils containing large amounts of redeposited brick, mortar and rubble. This is most likely rubble from the 1859 demolition of Dentons Commons. Along the east wall of the compound excavation ceased at approximately 0.05m owing to the presence of a concrete surface. This is likely to be part of the ceiling of a cellar room adjacent to St. George's chapel. Posts were thus drilled and bolted to the concrete. Postholes excavated along the northern wall of the compound encountered services in several locations. Along the edge of the grass verge care was taken to avoid the locations of known gas and data services, this subsequently effected the positioning of the posts. Located at the base of one posthole approximately 10m from the north western corner of the compound was a badly damaged stone capped culvert apparently running on a north south alignment. The culvert is likely to be 18<sup>th</sup> or 19<sup>th</sup> century in date owing to its being located within the same brick, mortar and rubble horizon as the drains previously encountered adjacent to the Chapel. Those postholes excavated on the west wall of the compound encountered little difficulty in terms of having to avoid services. The soils appeared to be mixed silty loam deposits with frequent mortar and chalk inclusions. It is worth noting that despite the small area excavated very few finds were located, merely one clay pipe fragment, one piece of stoneware and one piece of green vessel glass, all of which were unstratified.

#### 4.4 Lower Ward Service Trenches

- 4.4.1 Horseshoe Cloister. The trenches in the Horseshoe cloister (Fig 2) were excavated to house replacement water and gas services. They measured approximately 45m in length by 0.4m in width. The trenches were typically 0.5 – 0.6m deep. Some sections of trench were not excavated where it was deemed suitable to mole the length of pipe into the ground. One trench was located roughly parallel with the northern wall of the Horseshoe cloister running on an east west alignment, from this a further trench branched off to the south across the middle of the lawn (Plate 3) area before butting against the south wall. Removal of turf and topsoil within the Horseshoe cloister revealed, almost universally, a dark brown/black silt horizon with frequent oyster shells, earthenware roof tiles, faunal remains, post medieval ceramic and ceramic building material inclusions. This was interpreted as a likely redeposit, possibly 19<sup>th</sup> century in date, and maybe associated with levelling of the lawn area. In places, at lower depths, more concentrated spreads of lime mortar and rubble were located which are likely to relate to a construction episode. As in the contractors compound a number of known and unknown services were located crossing the lawn area thus hinting at further disturbance in the recent past. A further, much smaller, trench was excavated

on the left of the southern entrance to the Horseshoe cloister adjacent with the grass verge (Plate 4). The same redeposited material was encountered located above the concrete ceiling of a cellared room associated with the Horseshoe cloister thus reinforcing the idea of it being a largely 19<sup>th</sup> century deposit. Another small trench was excavated adjacent to the outer wall of the Horseshoe within the northern entrance to the cloister. Beneath 20<sup>th</sup> century levelling material and services the original 16<sup>th</sup> century brick foundations of the Horseshoe cloister were located (Plate 5). These were located above the original chalk rubble footings.

- 4.4.2 Site of Dentons Commons Building. A service trench was also excavated in the same area as the contractor's compound adjacent to St. George's chapel. The trench ran from the north wall of the chapel across the former site of the Dentons Commons building in a north west direction (Fig 2). The trench turned sharply to the west after having extended north of the small grassed island in front of St. George's house. Removal of surface layers (turf and topsoil adjacent to St. George's chapel and tarmac opposite St. George's house) revealed similar brick and demolition rubble deposits along the whole length to a depth of around 0.6m (Plate 6). This deposit is likely to be rubble from the 1859 demolition of Dentons Common (Plate 7). In amongst the demolition rubble a red brick and lime mortar wall was uncovered (Plate 8). These are most likely the remains of a cellar wall as highlighted on Tim Tatton Brown's 1995 illustration (Fig 3). The same wall, representing the north west corner of the building, was apparently observed in similar groundworks undertaken in 1974. A further wall of red brick and lime mortar was revealed in the service trench opposite St. George's house (Plate 9). This is likely to be the wall marked as 'demolished 1876' on Tim Tatton Brown's plan (Fig 3). No further features of archaeological significance were noted although several services were encountered including a brick built circular soakaway. The long east to west section of trench through the main parking area was excavated into a pre-existing service trench and was therefore not subject to the watching brief.
- 4.4.3 Further Small Trenches. Two further trenches were excavated along the proposed route of the new pipes where moleing was not deemed suitable. The first was located to the north of the northern entrance to the Horseshoe cloister. Beneath the modern tarmac a similar deposit to that encountered in the Horseshoe cloister was revealed, a mixed rubble, brick and mortar horizon, most likely a levelling deposit. This was found to butt against a sealed and concrete reinforced heating duct housing a cast iron pipe, most likely 19<sup>th</sup> or 20<sup>th</sup> century in date (Plate 10). Beneath the apparent redeposit was found a thin layer of fine green sand, perhaps from work on the Vicars hall and probably derived from Reigate stone working. This may be 19<sup>th</sup> century and is almost certainly *in situ* rather than a redeposit. Several such layers of 'construction debris' were located within this trench suggesting that archaeology remains intact beneath. Excavation ceased at approximately 0.6m. The second trench was a long thin trench (approx 10m long by 0.4m wide) located adjacent to the grass verge to the north east of the Horseshoe cloister northern entranceway (Plate 11). The same 19<sup>th</sup> century rubble, brick and mortar deposit located in previous trenches was again located to a depth of

around 0.5 – 0.6m. A truncated brick culvert was located at the base of the trench below the rubble horizon and seemingly on a north south alignment. This is again likely to be 18<sup>th</sup> or 19<sup>th</sup> century in date (Plate 12). A further two trenches were excavated under a watching brief in the Lower Ward both of which were located immediately to the north of the grassed traffic island (see fig 2). The first trench was located adjacent to a brick heating duct which was exposed in the trench section (Plate 13). The majority of deposits in this trench were recently disturbed by services although at a lower level, approximately one metre below the current ground surface, a deposit of chalk blocks and lime mortar was encountered. Although no finds were in association this is likely to be an intact medieval layer, the chalk blocks possibly being associated with Henry II's Great Hall located by CAP and Time Team in 2006 (CAP Report No. 468). The remaining trench was excavated adjacent to the location of CAP and Time Team's 2006 Trench 6. This trench was adjacent to the brick wall around house number 8. The brick wall appears to have been constructed over the line of the Great Hall wall, destroying what was left of the foundations in the process. The brick wall foundation cut appears to have been backfilled with chalk and reigate fragments as well as lime mortar which would suggest that the Great Hall wall had indeed been destroyed in this location by the construction of the more modern brick wall in the 19<sup>th</sup> century. To the rear (north) of the brick wall the trench was extended but did not exceed 0.5m in depth and showed only recent disturbed deposits and modern services.

## **5 Finds**

- 5.1.1 A moderate group of finds were recovered during groundworks. These included sherds of medieval, post medieval and modern ceramics, oyster shells and bone (not retained), clay tobacco pipe, tile and other ceramic building material as well as two clay marbles. The majority of the finds were located within redeposited material within the Horseshoe Cloister area.

## **6 Discussion and Interpretation**

### **6.1 Reliability of field investigation**

- 6.1.1 Groundworks were hampered by the presence of numerous marked and unmarked services.
- 6.1.2 The overall findings of the watching brief were consistent with previous archaeological investigations carried out in the area. The large amount of services laid in the area in the past has caused a great deal of disturbance below ground. This is reflected in the redeposited nature of the majority of the soils encountered and the lack of intact deposits or features.

## **6.2 Overall interpretation**

6.2.1 The watching brief has established that at the depth to which this set of groundworks was carried out the ground is largely disturbed and made up of redeposited material predominantly dating to the 19<sup>th</sup> century. The lack of intact features may be due to the amount of disturbance this area of the castle has seen in the more recent past in the form of landscaping, levelling and the installation of services.

## **6.3 Significance**

6.3.1 The watching brief, having revealed no areas of great significance, has shown that the upper levels of the ground within the excavated areas of the Lower Ward appear heavily disturbed. Whilst some features do remain these are predominantly related to drainage and are likely to be post medieval or later in date.

## **7 Acknowledgements**

7.1.1 Many thanks are due to the on site staff for their assistance.

## 8 **Bibliography and references**

British Geological Survey. 2001, 4<sup>th</sup> Edition. Solid Geology Map, UK South Sheet.

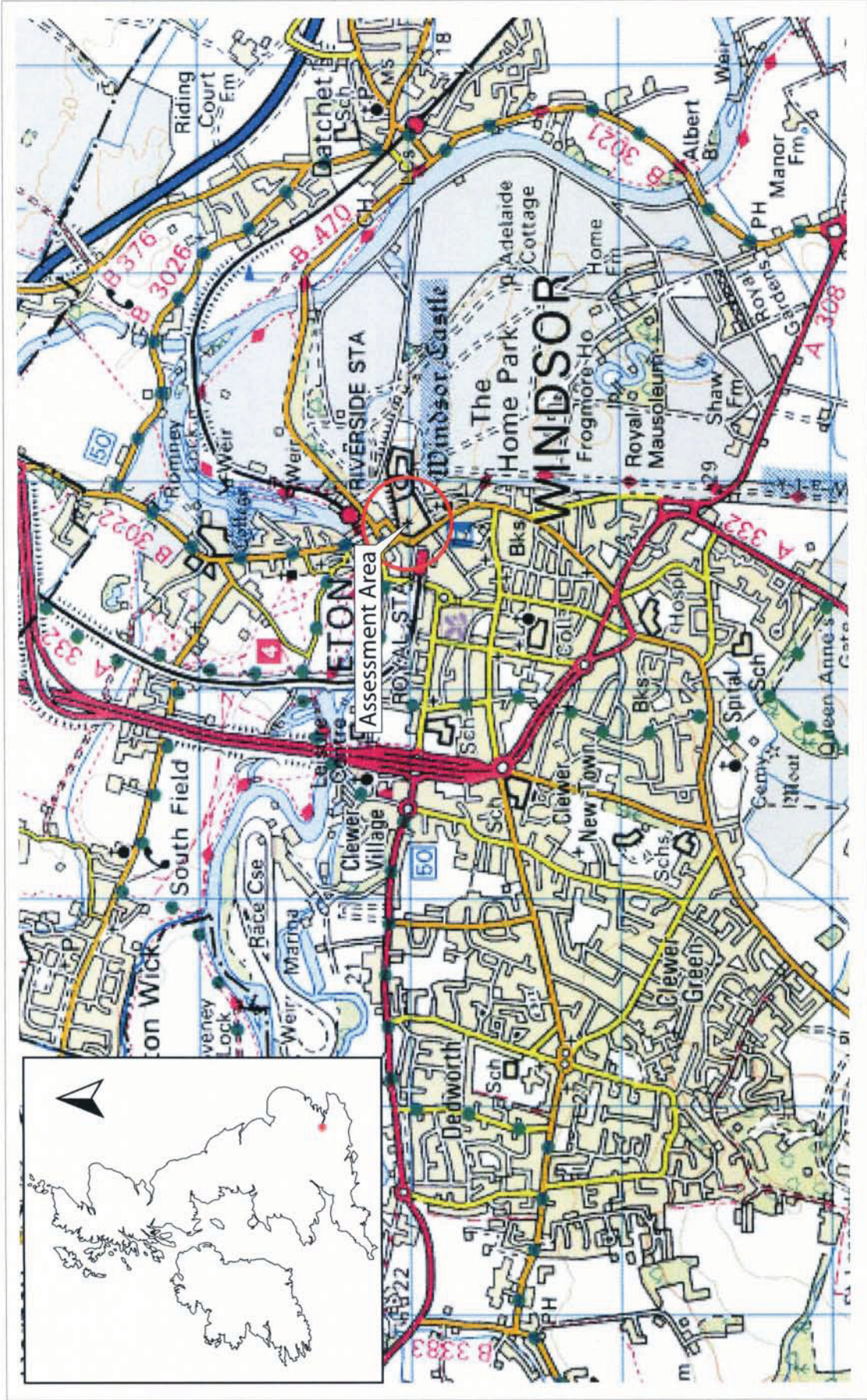


Fig 01: Map showing location of assessment area

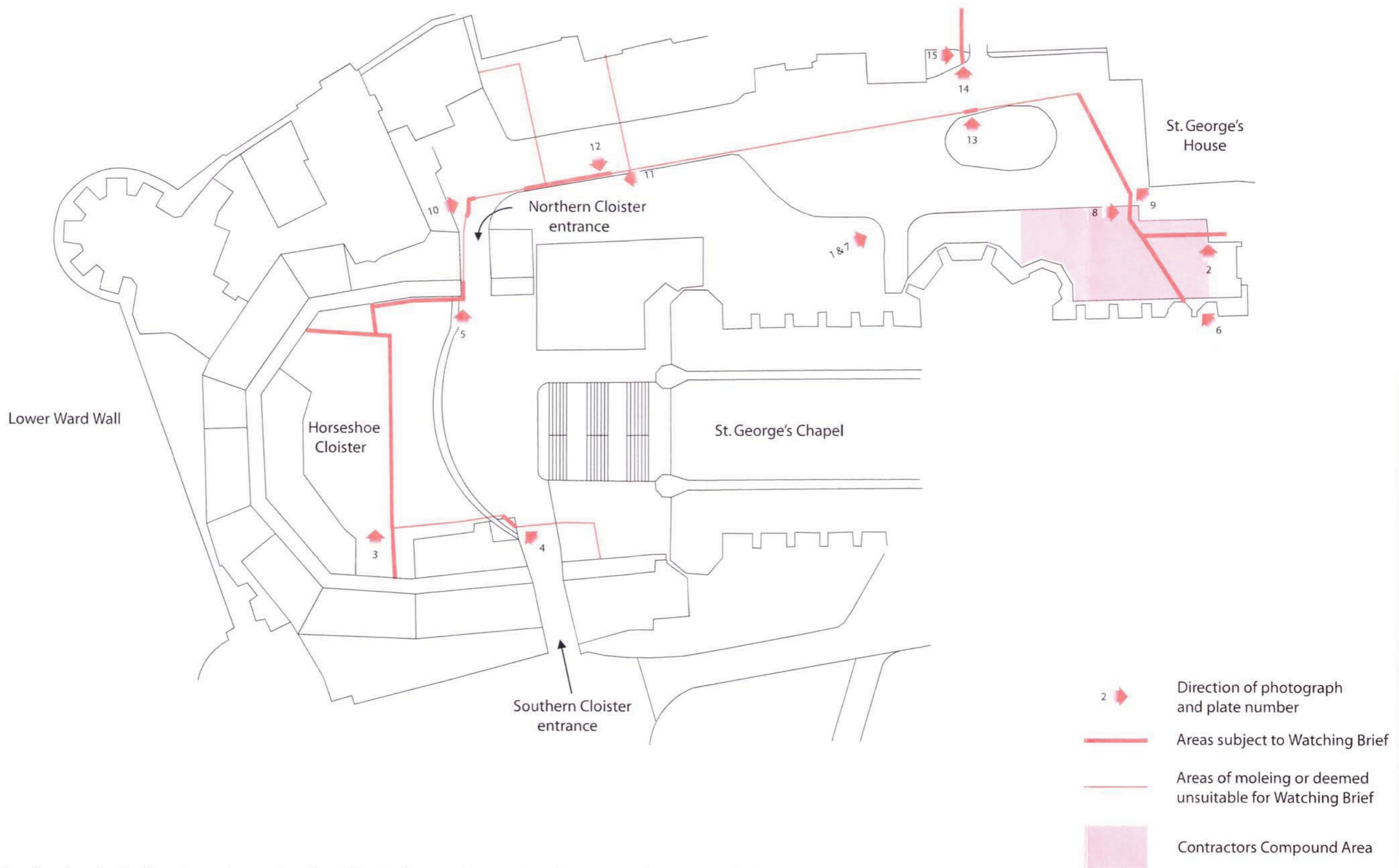


Fig 2: Plan showing detailed locations of groundworks within Windsor Castle Lower Ward (Do Not Scale From Drawing)



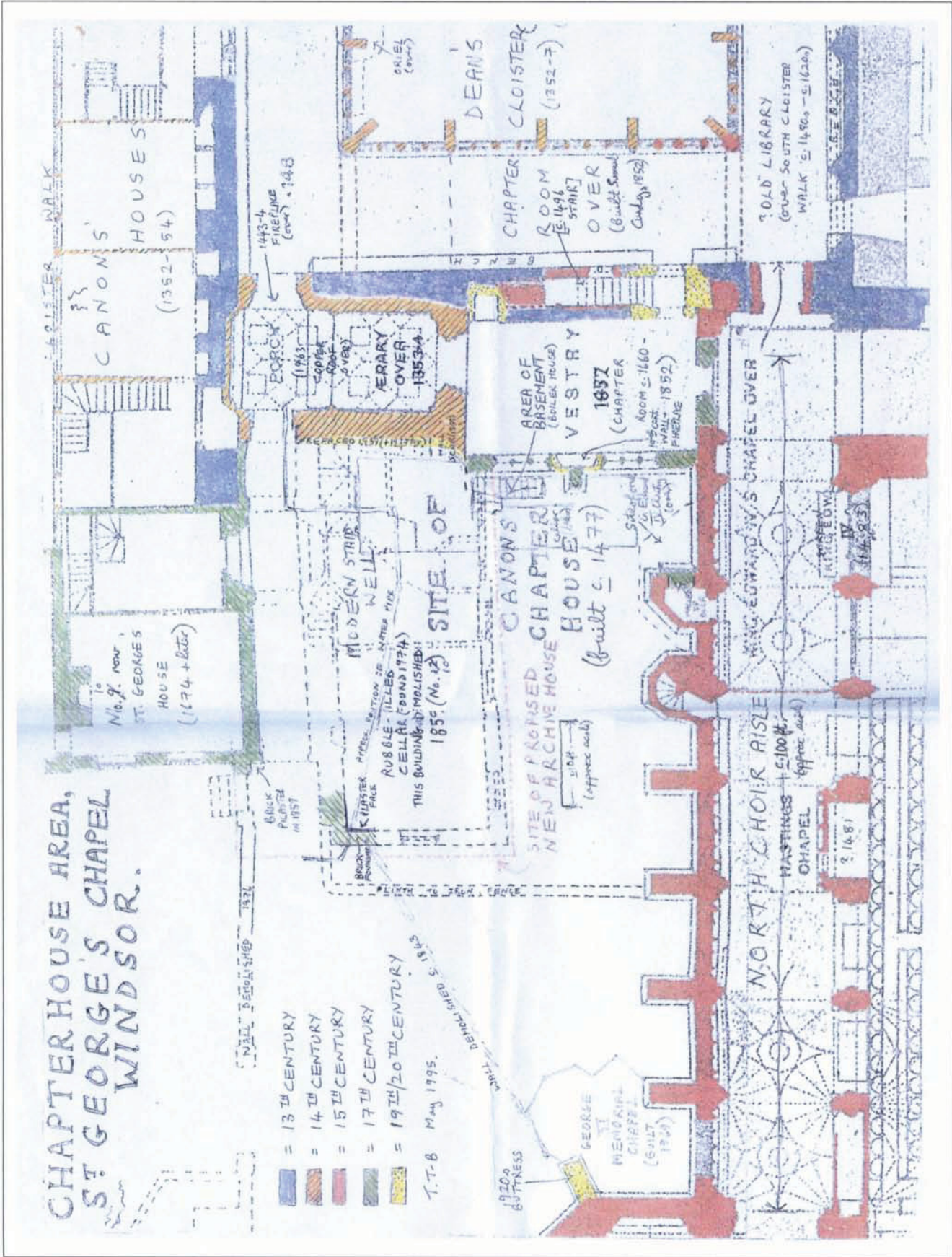


Fig 3: Plan of known underground features after Brown, 1995



Plate 1: 1859 view of Dentons Commons building located in front of St. George's house, Looking east



Plate 2: Example of contractors compound postholes, Scale 1x1m



Plate 3: View of trench across Horseshoe Cloister lawn, Looking north



Plate 4: View along small Horseshow Cloister trench above concrete ceiling, Scale 1x1m



Plate 5: View of 16th century Horseshoe Cloister foundations, Looking north



Plate 6: Example of rubble excavated on site of Dentons Commons building



Plate 7: 1859 view of Dentons Commons building being demolished



Plate 8: View of wall from corner of Dentons Commons building  
Scale 1x1m



Plate 9: View of wall marked 'Demolished 1876' on  
Fig 3 by Brown, 1995



Plate 10: View of heating duct butted against by possible in situ deposits



Plate 11: View along service trench  
Scale 1x2m, Looking west



Plate 12: View of damaged brick culvert



Plate 13: Brick heating duct, Scale 1x1, Looking north





Plate 14: View of trench in area of Great Hall wall, Looking north



Plate 15: View of section of trench in area of Great Hall wall, Looking west

# ARCHIVE COVER SHEET

## Windsor Castle, Berkshire

Site Name:	Windsor Castle, Berkshire
Site Code:	WC/08/WB
PRN:	-
NPRN:	-
SAM:	WN 80
Other Ref No:	-
NGR:	NGR: SU 9698 7702
Site Type:	Royal Castle/Residence
Project Type:	Watching Brief
Project Manager:	C E Smith, R Jones, K Blockley
Project Dates:	February - March 2008
Categories Present:	Medieval to Modern
Location of Original Archive:	-
Location of duplicate Archives:	CAPLtd Office
Number of Finds Boxes:	-
Location of Finds:	-
Museum Reference:	-
Copyright:	CAPLtd
Restrictions to access:	None



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