

Proposed New Student Buildings St Hilda's College Oxford



Archaeological Desk-Based Assessment



October 2016

**Client: Austin Newport Ltd
on behalf of St Hilda's College**

Issue No: 1
NGR: SP 52177 05843

Client Name: Austin Newport Ltd

Client Ref No:

Document Title: Proposed new student buildings at St Hilda's College,
Oxford

Document Type: Archaeological Desk Based Assessment

Issue Number: 1

National Grid Reference: NGR 452177, 205843

Planning Reference: N/A

OA Job Number:

Site Code: N/A

Invoice Code: OXHILDPR

Receiving Museum: N/A

Museum Accession No: N/A

Prepared by: Kirsty Smith and Julian
Munby

Position: Project Officer & Head of Buildings Archaeology

Date: 13th October 2016

Checked by: Ben Ford

Position: Senior Project Manager

Date: 13th October 2016

Approved by: Ianto Wain

Position: Head of Heritage Management Services

Date: 14th October 2016

Document File Location \\10.0.10.86\Projects\o\Oxford_St Hilda's\DBA\Report

Graphics File Location \\10.0.10.86\Projects\o\Oxford_St
Hilda's\DBA\010Geomatics\01 PDFs\2016-10-11
\\10.0.10.86\invoice codes i thru
q\O_codes\OXHILDPR\PDF

Illustrated by Markus Dylewski and Gary Jones

Disclaimer:

This document has been prepared for the titled project or named part thereof and should not be relied upon or used for any other project without an independent check being carried out as to its suitability and prior written authority of Oxford Archaeology being obtained. Oxford Archaeology accepts no responsibility or liability for the consequences of this document being used for a purpose other than the purposes for which it was commissioned. Any person/party using or relying on the document for such other purposes agrees, and will by such use or reliance be taken to confirm their agreement to indemnify Oxford Archaeology for all loss or damage resulting therefrom. Oxford Archaeology accepts no responsibility or liability for this document to any party other than the person/party by whom it was commissioned.

Oxford Archaeology

© Oxford Archaeology Ltd 2016

Janus House

Osney Mead

Oxford OX2 0ES

t: (0044) 01865 263800

f: (0044) 01865 793496

e: info@oxfordarch.co.uk

w: www.oxfordarch.co.uk

Oxford Archaeology Limited is a Registered Charity No: 285627

***Proposed new student buildings at St Hilda's College, Oxford
Archaeological desk-based assessment for St Hilda's College***

Summary

Oxford Archaeology were commissioned by Austin Newport Ltd, acting on behalf of St Hilda's College, to undertake an archaeological desk-based assessment examining the archaeological implications of the proposed new buildings at St Hilda's College, Cowley Place, Oxford. The Site is located within the central part of St Hilda's College which is located in east Oxford. It is centred on NGR 452177, 205843, and lies within the administrative area of Oxford City Council.

This desk-based assessment has demonstrated that the Site has a moderate potential to contain significant archaeological remains dating from the prehistoric period, low potential for Roman remains, moderate potential for Saxon and Viking remains, moderate potential for medieval remains and high potential for post medieval remains. These potentially comprise evidence for the medieval Boys Mill, medieval and post medieval farm buildings, evidence of the post medieval Milham Bridge and ford and the potential for Civil War defensive outworks.

Current plans include the demolition of the Milham Ford Building and the Porters' Lodge and the construction of two new buildings with a basement. The proposed basement will likely have the greatest impact upon the potential underlying archaeology.

The results of a Watching Brief carried out on geotechnical investigations at the Site (Appendix 4) indicate the presence of in situ natural gravel deposits which raises the possibility that potential archaeological features of all archaeological periods may survive. Deposits may include: structural remains of the historic bridge crossing, remains of the medieval Boys Mill and former post medieval farm buildings. The Watching Brief also revealed that there is to be limited potential for in situ structural remains to the south of Milham Ford Building.

It is highly likely that further work would be needed to mitigate the impact of the reduction of the underlying archaeological deposits, most likely in the form of an archaeological evaluation. An evaluation would help better understand the results of the Watching Brief of the geotechnical works and reveal the actual survival of archaeological remains at the site. This will assist in the formulation of a mitigation strategy intended to reduce or remove any impacts upon the archaeological resource within the Site.

The scope of all archaeological works would need to be agreed with David Radford, the Oxford City Archaeologist prior to commencement.

CONTENTS

1	Introduction	1
2	Location, Geology and Topography.....	1
3	Sources Consulted	2
4	Planning Background.....	3
5	Site Surveys	3
6	Archaeological Baseline	4
6.1	<i>Introduction</i>	4
6.2	<i>Previous archaeological work</i>	4
6.3	<i>Prehistoric Period (500,000 BP - 43 AD).....</i>	5
6.4	<i>Romano-British Period (AD 43-410).....</i>	5
6.5	<i>The Medieval Period (AD 410-1550).....</i>	6
6.6	<i>Post-medieval Period (1550 – 1900)</i>	8
6.7	<i>20th Century</i>	10
7	Previous Impacts and Survival.....	11
8	Archaeological Potential	12
8.1	<i>Prehistoric Period.....</i>	12
8.2	<i>Roman Period</i>	12
8.3	<i>The Medieval Period.....</i>	12
8.4	<i>Post-medieval and Early Modern Periods</i>	12
8.5	<i>Results of the Archaeological Watching Brief on Geotechnical Works</i>	13
9	Potential Impacts	13
10	Potential For Further Work	13
11	Conclusion	14

APPENDICES

- Appendix 1. Gazetteer of known archaeology within the study area.
Appendix 2. Bibliography and List of Sources Consulted
Appendix 3. The Garden Wall by Julian Munby
Appendix 4. St Hilda's College: Results of an Archaeological Watching Brief on Geotechnical Works
-

LIST OF FIGURES

- | | |
|-----------|---|
| Figure 1 | Site location |
| Figure 2 | Study area and archaeological features mapping |
| Figure 3 | Agas's map of Oxford 1578 |
| Figure 4 | Plan of the defences of Oxford 1644 by Sir Bernard de Gomme |
| Figure 5 | Loggan's map of Oxford, 1675 (with inset view of the Site) |
| Figure 6 | Taylor's map of Oxford 1750 |
| Figure 7 | Davis's map of Oxford, 1793 |
| Figure 8 | Iffley 1847 Tithe map (Oxford History Centre, 227/M) |
| Figure 9 | Hoggar's map of Oxford 1850 |
| Figure 10 | Cowley 1865 Tithe map (Oxford History Centre, 112/M) |
| Figure 11 | 1st Edition Ordnance Survey 1:500 Map, 1876 |
| Figure 12 | Ordnance Survey Oxfordshire XXXIX.3, 1:2500 (1900) (OHS) |
| Figure 13 | Ordnance Survey Berkshire VI.3, 1:2500 (1921) (OHS) |
| Figure 14 | Ordnance Survey Berkshire VI.3, 1:2500 (revised 1939, published 1947) (OHS) |
| Figure 15 | Existing layout of the Site |
| Figure 16 | Plan of the proposed development |
| Figure 17 | Plan of geotechnical interventions 2016 |
-

LIST OF PLATES

- | | |
|---------|---|
| Plate 1 | The south elevation of the Milham Ford Building (facing west) |
| Plate 2 | The east elevation of Milham Ford Building (facing west) |
| Plate 3 | St Hilda's College Porters' Lodge (facing north west) |
| Plate 4 | The early 20 th century south wing of St Hilda's north building (facing north) |
| Plate 5 | The gardens to the north of the Milham Ford Building (facing east) |
| Plate 6 | A section of the historic garden wall (facing south west) |

PROPOSED NEW BUILDINGS, ST HILDA'S COLLEGE, OXFORD

ARCHAEOLOGICAL DESK BASED ASSESSMENT FOR ST HILDA'S COLLEGE

1 INTRODUCTION

- 1.1.1 Oxford Archaeology (OA) has been commissioned by Austin Newport Ltd, on behalf of St Hilda's College, to carry out an archaeological desk-based assessment in relation to the demolition of the Milham Ford Building and the Porters' Lodge and the proposed construction of two new buildings (connected by a basement) at St Hilda's College, henceforth known as 'the Site'. The Site is centred on NGR 452177, 205843 and its location is shown on Figure 1.
- 1.1.2 The aim of this project is to:
- provide an assessment of the archaeological potential of the Site;
 - assess the likely impacts of previous development on the survival of any archaeological remains; and
 - assess the potential for impacts from the proposed development on the surviving archaeological resource.
- 1.1.3 In 2016 Marcus Beale Architects created a Heritage Assessment of the listed buildings on the Site within a conservation area. The report also outlines the historic development of the Site including Cowley House, the Milham Ford Building and St Hilda's College. The present report therefore concentrates solely upon the potential for the Site to contain below ground archaeological deposits. Within several hundred metres of the Site are several listed buildings but these are not described in detail in the present report as they are already discussed in the 2016 Heritage Assessment by Marcus Beale Architects. The setting of the Site is also discussed within this document (Marcus Beale Architects 2016).
- 1.1.4 For the purposes of this report a variety of archaeological sources, including the results of previous archaeological investigations, were consulted for an area with a 250m radius from the boundary of the Site (the study area). The sources consulted are discussed in Section 3, and a detailed list can be found in Appendix 2.
- 1.1.5 The scope of this study was to assess the archaeological potential for the Site and the nature and significance of historic buildings in and around the Site have therefore not been discussed. The listed buildings and their setting were discussed in Marcus Beale Heritage Assessment (2016).

2 LOCATION, GEOLOGY AND TOPOGRAPHY

- 2.1.1 The Site is located in the central area of St Hilda's College, and comprises the Milham Ford building orientated east-west and the Porters' Lodge building which is a two storey extension to the south of Cowley House (used by St Hilda's College) to the north.
- 2.1.2 St Hilda's College is located in east Oxford, and is the only Oxford University College to be located to the east of the River Cherwell. The western boundary of St

Hilda's College is defined by the River Cherwell. The College is located to the east of the medieval city of Oxford within the parish of St Clement Oxford which was annexed to the city in 1836 (Lobel 1957, 258). The College is within the administrative area of Oxford City Council.

- 2.1.3 St Hilda's College was constructed on a bedrock of Oxford Clay Formation and West Walton Formation (Mudstone). This is sedimentary bedrock formed by shallow seas 156 to 165 million years ago. The western edge of the college is also situated on superficial deposits of alluvium - clay, silt and gravel formed by rivers in the Holocene (2,000,000 BP to present day). Alluvium is likely to have built up on the western edge of the Site from the route of the River Cherwell. Approximately 150m south of the Site is a superficial deposit of Summertown-Radley sand and gravel, and this may extend onto the southern area of the Site.
- 2.1.4 In September 2016 Oxford Archaeology undertook a watching brief on geotechnical works at the Site (see Appendix 4 for the full report and Figure 17). These works comprised seven small Test Pits, six Window Samples, four Boreholes and two Permeability Test Pits. Results from the geotechnical works reveal that natural terrace gravels were observed sealing the presumably untruncated level of the Oxford Clay in three locations. This demonstrated that the Oxford Clay slopes down (east – west) towards the Cherwell from 57.07mOD (WS4) – 56.80m OD (WS3) - 56.55m OD (PT1) - 55.25mOD (WS2) - c. 54.52mOD (WS1). Other observed levels (possibly truncated) were seen in WS5 (57.24mOD) and WS6 (55.33mOD), which reflected this same trend. The overlying terrace gravels followed the general fall observed in the clay (although the possibility that these levels are a result of later truncation must be considered (as no in-situ sub-soils were seen above the gravels). To the east, at the greatest distance from the Cherwell higher levels of 57.47mOD (WS4), 57.3mOD (TP6) and 57.00mOD (WS3) were recorded, nearer the river these fell to 56.65mOD (PT1), 56.25mOD (WS2) and 56.07mOD (PT2), and adjacent to the river WS1 recorded gravel at a depth of 54.52mOD. The depth of gravel was thinner to the north (0.05 – 0.10m thick in PT1 and WS1), thicker in the centre of site (0.2m+ TP6, 0.4m in WS4, and 1.0m in WS2). Thicker deposits were also seen in the single observation in PT2 to the south of the site at 0.55m+ thick.
- 2.1.5 The Site falls generally from c59m OD to the east to c56m OD adjacent to the River Cherwell to the west.

3 SOURCES CONSULTED

- 3.1.1 The Oxford Urban Archaeological Database (UAD, held by Oxford City Council) is the main repository of archaeological data for the Site. It was contacted and supplied data of known sites, events and designated sites within the Site and the surrounding study area. This is limited to a 250m radius around the Site due to the large amount of archaeological work that has been undertaken within the surrounding area. OA hold a number of historic maps for Oxford which were consulted. These sources have been drawn upon for the production of this report. A visit was also made to Oxford History Centre (the record office for Oxfordshire) and Ordnance Survey maps and tithe maps were studied. A full list of sources consulted can be found in Appendix 2.
- 3.1.2 Appendix 1 is a gazetteer of archaeological sites and finds within the study area. Each entry has been allocated an OA number, added to the gazetteer, referred to in the text where relevant and marked on Figure 2.

4 PLANNING BACKGROUND

4.1.1 The National Planning Policy Framework (NPPF: issued March 2012) sets out the Government's planning policies on the conservation of the historic environment.

4.1.2 Policies 12.128 and 12.129 state;

"128. In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the asset's importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.

129. Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this assessment into account when considering the impact of a proposal on a heritage asset, to avoid or minimise conflict between the heritage asset's conservation and any aspect of the proposal"

4.1.3 The Adopted Oxford Local Plan (November 2005) recognises the importance of archaeological and historical remains (Policies HE2-4).

4.1.4 Policies HE2-4 state:

POLICY HE.2 - ARCHAEOLOGY

Where archaeological deposits that are potentially significant to the historic environment of Oxford are known or suspected to exist anywhere in Oxford but in particular the City centre Archaeological Area, planning applications should incorporate sufficient information to define the character and extent of such deposits as far as reasonably practicable, including, where appropriate:

a. the results of an evaluation by fieldwork; and

b. an assessment of the effect of the proposals on the deposits or their setting.

If the existence and significance of deposits is confirmed, planning permission will only be granted where the proposal includes:

c. provision to preserve the archaeological remains in situ, so far as reasonably practicable, by sensitive layout and design (particularly foundations, drainage and hard landscaping); and

d. provision for the investigation and recording of any archaeological remains that cannot be preserved, including the publication of results, in accordance with a detailed scheme approved before the start of the development.

5 SITE SURVEYS

5.1.1 A walkover survey of the Site was carried out on 5th October 2016 in bright and sunny conditions. The external areas of the Site were accessible. The Site comprises the two storey Edwardian Milham Ford Building (Plates 1 and 2) within the centre of the Site and a mid-20th century two storey Porters' Lodge (Plate 2) to the east of the Site which is situated west of Cowley Place. The lodge is attached to a two storey building orientated north-south which adjoins the southern Edwardian wing of Cowley House (Grade II listed) (Plate 4). To the north and south side of the Milham

Ford Buildings are gardens which slope down towards the River Cherwell to the west (Plate 5). To the west of the Porters' Lodge building is a small tarmacked car park area (Plate 4).

- 5.1.2 A survey of a historic wall on the Site was also carried out on the 5th October 2016 by Julian Munby. This wall was photographed (Plate 6) and the results of the survey are discussed throughout the report and in detail in Appendix 3. Munby suggested that the wall may have been associated with the rear boundary of the buildings at Milham Ford.
- 5.1.3 A Watching Brief on the initial geotechnical works was also undertaken on the Site by Oxford Archaeology on 19th - 22nd September 2016. These works comprised seven small Test Pits (TP) measuring c 0.25 x 0.25m, six Window Samples (WS) where cores were opened and logged on site, four Boreholes (BH) which were manually excavated in a 0.15 x 0.15m hole to c 1.2m b.g.l and then sealed cores extracted which were not opened on site; and two Permeability Test Pits (PT) measuring c 1 x 1.5 m. The position of these interventions are shown on Figure 17. Descriptions for each intervention are laid out in Appendix 4.

6 ARCHAEOLOGICAL BASELINE

6.1 *Introduction*

- 6.1.1 St Hilda's College lies to the south east of the historic city and university zone of central Oxford. It is located within the St Clement's and Iffley Road Conservation Area to the south of Magdalen Bridge. The historic development of the Site is covered in detail in the Heritage Assessment by Marcus Beale 2016. Since the focus of this report is restricted to the archaeological impact of the demolition of the lodge and the Milham Ford building and the construction of two proposed buildings, consideration of the listed buildings has not been included in the discussion or the gazetteer. Non-listed buildings from the Oxford UAD have been included in the gazetteer where relevant.

6.2 *Previous archaeological work*

- 6.2.1 Within the area of the Site there have been no known previous archaeological investigations. Within the study area there have been 27 modern archaeological investigations including 9 watching briefs, 14 excavations, 4 evaluations and 22 building recordings.
- 6.2.2 Several excavations have also been undertaken on the southern part of St Hilda's College to the south of the Site. These include **OA 105**, **OA 107**, **OA 152** and **OA 154**. At **OA 154** no archaeological features were recorded and at **OA 107** and **OA 152** later post-medieval features and finds were recorded but nothing before this date suggesting this area was not occupied until the later post-medieval period. At **OA 105** in 2000 a building survey was undertaken at the Garden Building.
- 6.2.3 To the north of St Hilda's College an excavation in 2004 (**OA 89**) found medieval ditches and post holes which have been interpreted as a boundary defining an extent of the parish of St Clements. A number of 16th century pits were found along with a 17th century boundary wall, an 18th century limestone cellar and deposits relating to the construction and occupation of Cowley House. During this excavation natural gravel was encountered at 57.8m OD which was c 1.7m below the surface level of the car park. At **OA 90** also north of the Site a programme of building recording in 2003

recorded the eastern boundary wall of Cowley House which was on the site of earlier tenement frontages.

- 6.2.4 Adjacent to the south east of the Site several excavations have been undertaken at Magdalen College School including **OA 106**, **OA 149**, **OA 150**, **OA 151**. At **OA 151** Civil War defences were seen in one trench and boundary ditches in another. In 2006 an evaluation at the dining hall (**OA 151**) found Iron Age pottery and medieval pits and pottery. It also found a large north- south aligned ditch that was interpreted as part of the Civil War defences. This may have been forward of the St Clements star work illustrated on de Gomme's plan of the defence (Figure 4).
- 6.2.5 In 2007 and 2008 an excavation at the school (**OA 150**) found residual early-middle Saxon pottery which may be indicative of Anglo-Saxon activity on the banks of the Cherwell. Three 19th-20th century ditches and a large 19th century quarry were also found. To the east of the St Hilda's Site a ditch was found (**OA 97**) running east-west, although it was thought unlikely to be a major Civil War ditch. In 1958 to the north east of the Site (**OA 147**) excavations at the science block found residual Roman, Saxon pottery and medieval pottery and ditches.

6.3 Prehistoric Period (500,000 BP - 43 AD)

- 6.3.1 Prehistoric activity has long been recognised beneath the area now occupied by Oxford, and the evidence had been reviewed by Lambrick (2012). Some Palaeolithic artefacts have been found on the southern part of the first and second River Terrace Gravels of Oxford. Within the wider Oxford area prehistoric activity is mostly concentrated on the river terrace gravels but some activity has also been found on the Oxford Clay and alluvium (Lambrick 2012).
- 6.3.2 Significant finds outside the Study Area include a Neolithic henge monument that has recently been identified at St John's College, a Bronze Age barrow cemetery that extends between the Radcliffe Observatory Quarter and the University Parks in the northern part of the city, and a long enclosure in Christ Church Meadow that has been identified from cropmark evidence (Lambrick 2013, 14). Parts of two ditches that were uncovered at University College and were associated with a sherd of early Bronze Age collared urn pottery were interpreted as the possible remains of barrows, perhaps representing outliers of the main cemetery to the north. Cropmark evidence has indicated quite dense Iron Age settlement in the University Parks and Port Meadow, and occupation sites have been excavated at Mansfield College and Park Town.
- 6.3.3 Within the study area there have been a few finds including a Bronze Age axe and sword which were found within the River Cherwell at Magdalen Bridge (**OA 18**) located 179m north of the Site. Iron Age pottery was recovered from two post holes in 2006 (**OA 151**) located 47m south east of the Site.
- 6.3.4 During an excavation at **OA 118** located 250m north east of the Site, in 2013, 19 pieces of worked flints were recovered, but only one came from a possible prehistoric context.

6.4 Romano-British Period (AD 43-410)

- 6.4.1 Evidence for settlement in central Oxford during the Roman period is rather scarce, although part of a farmstead was excavated at Mansfield College, c 1km north west of the Site.

- 6.4.2 A small quantity of Roman material has been found in deposits of later date. A coin of Claudius was found during excavation at the Examinations School in 1878, 500m NW of the Study Area. Beyond the study area, six fragments of Roman building material and four sherds of pottery were recovered during archaeological works within Corpus Christi College in 2008 and individual pottery sherds are reported from two locations at Christ Church, as well as coins that were found during the laying of Post Office cables in Bear Lane in 1918 (Chadwick et al. 2012, 3)
- 6.4.3 During excavations at Magdalen College School in 1958 (**OA 147**), located 78m north east of the Site, Romano-British pottery was found within a mound that was created during the Civil War. The pottery therefore was residual but does indicate Roman activity within the study area. Residual Roman pottery was also found at Magdalen College in 1986-8 (**OA 113**) located 267m north north west of the Site.

6.5 *The Medieval Period (AD 410-1550)*

Anglo-Saxon Period

- 6.5.1 The town of Oxford is believed to have its origins in the early 8th century about the time that the early religious house of St Frideswide was founded on the site of Christ Church. The city was developed as a fortified Burh in the reign of King Alfred or his son Edward the Elder. By the 10th century a network of streets had been established and a defensive circuit constructed. Some evidence for a turf rampart has been found and wherever the early medieval rampart has been observed it has been on or close to the line of the later medieval wall (Dodd, 2003, 23). It has been argued from topographical evidence that the early medieval defences originally only enclosed an area from Oriel Street westwards and that the eastern part of the town was enclosed later (Munby 2003). The original eastern rampart is argued to have coincided with the boundary between Christ Church and Corpus Christi Colleges, c 600m west north west of the Site, and the Site would therefore have lain to the south east of the enclosure. Archaeological evidence has not been able to determine the presence (or absence) of the suggested earlier defensive line.
- 6.5.2 It is likely that there was a small settlement from the 11th century onwards to the east of the River Cherwell, approximately 100m north east of the site (**OA 119**). Prior to this there may have been some dispersed Anglo Saxon activity within the early and middle Saxon period as suggested by residual pottery. Within the study area, evidence for features and finds dating from the Anglo-Saxon period has been found in excavations at **OA 118** located 250m north east of the Site in 2013 which found a small number of late Saxon or Norman features along with a small assemblage of St Neots Ware. An Anglo Saxon pit was found at **OA 79** located 103m north east of the Site. The River Cherwell was dredged under the easterly arch of the bridge in 1884 and at **OA 20** located 167m north of the Site an iron spearhead and shield boss of Saxon date were found (**OA 22** is likely a duplicate of this).
- 6.5.3 Residual early-middle Saxon pottery was also revealed in 2007-8 at **OA 150** located 10m south east of the Site and may be indicative of Anglo-Saxon activity on the banks of the Cherwell. At (**OA 147**), located 78m north east of the Site, residual late Saxon pottery was found within a probable Civil War mound. A residual early Saxon sherd was also found at Magdalen College in 1986-8 (**OA 113**) located 267m north west of the Site.
- 6.5.4 Viking activity has also been found within the study area and the settlement at St Clements may have had a Viking origin. St Clements Church (**OA 66**), located 128m north east of the Site, dates to at least the early 12th century but may be earlier. Blair & Crawford, 1997 note that other churches with a dedication to St Clement (such as

St Clement Danes in London) have a Scandinavian connection. It is also possible that the area may have hosted a Viking garrison as a Viking army is known to have operated in southern England from 980-1013, and in both 1009 and 1013 a Viking army raided Oxford (Blair & Crawford 1997, 141-2).

- 6.5.5 In 1884 a Viking burial was found near Magdalen Bridge (**OA 122**) approximately 182m north west of the Site. The evidence consisted of human and horse bones, three stirrups, a prick spur, a horseshoe and a pair of shears. This evidence has been reviewed by Blair and Crawford 1997 and thought to be the burial of a Viking knight and his horse which is likely to date to *c* 1000, even though this type of pagan burial appears to be unusually late for this area (Blair & Crawford, 1997).

Later Medieval Period

- 6.5.6 The late Saxon settlement to the east of Magdalen Bridge continued in use into the medieval period. St Clements Church (**OA 66**), located 128m north east of the Site, dates to at least the early 12th century but may be earlier. The first reference to the church is in 1122 and it became the parish church of St Clements (**OA 119**). The church was demolished in 1829 and moved to a new Site further north east. The nucleus of the medieval settlement appears to have been in the area of the Plain and along St Clements Street with several key buildings located here. The western end of St Clements Street (A420) where it reaches the Plain is likely to be on a similar route to (**OA 155**) a ridgeway running east from Oxford which is a likely a drove road of medieval origin. Other buildings in the nucleus of St Clements included the Hospital of St Clement which was recorded in the mid-14th century at **OA 141** located 128m north east of the Site. Excavations at the Old Black Horse, St Clement's, in 1973 (**OA 68**) located 153m north east of the Site revealed a number of pits and a well cut into the clay, containing some late medieval and Tudor pottery. Three possible parallel beam slots were also recorded.
- 6.5.7 In the vicinity of the Site at **OA 82** (rear of 2-3, Cowley Place), located 74m north of the Site pottery evidence recovered from a small area of deposits on the edge of the gravel terrace shows evidence of late 11th century activity. Excavations at Magdalen College School have revealed some medieval finds and features. At **OA 151** located 44m south east of the Site a number of pits found with 13th century pottery were interpreted as gravel quarries. At **OA 147** located 81m north east of the Site late 12th century pottery was found in the earlier ditches and 14th century sherds in the loam above.
- 6.5.8 The Magdalen School playing field, across the Cherwell and opposite the college, was known as Milham or Cowley Mead (Gelling 1953, 21; Clark 1889, 412). This was reached by 'Milham Ford', located at the end of Cowley Place, still extant as the college punt station, while Cowley Place itself was diverted southwards in the late 19th century (OS 25" map, 1900). The UAD identified the Site as a possible location of the medieval Boys Mill (**OA 148**) although the identification is of no means certain. Somewhere in the vicinity of the Site was a mill known as Boymill (Gelling 1953, 33), which is referred to in medieval charters but not later (VCH Oxon v, 78, 260; Amt 2014, 280-1 (598-600), 408 (894); Wigram 1894, 426 (608), 457 (658), 472 (682)). Its precise location is not known though it would be reasonable to suggest that it was approached from Cowley Place. There was also a holy well known as St Edmund's Well somewhere in the vicinity between St Clement's Church and the ford (VCH Oxon v, 260; Clark 1889, 288). St Edmund's Well, thought to be located 44m south east of the Site (**OA 153**).

- 6.5.9 There may have been a medieval bridge across the River Cherwell to the west of the Site. The location of the post medieval bridges and a ford in this area are suggested from documentary sources and is discussed in section 6.6. The location of the historic route across the River Cherwell in the area of the Site is not precisely known and it may have changed over time between a bridge and or a ford. The UAD suggests that the Site may be the location of the eastern end of the bridge. The bridge may have originally been medieval in date (discussed below in section 6.6.1), Antony Wood writing in the 17th century could find no trace of it. The bridge was certainly in existence by c 1525 when it was rebuilt by Cardinal Wolsey to carry materials for the building of Cardinal College (now Christ Church). During the Civil War the bridge was demolished. There are two bridges and a path between them shown on Agas's map of 1578 (Figure 3), although the map does not show a ford (Munby 2016, Appendix 3).
- 6.5.10 The medieval Temple Mill stood just below Magdalen Bridge (OA 130), located approximately 112m to the north of the Site. It was held by the Templars until the end of the 15th century when it passed to St Frideswide's Priory, but by 1512 it was derelict. The exact location of this mill is unknown.

6.6 *Post-medieval Period (1550 – 1900)*

- 6.6.1 During the post-medieval period there is likely to have been a crossing point over the River Cherwell and Milham to the west of the Site in the locality of OA 144. There is uncertainty about the location of this historic route across Milham, described by Anthony Wood in the 17th century as consisting of a stone bridge from Christ Church Meadow 'over a branche of Charwell then over Cowley Mede and soe over Charwell it selfe into St Clement's feild by St. Edmond's Well' (Clark 1889, 412). Wood found no evidence of a medieval bridge, but saw a record of the bridge being built in 1525 for Wolsey's building works at what is now Christ Church. The two bridges and the path between them are clearly shown on Agas' map of 1578 (Figure 3), though he does not show any details of Cowley Place or the ford. Loggan's map of 1675 (Figure 5) does actually show a single bridge (just north of Milham Ford) and by implication the site of the ford at the south end of the properties in Cowley Place. According to Wood (writing a decade earlier) 'all the sign of this bridge that is left [is] the raised causey through Cowley mede, leading from that bridge ... to that over Cherwell; and both bridges were known by the name of Milham Bridge' (Clark 1889, 414). Loggan however indicates no sign of a causeway, and rather shows a series of existing and relict channels crossing the meadow, together with a length of the Civil War earthwork defences, while Clark claimed that traces of the bridge and causeway had been seen prior to the widening of the Cherwell in 1883. Peshall's edition of Wood reported that 'in 1771 it was again rebuilt, and is now a Temporary Bridge during the Fall of the old, and Rebuilding of the new or East Bridge' (Peshall 1773, 295). No bridge is shown on Taylor's 1750/51 map of Oxford (Figure 6), or on Faden's 1789 reworking of Taylor's map, though the Tithe maps (Figs 8 and 10) and Hoggar's 1850 map (Figure 9) very clearly shows a bridge at the south-west corner of the garden of Cowley House. This bridge was no longer extant by the 1875 Ordnance Survey large-scale town plan (1878) (Figure 11), though on the 1898 (1900) revision (Figure 12) a footbridge is shown from Cowley Grange onto the meadow with a footpath leading to another bridge into Christ Church Meadows.
- 6.6.2 The study area contains a large amount of evidence for Civil War (1642-51) military activity. Oxford was the base of operations for the royalists with King Charles I based at Christ Church College from 1642-46 and Oxford was under siege in 1644, 1645 and 1646. The defences around Oxford were created in two phases. During the first phase c 1643 a defensive line had been constructed around the north part of the city

from Worcester College to Holywell. Work had also been carried out around Magdalen Bridge and the Meadows in the south (**OA 110**). During the second phase 1645-46 an extensive ring of fortifications had been constructed around most of the city with outlying guard posts and river barriers. A sconce (a detached fort with bastions) was located at the eastern end of Magdalen Bridge to protect the crossing (**OA 120**). The possible line of one of the bastions of this sconce was located 57m north east of the Site (**OA 120**). De Gomme's plan of the proposed line of the defences can be seen on Figure 4 and this has been used to map the potential line of the Civil War defences.

- 6.6.3 In addition to the known lines of Civil War defences (**OA 110**, **OA 109**, **OA 120**) other defensive features have been found during excavations within the study area. At **OA 151** located 26m south east of the Site a section was made of a possible Civil War defence ditch. At **OA 151**, located 45m south east of the Site a large north- south aligned ditch was interpreted as part of the Civil War defences, although it is located 60m forward of any part of the St Clements star work illustrated on de Gomme's plan of the defences (Figure 4). It may be conjectured that this was an outwork, or alternatively it may be a large boundary ditch defining an area of post-medieval pits to the east and unrelated to the defences.
- 6.6.4 The Site is located outside the defensive line of the Civil War defences which would have protected Magdalen Bridge and the eastern flank of Oxford. The known or likely arrangement of 17th century defences is shown in Figure 2. A Sconce (detached fort as part of a larger defensive line) is thought to have been located 53m north east of the site (Figure 2). As potential outworks of civil war defences have been found close to the Site (less than 50m at **OA 151**) it is possible there may be Civil Defence outworks located on the Site.
- 6.6.5 The post medieval history of the Site is comprehensively covered in Marcus Beale's Heritage Assessment (2016) and therefore this section is primarily to examine the potential for the Site to contain archaeology, taking into consideration the potential impacts to archaeological deposits arising from historic and modern development.
- 6.6.6 Loggan's map of Oxford 1675 (Figure 5) shows that development east of Magdalen Bridge was concentrated along Cowley Road to the north of the Site. It also shows that the area of the Site may have been part of an enclosed farmstead. Alternatively the eastern and southern boundaries of the Site, seen on Figure 5, may be a road leading to a ford (see 6.6.5). To the north of the Site are several buildings along the eastern boundary of the enclosed land, possibly farm buildings or cottages.
- 6.6.7 Taylor's map of 1750 (Figure 6) shows that the area of the Site at this time may have had a building on it associated with the possible orchard and farmland either side. To the north of the Site are several large buildings and several smaller buildings towards the Plain which may be farm buildings.
- 6.6.8 Cowley House to the north east of the Site was built between 1775-1783 and commissioned by Dr Humphrey Sibthorpe. Davis's map of 1793 (Figure 7) shows that the area of the Site may have had several buildings on it with formal gardens to the north with paths which were associated with Cowley House. Prior to the construction of Cowley House the two large buildings shown on Taylor's map of 1750 to the north of the Site (Figure 6) must have been demolished. Cowley House later became part of St Hilda's College and was subsequently extended to the north and south during the later 19th and early 20th century (Rayner 1993, 7-9, 23).
- 6.6.9 The Iffley Tithe map of 1847 (Figure 8) and the Cowley Tithe map of 1864 (Figure 10) reveal more detail about the Site and some of the buildings in the vicinity. The

Iffley Tithe map of 1847 (Figure 8) curiously does not show the location of Cowley House probably because the owner paid the tithes on the house, therefore it would not appear on the map (Munby, pers comms). In the area of the Site, specifically the Milham Ford Building, are three buildings arranged in a C shape adjacent to the River Cherwell. Figure 8 shows that the 1847 tithe map designated the site as plot 9 and the award notes that the plot belonged to John Greening and was in use as a house, farm and farmstead with an allotment. Hoggar's map of Oxford 1850 (Figure 9) reveals more detail as to layout of the formal gardens associated with Cowley House to the north of the Site. The Cowley Tithe map of 1864 (Figure 10) shows the same three buildings in a C pattern as on Figure 8 and with an additional three buildings to the east. This block of buildings (plot 4) was owned by John Hedges and Elizabeth Roberts and is noted as three houses and buildings. Cowley House to the north east of the Site (plot 5) was owned by Professor Benjamin Brodie by this date as noted in the award and is listed as two houses and a garden.

- 6.6.10 Figures 9 and 10 also potentially show the location of the historic wall identified during the Site visit and also shown Figures 15. Munby (2016) discusses the potential date and use of wall in Appendix 3. It is likely to have been an 18th - 19th century boundary wall which separated the gardens of Cowley House with those of the Milham Ford buildings to the south east.
- 6.6.11 The 1:500 1873-82 OS map of Oxford (Figure 11) shows that on the area of the Site are five buildings and a greenhouse. Three of the buildings appear to be on the same footprint as the later Edwardian Milham Ford School. Within the wider area of the Site are formal gardens, likely part of Cowley House. The historic wall as discussed in Appendix 3 is located on this map, which indicates the date of the wall is earlier than 1873-83.

6.7 20th Century

- 6.7.1 St Hilda's Hall (**OA 145**) was founded in 1897 by Miss Dorothea Beale and occupies land in Cowley Place. The college took over Cowley House which had been extended from its original Georgian dimensions by the previous owner Professor Benjamin Brodie. Brodie had added a porch, a north wing and an outer hall to Cowley House during the 1860s. A south wing was added to St Hilda's Hall in 1897-8 and in 1909 a second south wing was added. During the 1920s more alterations were made to the property with a new dining hall and new kitchens built by 1925. Also during the early 1920s St Hilda's purchased the lease of Cherwell Hall to the south of the Site. Cherwell Hall was an enlarged building that was originally known as Cowley Grange built in 1879. This southern extension to St Hilda's College became known as St Hilda's College south (Salter & Lobel, 1954, 348-50). The changes in the layout of St Hilda's College between 1900-1947 can be seen on Figures 12-14.
- 6.7.2 In the area of the Site during the early 20th century the three buildings shown on Figure 11 were demolished. Raynor (1993) notes that prior to the construction of the Milham Ford School building in 1906 there was a private school on the Site. Milham Ford School was owned by The Church Education Cooperation Ltd. It was used as a school until 1945 and during the Second World War was used to teach evacuated children. During the Second World War Raynor notes that an air raid shelter was located between Milham Ford and the road. It is unknown if this was an above ground or semi sunken structure. After the war it was used by the Architecture Department of the College of Technology, Art and Commerce. In 1958 St Hilda's brought the Milham Ford Building which was in a dilapidated state. During the late 1950s several new buildings were constructed on the Site to the designs of

Richardson and Houfe including a new porter's lodge, five garages, a new wall and a driveway (Raynor 1993, 47, 55, 97-8).

- 6.7.3 The current St Hilda's College (**OA 145**) includes Cowley House to the north of the Site (which is attached to the kitchens and porters' lodge to the east of the Site), the Milham Ford building which is on the centre of the Site and four buildings to the south of the Site.

7 PREVIOUS IMPACTS AND SURVIVAL

- 7.1.1 During the 17th to late 19th century several farm buildings were constructed on the Site (Figures 5-10) along with several possible boundary walls to the east and south of the Site. The construction of the farm buildings, outhouses, yards and walls would have an impact on archaeology within the footprint of these areas. Additionally Figures 4-9 indicate there may have been several phases of building, suggesting that the demolition of some of the farm buildings and levelling of the area would have also impacted on below ground remains.
- 7.1.2 The construction of the Milham Ford School in 1906 would have impacted upon the remains of the 17th-19th century buildings which were located in the same footprint as the school. During the Second World War an air raid shelter was constructed between the school and the road and this possibly lies within the area of the Site. If this shelter were semi sunken it may have impacted upon below ground archaeology to a depth of several metres. There was no evidence of the shelter during the Site visit so it must have been demolished or infilled after the Second World War. It is also unknown if the Milham Ford building has a basement, if it has then this would have truncated the archaeological deposits within this zone.
- 7.1.3 During the late 1950s the porter's lodge was constructed to the east of the Site along with five garages. The construction of this north - south building to the south of Cowley House to the north would have truncated any archaeological deposits beneath this buildings footprint to a depth of approximately 1.5m.
- 7.1.4 The results of the 2004 excavation at (**OA 89**) provide some indication of the depth at which archaeological deposits might be expected to be present on the Site. Natural gravel was encountered at a depth of 57.8m OD which was *c* 1.7m below the surface level of the car park. A layer of modern rubble and services extended approximately 0.5m below the surface and a medieval ditch and an 18th-20th century pit extended to a depth of approximately 1.2m below the surface. Therefore this suggests that within the area of the Site that 20th century services may have only truncated the Site to a depth of 0.5m. This disturbance is likely to be deeper in the areas of the 17th-20th century building footprints.
- 7.1.5 Although not observed during the Watching Brief (Appendix 4), the presence of in situ natural gravel deposits raises the possibility that potential archaeological features of all archaeological periods such as (pits and post-holes etc), as well as the approach to, and structural remains of the historic bridge crossing survive in the northern part of the site (west of Hall Building). In the central part of the site (north of Milham Ford Building and south of Hall Building) there is potential for archaeological remains of former structures (as seen on historic maps), and the riverside location here would be a logical place for the historic mill. This potential may extend below the extant Milham Ford Building, where not destroyed by foundations etc. There would also appear to be limited potential for in situ structural remains to the south of Milham Ford Building.

8 ARCHAEOLOGICAL POTENTIAL

8.1 *Prehistoric Period*

- 8.1.1 There is a moderate potential for prehistoric remains to be present within the Site. Iron Age finds in particular may be found on the Site as Iron Age pottery was recovered from two post holes in 2006 (**OA 151**) located 47m south east of the Site.

8.2 *Roman Period*

- 8.2.1 There is a low potential for in situ archaeological remains of the Roman period to be present within the Site. Residual Roman pottery was found 78m north east of the Site at (**OA 147**), which may suggest some potential for evidence of Roman activity on the Site.

8.3 *The Medieval Period*

Anglo-Saxon Period

- 8.3.1 There is a moderate potential for archaeological remains relating to late Saxon occupation to be present within the Site. Although the Site lies outside the enclosed area of the original burh, a small settlement was likely to have been located in the area of The Plain approximately 100m north east of the Site by the 11th century. Additionally residual early-middle Saxon pottery was also revealed in 2007-8 at **OA 150** located 10m south east of the Site and may be indicative of Anglo-Saxon activity on the banks of the Cherwell.
- 8.3.2 There may also be a potential for Viking activity to be found on the Site dating to *c* 1000. The settlement at St Clements may have Scandinavian origins and this may be connected to a Viking burial of a knight with a horse which was found in 1884 at (**OA 122**) approximately 182m north west of the Site.

Later Medieval Period

- 8.3.3 There is a moderate potential for archaeological remains dating from the late medieval period to be present within the Site. A medieval mill, Boys Mill (**OA 148**) is thought to have been located on or near the Site. A medieval well (St Edmunds well) is thought to be located near to the Site approximately 44m south east (**OA 153**). The Site is located approximately 100m south of the nucleus of the medieval settlement within the parish of St Clements, to the east of Magdalen Bridge. In the vicinity of the Site at **OA 82** (74m north) evidence was found of late 11th century activity. At **OA 151** located 44m south east of the Site a number of pits were found interpreted as gravel quarries. Also at **OA 147** located 81m north east of the Site 12th century pottery was found in ditches with 14th century sherds in the loam above. This suggests that the area of the Site may have been part of the medieval settlement of St Clements, perhaps in the form of farmsteads on the edge of the nucleus of the settlement.

8.4 *Post-medieval and Early Modern Periods*

- 8.4.1 There is a high potential for archaeological remains dating from the Post-medieval period to be present within the Site. During the Civil War this area of Oxford was highly strategic and several defences are known within the study area. The Site lies outside the area of mapped Civil War defences which were grouped around Magdalen Bridge, the settlement at St Clements and the north bank of the Cherwell. However

archaeological evidence shows that defensive outworks have been found close to the Site which do not appear on De Gomme's plan of 1644 (Figure 3) for instance at **OA 151**, located 15m south east of the Site a large north- south aligned ditch was interpreted as part of the Civil War defences. As potential outworks of civil war defences have been found close to the Site (less than 50m) it is possible there may be Civil Defence outworks located on the Site.

- 8.4.2 During the post medieval period the Site was situated to the south of the parish of St Clements and was used by several farm buildings and houses from the 17th- late 19th century. During the early 20th century the Site was used by Milham Ford School from 1906-1945, an architectural college from 1945-1958 and as part of St Hilda's College from 1958 to 2016. During the Second World War an air raid shelter was built on Site, although it is unknown what form this took. During the late 1950s the Porters' Lodge was built to the east of the Site with garages to the rear.

8.5 Results of the Archaeological Watching Brief on Geotechnical Works

- 8.5.1 The 2016 Archaeological Watching Brief (Appendix 4) revealed that directly overlying gravels and clay the majority of the interventions recorded deposits between 0.6 and 1.4m thick of gravelly sand containing brick and other ceramic building material fragments. These deposits were generally deeper nearer to the Cherwell and suggest that the ground has been raised, levelled, and perhaps terraced (probably incorporating the demolished remains of previous buildings at the site) to provide the present topography for the current buildings.

9 POTENTIAL IMPACTS

- 9.1.1 Development plans (Figure 16) comprise the demolition of the Milham Ford Building and the Porters' Lodge (Figure 15) and the construction of two new buildings on the Site. The historic wall discussed in Appendix 3 will also be demolished (Figure 15) and this is likely to date from the 18th-19th century and be associated with the farm buildings in the area of the Milham Ford Building. The footprints of the two proposed buildings differ from the Milham Ford Building and the Porters' Lodge.
- 9.1.2 The proposed new buildings will be located on the north eastern edge of the Site and the western part of the Site (Figure 16). There will also be a proposed basement that will link the two new buildings with stairs and a lift. This will involve lowering the current ground floor level by approximately 2.5m or more which will result in the removal of any archaeological remains that survive within this area.
- 9.1.3 The observations from the survey of the historic wall (Appendix 3) reveal that the wall is likely to be associated with the 19th century farm buildings that were located in the area of area of the Milham Ford Building.
- 9.1.4 The results of the Archaeological Watching Brief on Geotechnical Works Test Pits (Appendix 4 Figure 17) have confirmed that deposits of a probable archaeological character still survive beneath modern rubble and road layers.

10 POTENTIAL FOR FURTHER WORK

- 10.1.1 This desk-based assessment has demonstrated that the Site has a moderate potential to contain significant archaeological remains dating from the prehistoric period, low potential for Roman remains, moderate potential for Saxon and Viking remains,

moderate potential for medieval remains and high potential for post medieval remains. These potentially comprise evidence for the medieval Boys Mill, medieval and post medieval farm buildings, evidence of the post medieval Milham Bridge and ford and the potential for Civil War defensive outworks.

- 10.1.2 The results of a Watching Brief carried out on geotechnical investigations at the Site (Appendix 4) indicate the presence of in situ natural gravel deposits which raises the possibility that potential archaeological features of all archaeological periods may survive. Deposits may include: structural remains of the historic bridge crossing, remains of the medieval Boys Mill and former post medieval farm buildings. The Watching Brief also revealed that there is to be limited potential for in situ structural remains to the south of Milham Ford Building.
- 10.1.3 It is highly likely that further work would be needed to mitigate the impact of the reduction of the underlying archaeological deposits, most likely in the form of an archaeological evaluation. An evaluation would help better understand the results of the Watching Brief of the geotechnical works and reveal the actual survival of archaeological remains at the site. This will assist in the formulation of a mitigation strategy intended to reduce or remove any impacts upon the archaeological resource within the Site.
- 10.1.4 The scope of all archaeological works would need to be agreed with David Radford, the Oxford City Archaeologist prior to commencement.

11 CONCLUSION

- 11.1.1 This desk-based assessment has demonstrated the Site has a moderate potential to contain significant archaeological remains dating from the prehistoric period, low potential for Roman remains, moderate potential for Saxon and Viking remains, moderate potential for medieval remains and high potential for post medieval remains. These potentially comprise evidence for the medieval Boys Mill, medieval and post medieval farm buildings, evidence of the post medieval Milham Bridge and ford and the potential for Civil War defensive outworks.
- 11.1.2 Current plans include the demolition of the Milham Ford Building and the Porters' Lodge and the construction of two new buildings with a basement. The proposed basement will likely have the greatest impact upon the potential underlying archaeology.
- 11.1.3 The results of a Watching Brief carried out on geotechnical investigations at the Site (Appendix 4) indicate the presence of in situ natural gravel deposits which raises the possibility that potential archaeological features of all archaeological periods may survive. Deposits may include: structural remains of the historic bridge crossing, remains of the medieval Boys Mill and former post medieval farm buildings. The Watching Brief also revealed that there is to be limited potential for in situ structural remains to the south of Milham Ford Building.
- 11.1.4 It is highly likely that further work would be needed to mitigate the impact of the reduction of the underlying archaeological deposits, most likely in the form of an archaeological evaluation. An evaluation would help better understand the results of the Watching Brief of the geotechnical works and reveal the actual survival of archaeological remains at the site. This will assist in the formulation of a mitigation strategy intended to reduce or remove any impacts upon the archaeological resource within the Site.

11.1.5 The scope of all archaeological works would need to be agreed with David Radford, the Oxford City Archaeologist prior to commencement.

Oxford Archaeology

October 2016

Appendix One

Gazetteer of known archaeology within the study area

New OA ref	Feature Type	Description	UAD Source	Period/Range
1	Find Spot	Find Spot - Excavations at Magdalen College in 1986-8	MOX25115	Undated
2	Archaeological Event	Infirmery and Hall of Medieval Hospital of St John the Baptist at Oxford by Oxford Archaeological Unit 1987	EOX1195	Medieval
3	Archaeological Event	Excavations near the Botanic Gardens and Magdalen Bridge in 1806. When the sewer was put in skeletons were found. They might be from the Jews' Burial Ground.	EOX4057	Medieval
4	Archaeological Event	Excavations at Magdalen Bridge in 1967. Work was carried out for the GPO. T G Hassall observed the deep culvert which was discovered. This ran along the north side of the road in a NW direction. The culvert was covered by a stone arch and blocked at both ends. It must have been blocked at the latest by 1771, the date the bridge was built.	EOX4619	Post Medieval
5	Building	Wall between main gate and Magdalen College Bursary, Botanic gardens, High Street	MOX15240	Post Medieval
6	Building	Library & Herbarium of the Botanic Gardens, High Street	MOX11508	Post Medieval
7	Building	Magdalen Bridge, High Street	MOX11691	Post Medieval
8	Monument	Site of St John's Hospital, SE of Magdalen College	MOX11957 and EOX3021	Medieval
9	Monument	Site of Jews Medieval Burial Ground, Botanical Gardens	MOX11514	Medieval
10	VOID			

New OA ref	Feature Type	Description	UAD Source	Period/Range
11	Building	Wall to the east of Magdalen College Bursary, Botanic Gardens, High Street	MOX13049	Post Medieval
12	Archaeological Event	Excavations in the Botanic Gardens, High Street, in 1954. An early 17th century well was found close to the intersection of the paths.	EOX4298	Post Medieval
13	Building	Fountain in the centre, Botanic Gardens, High Street	MOX15242	Post Medieval
14	Archaeological Event	Botanic Gardens, Building Survey by RCHME 1939. The Botanic Garden occupies a site on the S side of High street opposite Magdalen College. The garden was founded by Henry Danvers, Earl of Danby, in 1621. The gateway and enclosing wall were not finished until 1652-3; the gateways were designed by Nicholas Stone	EOX5287	Post Medieval
15	Monument	Medieval Drawbridge, Magdalen Bridge	MOX11753	Medieval
16	Find Spot	Find Spot - Building Work on Magdalen Bridge in 1882. When the bridge was widened workmen uncovered 18th century coins, gibbet irons, a pair of spectacles and the foundation stone from 1773	MOX24882 and EOX3742	Post Medieval
17	Find Spot	Find Spot - Find from the Botanic Gardens in 1851. A clay pipe dated to 1640-70 was recovered.	MOX25442 and EOX5366	Post Medieval
18	Find Spot	Bronze Age Axe and Sword (River Cherwell, Magdalen Bridge)	MOX11519	Prehistoric (Bronze Age)
19	Find Spot	Find Spot - Evaluation at St Clement's Street Car Park, Oxford	MOX24931	Undated

New OA ref	Feature Type	Description	UAD Source	Period/Range
20	Find Spot	Find Spot - Finds from Magdalen Bridge in 1884. The River Cherwell was dredged under the easterly arch of the bridge, the site of an early ford. An iron spearhead and shield boss of Saxon date were found. Dredging work in the area also found a knife, handcuffs, a hammerhead, a key and a lead token, all undated. A lead seal from a bull of Pope Alexander III, 1254-60, was also recovered.	MOX25499 and EOX5165	Anglo Saxon/Medieval
21	Find Spot	Find Spot - Excavations at the Botanic Gardens in 1958. David Sturdy found clay pipe in a trench to the east of the east wall of the gardens.	MOX25175 and EOX3959	Post Medieval
22	Find Spot	Anglo Saxon Shield Boss and Spearhead at Magdalen Bridge	MOX11556	Anglo Saxon/Medieval
23	Find Spot	Find Spot - Dredging near Magdalen Bridge in 1884	MOX24904 and EOX4722	Undated
24	Find Spot	Medieval Iron Horse-Shoe at Magdalen Bridge	MOX11557	Medieval
25	Find Spot	Find Spot - Excavations in York Place in 1945	MOX25358 and EOX4043	Undated
26	Archaeological Event	1-2 St Clement's Street, Ministry of Local Government and Planning building survey	EOX4175	Post Medieval
27	Archaeological Event	3-8 St Clement's Street, Ministry of Local Government and Planning building survey	EOX4176	Post Medieval
28	VOID			
29	Find Spot	Medieval Pottery and Jetton (York Place, St Clements)	MOX11485	Medieval
30	Building	Nos 9 & 10, St Clement's Street	MOX15346	Post Medieval
31	Building	No 41, St Clements	MOX11953	Post Medieval
32	Building	No 11 St Clement's Street	MOX15063	Post Medieval

New OA ref	Feature Type	Description	UAD Source	Period/Range
33	Find Spot	Anglo Saxon Pottery, York Place, St Clements	MOX11655	Anglo Saxon/Medieval
34	Building	No 12 and 12 St Clements Street	MOX15645	Post Medieval
35	Archaeological Event	9-10 St Clement's Street, RCHME, 1939	EOX3667	Post Medieval
36	Find Spot	Find Spot - Watching Brief at 41 St Clement's in 1986	MOX25601	Undated
37	Archaeological Event	Photographic record in 2014 of a stone well exposed within Oxford Botanic Garden (Oxford Archaeology). Possibly 18th century	EOX5738	Post Medieval
38	Archaeological Event	Excavations near Magdalen Bridge in 1878. Ceramic wig curlers from the 17th century and moulded lead bullets were found.	EOX3726	Post Medieval
39	Find Spot	Find Spot - Excavations near Magdalen Bridge in 1878	MOX25360	Undated
40	Monument	Civil War Ditch, 31-34, St Clements	MOX11907	Post Medieval
41	Archaeological Event	11 St Clement's Street, Building Survey by RCHME, 1939	EOX3668	Post Medieval
42	Archaeological Event	Excavations at the Former British Restaurant, St Clement's, in 1983 (Oxford Archaeological Unit). Work was carried out when the site was redeveloped for flats. Half the site was on the line of a massive ditch, 3.5 m deep and 17 m wide. This was probably part of the Civil War defences	EOX4880	Post Medieval
43	Building	No 27, St Clement's Street	MOX11802	Post Medieval
44	Archaeological Event	13 St Clement's Street, RCHME, 1939	EOX3669	Post Medieval
45	Archaeological Event	26 St Clement's Street, MHLG, 1950	EOX4179	Post Medieval
46	Archaeological Event	24-25 St Clement's Street, MHLG, 1950	EOX4178	Post Medieval

New OA ref	Feature Type	Description	UAD Source	Period/Range
47	Archaeological Event	Watching Brief at 27-28 St Clement's in 1983 (Oxford Archaeological Unit). Work was carried out when the buildings were demolished and rebuilt. There was a cellar at No 28, but its thick wall and remains of concrete underpinning made it difficult to investigate the trench. Some clay silt was seen to the north which might have been ditch fill. The site lies around the line of the Civil war defences.	EOX5098	Undated
48	Archaeological Event	22-23 St Clement's Street, RCHME, 1939	EOX3670	Post Medieval
49	Archaeological Event	24-25 St Clement's Street, RCHME, 1939	EOX3671	Post Medieval
50	Archaeological Event	26 St Clement's Street, RCHME, 1939	EOX3672	Post Medieval
51	Monument	Site of Civil War Fortifications, St Clements	MOX11497	Post Medieval
52	Monument	Site of Civil War Defences, St Clement's	MOX11935	Post Medieval
53	Monument	Post Medieval Occupation Levels, St Clements	MOX11687	Post Medieval
54	Building	Victoria fountain, The Plain	MOX15653	Post Medieval
55	Find Spot	Find Spot - Find from St Clement's Street c1869	MOX25436 and EOX3693	Undated
56	Building	Nos 89 to 94 (consec), St Clements Street	MOX15038	Post Medieval to Modern
57	Monument	Site of Post-Medieval Toll House, The Plain	MOX12012	Post Medieval
58	Archaeological Event	An Archaeological Watching Brief at St Clements Churchyard, The Plain, Oxford by Oxford Archaeology. A watching brief was carried out during roadwork's on the SE side of the Plain. Revealed part of the churchyard of the old St Clements Church.	EOX2387	Medieval/Post Medieval
59	Building	The Peace Stone on the Plain	MOX14827	Post Medieval
60	Archaeological Event	110 St Clement's Street, MHLG, 1950	EOX4185	Post Medieval
61	Archaeological Event	Site of old St Clement's Church, RCHME 1939	EOX5271	Post Medieval

New OA ref	Feature Type	Description	UAD Source	Period/Range
62	Archaeological Event	107 St Clement's Street, MHLG, 1950	EOX4182	Post Medieval
63	Archaeological Event	109 St Clement's Street, MHLG, 1950	EOX4184	Post Medieval
64	Archaeological Event	108 St Clement's Street, MHLG, 1950	EOX4183	Post Medieval
65	Archaeological Event	107 St Clement's Street, RCHME, 1939	EOX3676	Post Medieval
66	Monument	Research: Site of St Clements Church, The Plain. First reference to the church is in 1122, St Clement's chapel given to St Frideswide by Henry I. It was Crown property until C19th. Church demolished in 1829.	MOX11487	Medieval to Post Medieval
67	Archaeological Event	Research - Hospital of St Clement was recorded in the mid 14th century.	EOX4246	Medieval
68	Archaeological Event	Excavations at the Old Black Horse, St Clement's, in 1973 (Oxford Archaeological Excavation Committee). Work was carried out in the carpark of Old Black Horse Yard. The trenches were excavated to the natural clay. Patches of natural gravel lying on the clay were found. A number of pits and a well were cut into the clay, containing some late medieval and Tudor pottery. Three possible parallel beam slots were also recorded. Above these features were remains of stone walls and stairs from a number of cellars. A brick fireplace was seen to the west. More recent alterations, repairs and floor levels were found in the upper levels.	EOX3918	Medieval/ Post Medieval
69	Find Spot	Find Spot - Excavations at the Old Black Horse, St Clement's, in 1973 (see OA 68)	MOX25193	Medieval/ Post Medieval
70	Archaeological Event	The Black Horse Inn, St Clement's Street, RCHME, 1939	EOX3675	Post-Medieval
71	VOID			

New OA ref	Feature Type	Description	UAD Source	Period/Range
72	Building	No 102 (The Black Horse Inn) and 102a (The Cottage), St Clements Street	MOX15039	Post Medieval to Modern
73	Archaeological Event	Watching Brief at No 5 The Plain in 1983 (Oxford Archaeological Unit). Work was carried out after demolition of the building when the building on the south was underpinned. About 1 m below the surface a number of possible occupation layers were seen resting on a clay surface. The clay contained some gravel lenses. This was overlain by a layer of large pebbles. The layers may be floors, but no relationships to walls could be detected. The site was probably occupied by the building at the east end of St Clement's churchyard, shown on Agas' map.	EOX4994	Undated
74	Building	Vase at the south end of the main walk , botanic gardens, High Street	MOX15111	Post Medieval
75	Building	Magdalen College School Cowley Place	MOX15589	Post Medieval
76	Archaeological Event	Find from the Old Black Horse Inn in 1881. An iron key with a C shaped handle was found in the stables.	EOX3808 and MOX25447	Undated
77	VOID			
78	Find Spot	Find Spot - Find from the River Cherwell at the Botanic Gardens in 1885-6	MOX25452 and 770y	Undated
79	Element	Anglo Saxon Pit, Magdalen College School, The Plain	MOX11699	Anglo Saxon/Medieval
80	Find Spot	Find Spot - Former Garage Dawson Street Oxford	MOX25535	Undated
81	Find Spot	Find Spot - Watching Brief between No 1 and Nos 2-3 Cowley place in 2000-1	MOX25643 and EOX4922	Undated

New OA ref	Feature Type	Description	UAD Source	Period/Range
82	Archaeological Event	Rear of 2-3, Cowley Place (John Moore Heritage Services). Pottery evidence recovered from a small area of deposits on the edge of the gravel terrace shows activity of c.late C11th had occurred on the site. Elsewhere post-medieval activity had removed earlier deposits. Walls of a building survived that may date to the medieval period.	EOX2769	Medieval/ Post Medieval
83	Building	2 and 3 Cowley Place	MOX15279	Post Medieval
84	VOID			
85	VOID			
86	Building	St Hilda's College Library	MOX15785 and EOX1884	Modern
87	Archaeological Event	37 and 39 Cowley Road, RCHME, 1939	EOX3678	Post Medieval
88	Find Spot	Find Spot - St Hilda's College (see OA 89)	MOX25574	Medieval/Post Medieval
89	Archaeological Event	St Hilda's College. Between December 2003 and February 2004, Oxford Archaeological Unit undertook and archaeological investigation in advance of the construction of a new library at St Hilda's College. Medieval ditches and associated post holes were uncovered leading to the conclusion that the features were a boundary defining the eastern extent of the parish of St Clements. A number of post-medieval features were also uncovered including C16th pits, a C17th boundary wall, surfaces, ornamental well and an C18th limestone cellar. Later deposits were associated with the construction and habitation of the C18th Cowley House.	EOX4340	Medieval/Post Medieval

New OA ref	Feature Type	Description	UAD Source	Period/Range
90	Archaeological Event	Building recording of a boundary wall at St Hilda's College, Oxford. Oxford Archaeology was commissioned to carry out a historic building photographic record of the east boundary wall in front of the library at St Hilda's College, Oxford in 2003. The wall was built as the east boundary to Cowley House, on the site of earlier tenement frontages and was constructed of limestone ashlar blocks on the east side, and red brick on the west side. Photographs of both sides of the wall were taken to create an archive showing the walls position and condition in order to aid future rebuilding work.	EOX4440	Post Medieval
91	Building	St Hilda's College, wall and piers on Cowley Place	MOX15441	Post Medieval
92	Building	St Hilda's College	MOX11803	Post Medieval
93	Building	Nos 37 and 39 Cowley Road	MOX15483	Post Medieval
94	Find Spot	Find Spot - Building work at Magdalen College School in 1972. Observations were made by J Munby during building work at Magdalen College School in 1972. Work was carried out alongside the Iffley Road. A single sherd of probably 13th century pottery was found	MOX24868 and EOX4666	Medieval
95	Find Spot	Find Spot - Excavations at Magdalen College School in 1893. When the foundations for the new school on the site of Turrell's Hall were dug a 14th century bronze seal was found.	MOX25116 and EOX3798	Medieval
96	Building	St Hilda's College, Old Hall	MOX15755	Post Medieval to Modern

New OA ref	Feature Type	Description	UAD Source	Period/Range
97	Archaeological Event	Watching Brief at Magdalen College School in 1990 (Oxford Archaeological Unit) Work was carried out during construction of new science laboratories in Iffley Road. Gravel was reached. This was overlain by a ploughsoil and then a buried topsoil below the modern surfaces. Three pits filled with modern mortar were found. A band of dark brown loam showed in the subsoil, running roughly EW, but this did not seem likely to be a major Civil War ditch.	EOX4936	Undated
98	VOID			
99	Building	St Hilda's College, piers and gates to south building	MOX14859	Post Medieval
100	VOID			
101	VOID			
102	VOID			
103	Find Spot	A Watching Brief at St Hilda's College in 2000 found post medieval pottery	MOX25627	Post medieval
104	Building	The garden building at St Hilda's College, Cowley Place	MOX15786	Modern
105	Archaeological Event	Building Survey at the Garden Building, St Hilda's College, in 2000. The hall of residence was built in 1968-70.	EOX5264	Post medieval
106	Archaeological Event	Evaluation and Watching Brief at Magdalen College School in 2000 (Thames Valley Archaeological Services). Work was carried out before and during construction of a new sports hall. No archaeological features or finds were recorded. Post medieval or modern drains were found. The natural gravel was overlain by soils.	EOX4879	NA

New OA ref	Feature Type	Description	UAD Source	Period/Range
107	Archaeological Event	New Student Accommodation, St Hilda's Cottage (Oxford Archaeology). Earliest finds on the site were dated to the C18th or later. The absence of medieval and earlier finds from any of the excavated deposits suggests that historically the site was little used until the C19th at the earliest. Deposits and pits observed on the site relate to the foundation of buildings on the site in recent times.	EOX2777	Post medieval
108	Building	Holywell Mill Stream	MOX26118	Medieval
109	Monument	Civil War Defences, Second Phase. Before the sieges of Oxford in 1645 and 1646, an extensive ring of fortifications had been constructed around most of the city with outlying guard posts and river barriers (S747) . The possible pattern of these is shown on De Gomme's map (RE 1361) and sections of defences appear on other historic maps (RE 1358, 1359, 1360). One section of bank remains along the north side of Balliol College Sports Ground, east of Mansfield Road and there are signs of Dovers Speare guard post in the north east corner of Magdalen College Deer Park. Possible Civil War remains, mainly ditches and banks, have been found in excavations in 18855 and from the 1930s to the present day (RE 123, 176, 232, 235, 248, 312, 334, 341, 404, 410, 456, 739, 1283). The lines from the various sources do not always match, particularly in the case of evidence from Magdalen College Deer Park in 1983 (RE 478) and earthworks in Christ Church Meadow (RE 767). The defences on the west side have not been found by excavation (RE 269), and the south western line is very uncertain.	MOX25954	Post Medieval

New OA ref	Feature Type	Description	UAD Source	Period/Range
110	Monument	Civil War Defences, First Phase. By 1643 a defensive line had been constructed around the north part of the city from Worcester College to Holywell. Work had also been carried out around Magdalen Bridge and the Meadows in the south (S 897). De Gomme's plan of the Civil War defences shows a thinner line in the north, which may represent the line of these earlier works (RE 1361). Remains of defences are also shown on other historic maps (RE 1358, 1359, 1360). There is an extant bank along the west side of Love Lane, which excavation in 1979 (RE 542) suggests may be 17th century. Other excavations close to the suggested line have also found traces of ditches and banks (RE 180, 362, 372, 1282). The suggested alignments are not in full agreement.	MOX25952	Post Medieval
111	Monument	Magdalen College, Park and Gardens	MOX26198	Medieval to Modern
112	Building	Hospital of St John the Baptist	MOX25869	Medieval

New OA ref	Feature Type	Description	UAD Source	Period/Range
113	Archaeological Event	Excavations at Magdalen College in 1986-8 (Oxford Archaeological Unit). Archaeological excavations by OAU at Magdalen College in 1986-8. Work was carried out when the kitchen was moved. The stone building housing the old kitchen was one of the last surviving structures from the medieval Hospital of St John the Baptist. Work was carried out on the site of both old and new kitchens. The new kitchen site lay over the eastern part of the infirmary. This lay at right angles to the southern end of a riverside range containing a hall. This, the location of the old kitchen, was possibly the accommodation of the head of the hospital. The south east corner of the hospital was found to lie on an artificial embankment. An unusual feature was found at the chapel end of the infirmary. The function of the culverted water supply is unknown. The hospital existed from the mid 13th to mid 15th century after which the site passed to the college. The main building phase was c1474-80 and the roof of the kitchen dated to that period. Pottery from the site included residual Roman material and an early Saxon sherd as well as a sequence from early medieval to post medieval. Other finds included bone, tile, glass and metal artefacts, mainly medieval in date. Silts below the hospital suggested a fast flowing channel during the 13th century.	EOX4709	Roman/Saxon/Medieval/Post Medieval
114	Monument	Botanic Gardens	MOX24869	Post Medieval
115	Monument	Christ Church, Park and Gardens	MOX26196	Post Medieval to Modern
116	Building	Magdalen Bridge	MOX25988	Post Medieval
117	Monument	Jews' Cemetery	MOX25873	Anglo Saxon/Medieval

New OA ref	Feature Type	Description	UAD Source	Period/Range
118	Archaeological Event	<p>Excavation at St Clement's Car Park, Oxford, in 2013 (Southampton City Council Archaeology Unit). Between March and April 2013 a programme of archaeological work was undertaken at St Clement's car park by Southampton Archaeology. The initial work involved archaeological trenching and a watching brief prior to and during the construction of a new sewer trench. This was followed by a small area excavation.</p> <p>The investigations recorded a small number of late Saxon or Norman features along with a small assemblage of St Neots Ware. An increase in activity in the Norman period was demonstrated by further pits, postholes and a gully located to the west of a north-south ditch, presumably a property boundary. A continuation of activity in the high medieval period was demonstrated by a number of ditches, pits and gullies, mostly located to the east of the re-cut north-south ditch. The bulk of the pottery assemblage from the site dated from the mid/late eleventh to the thirteenth and fourteenth century. The fabric types recovered were domestic in character with no clear evidence for specialist activity. A hiatus of activity was evident from the fourteenth century until the second half of the seventeenth century when the site appears to have been turned into a market garden. 19 pieces of worked flints were recovered, only one from a possible prehistoric context.</p>	EOX5515	Prehistoric/ Saxon/ Medieval/ Post Medieval
119	Monument	Medieval Settlement, St Clement's. Evidence for medieval activity from the 11th century onwards has been found in St Clement's parish just east of Magdalen Bridge.	MOX26333	Anglo Saxon/Medieval

New OA ref	Feature Type	Description	UAD Source	Period/Range
120	Building	Civil War Defences, St Clement's	MOX25956	Post Medieval
121	Archaeological Event	Evaluation at St Clement's Street Car Park, Oxford. An evaluation was undertaken by the Archaeology Unit of Southampton City Council (Southampton Archaeology) at St Clement's Car Park between 16th and 27th May 2011. The evaluation recorded a group of seven residual worked flints, probably of Mesolithic date and a small amount of Saxon/Anglo Norman pottery. This pottery was found in association with a small feature possible a post hole and likely rubbish pit containing a small fragment of sheep bone. Other noted features included a post medieval gully, a 16th century rubbish pit, an undated gully and undated pit containing animal bones and the remains of the 19th century houses.	EOX4489	Mesolithic/Saxon/Medieval/ Post Medieval
122	Monument	Viking Burial, Magdalen Bridge. A possible Viking burial was found during dredging near Magdalen Bridge in 1884, when the corner of the island below the bridge was cut away (RE 313). The evidence consisted of human and horse bones, three stirrups, a prick spur, a horseshoe and a pair of shears. The artefacts date to the 10th or 11th century and have parallels from Viking finds elsewhere.	MOX26471 and MOX11555	Saxon
123	VOID			
124	Building	Nos 1-2 St Clement's Street	MOX25857	Post Medieval
125	Building	Nos 3-8 St Clement's Street	MOX25858	Post Medieval
126	Building	Nos 9-10 St Clement's Street	MOX25812	Post Medieval
127	Building	No 11 St Clement's Street	MOX25813	Post Medieval
128	Building	No 13 St Clement's Street	MOX25814	Post Medieval
129	Building	Nos 22-3 St Clement's Street	MOX25815	Post Medieval

New OA ref	Feature Type	Description	UAD Source	Period/Range
130	Monument	Temple Mill, St Clement's. The Temple Mill stood just below Magdalen Bridge and probably existed before the Norman Conquest. It was held by the Templars until the end of the 15th century when it passed to St Frideswide's Priory, but by 1512 it was derelict	MOX26174 and EOX4263	Unknown to Medieval
131	Building	Nos 24-5 St Clement's Street	MOX25816	Post Medieval
132	Building	No 26 St Clement's street	MOX25817	Post Medieval
133	Archaeological Event	Excavations at 31-4 St Clement's in 1980 (Oxford Archaeological Unit). Excavations at 31-4 St Clement's Street in 1980. When a cellar wall was removed a ditch was exposed. This may have formed part of a Civil War star-work shown on de Gomme's map.	EOX4745	Post Medieval
134	Building	Toll House, The Plain	MOX26000	Post Medieval
135	Archaeological Event	Watching brief at St Clement's Churchyard, The Plain, Oxford (Oxford Archaeological Unit). In September 2007 Oxford Archaeology carried out an archaeological watching brief on The Plain roundabout, Oxford. The watching brief revealed part of the churchyard of the old St Clement's Church, which stood on the site until 1828. Sixteen earth-cut graves and one brick shaft grave were revealed. A small assemblage of human bone was also recovered as charnel and from graves truncated by Trench 1. The burials, all roughly west-east aligned, are thought to date to the later 18th- early 19th centuries.	EOX3881	Post Medieval
136	Building	No 110 St Clement's Street	MOX25863	Post Medieval
137	Building	No 109 St Clement's Street	MOX25862	Post Medieval

New OA ref	Feature Type	Description	UAD Source	Period/Range
138	Monument	Old Church of St Clement. Site of former parish church of St Clement's which was situated east of Magdalen Bridge. A new church was built in 1828, 200 m to the NE. Bells, a chest and plate were transferred.	MOX25878	Post Medieval
139	Building	No 108 St Clement's Street	MOX25861	Post Medieval
140	Building	No 107 St Clement's Street	MOX25823	Post Medieval
141	Monument	St Clement's Hospital. A Hospital of St Clement was recorded in the mid 14th century	MOX25870	Medieval
142	Building	The Black Horse Inn, St Clement's Street	MOX25822	Post Medieval
143	Archaeological Event	Former Garage Dawson Street Oxford. A watching brief was carried out by Oxford Archaeology in advance of construction of new student accommodation. It revealed a sequence of soil layers above the natural some of which probably date to the medieval period when the site was unoccupied pasture land. A post medieval soil was cut by a pit containing a pig skeleton. No evidence for the possible site of Oxford's Civil War defences was observed during the work.	EOX4306	Medieval/ Post Medieval

New OA ref	Feature Type	Description	UAD Source	Period/Range
144	Monument	Milham Bridge. Bridge crossed the Cherwell at the south west tip of the Botanic Gardens. The western channel was crossed by two stone arches and a causeway then led to the eastern channel, which was crossed by a timber bridge. It may have been constructed by the canons of St Frideswide, but the recorded name Milham Ford suggests that a bridge replaced the ford at a later date. Wolsey rebuilt it to carry materials for the building of Cardinal College. This bridge was used as a horse and foot route until c1634 when it was damaged by frost. During the Civil War the bridge was demolished. A temporary structure was erected during the rebuilding of Magdalen Bridge.	MOX25989	Medieval to Modern
145	Building	St Hilda's College. St Hilda's College was founded in 1897 and occupies land in Cowley Place. It was granted college status in 1960. The Garden Building was built in 1971 to a design by Alison and Peter Smithson.	MOX26158	Post Medieval to Modern
146	Building	Nos 37 and 39 Cowley Road	MOX25824	Post Medieval
147	Archaeological Event	Excavations at Magdalen College School in 1958 (Oxford University Archaeological Society). The new science block lay at the junction of Cowley Place and Iffley Road, where a mound was dug during the Civil War for the defence of Magdalen Bridge. Ditches were found associated with the mound. Early medieval ditches, probably early property boundaries, and a pit lay to the north. Romano-British and late Saxon pottery was found within the mound and medieval material below it. Late 12th century pottery was found in the earlier ditches and 14th century sherds in the loam above.	EOX4389, MOX25117 and EOX4389	Roman/Saxon/Medieval/Post Medieval

New OA ref	Feature Type	Description	UAD Source	Period/Range
148	Monument	Boy Mill, Milham Ford. Boy Mill stood close to Milham Ford during the medieval period, and may have been known as Lewin's mill in 1086. From c1143 it was held by the convent at Godstow. After 1358 it was held by St Frideswide's Priory, but it had ceased to operate by the early 16th century	MOX26173 and EOX4262	Unknown to Medieval
149	Archaeological Event	Watching Brief at Magdalen College School in 1997. Work was carried out for a three storey extension. The only feature from the trenches was an in-filled cellar. The fill and the surrounding area contained modern building rubble.	EOX4883	Post Medieval
150	Archaeological Event	Excavation at Magdalen College School, Oxford. Between May 2007 and August 2008 Oxford Archaeology carried out an archaeological excavation and watching brief at Magdalen College School, prior to re-development of the Dinning Hall. Residual early-middle Saxon pottery was revealed and may be indicative of Anglo-Saxon activity on the banks of the Cherwell. Three 19th-20th century ditches were revealed which may represent a re-establishment of a medieval field boundary. A large 19th century quarry was noted.	EOX4416 MOX23542 and EOX2349	Saxon/Post Medieval

New OA ref	Feature Type	Description	UAD Source	Period/Range
151	Archaeological Event	Evaluation at Magdalen College School Dining Hall, Oxford. In advance of redevelopment for a Dining Hall, a field evaluation was carried out in October 2006 by Oxford Archaeology on behalf of Magdalen College School. Iron Age pottery was recovered from two post holes. A number of pits with 13th century pottery were interpreted as gravel quarries although the dating evidence was sparse and the date is therefore uncertain, but they were defined on the N side by a ditch again with 13th-century pottery that may reinforce the date. There was also a large N-S aligned ditch that is interpreted as part of the Civil War defences, although 60 m forward of any part of the St Clements star work illustrated on de Gomme's plan of the defences, which elsewhere in Oxford has proved to be fairly reliable. It may be conjectured that this was an outwork, or alternatively it may be a large boundary ditch defining an area of post-medieval pits to the east and unrelated to the defences.	EOX4366 EOX2227	Prehistoric (Iron Age)/Medieval/Post Medieval
152	Archaeological Event	Watching Brief at St Hilda's College in 2000 (Oxford Archaeological Unit). Watching brief by OAU at St Hilda's College in 2000. Work was carried out for foundations and service trenches for new student accommodation. Natural gravel was overlain by loam and redeposited sand and gravel. In the upper layers late post medieval and modern pits, service trenches and made ground were found. This suggests that the area was not used before that period.	EOX4861	Post medieval

New OA ref	Feature Type	Description	UAD Source	Period/Range
153	Monument	St Edmund's Well, Milham Ford. During the medieval period St Edmund's Well lay in the meadow near to Milham Ford, probably where St Hilda's College now stands. It was dedicated to St Edmund of Abingdon (RE 1586). The well existed until at least 1630, but no traces remain.	MOX26172 and EOX4261	Unknown to Post Medieval
154	Archaeological Event	Watching brief at St Hilda's College, Cowley Place, J du Pres foyer (Oxford Archaeological Unit). In April 2002 Oxford Archaeology carried out archaeological recording action on the creation of a fire path, realigned services and foundation trenching in connection with a new foyer for the Jacqueline du Pres Music Room at St Hilda's College, Cowley Place. Beneath a soil horizon was a natural reddish-brown silty sand ('supranatural') between 0.1 and 0.6 m thick. No archaeological finds were recovered, and no features recorded.	EOX4274	NA
155	Linear	Ridgeway running E from Oxford. Grundy's Road 6. Former drove road, formed short section of Medieval London 'Weye', turnpiked in 1719. Fell into disuse 1824 when A40 route made. Runs from Oxford to Stokenchurch.	MOX10040	Medieval/ Post Medieval

Appendix 2

BIBLIOGRAPHY AND LIST OF SOURCES CONSULTED

Amt, E, 2014 *The Latin Cartulary of Godstow Abbey* (British Academy Records of Social and Economic History New ser. 52, 2014), 280-1 (598-600), 408 (894)

Blair, B and Crawford, E, 1997 A Late-Viking Burial at Magdalen Bridge, Oxford? *Oxoniensia* **62**, 135-143

Chadwick, A. M., Gilbert, D. R., and Moore, J. 2012 "...*Quadrangles Where Wisdom Honours Herself*": *Archaeological Investigations at Tom Quad, Peckwater Quad and Blue Boar Quad, Christ Church, Oxford* JMHS Monograph 1

Clark, A (ed), 1889 *Wood's City of Oxford I*, Oxford Hist. Soc. 15 (1889)

VCH Oxon IV: Chance, E, Colvin, C, Cooper, J, Day, C J, Hassall, T G, Jessup, M and Selwyn, N, 1979 Communications, *A History of the County of Oxford: Volume 4, the City of Oxford*, eds. A Crossley and C R Elrington, 284-295. British History Online <http://www.british-history.ac.uk/vch/oxon/vol4/pp284-295> [accessed 8 October 2016].

Dodd, A. (ed) 2003 *Oxford Before the University: The late Saxon and Norman archaeology of the Thames Crossing, the defences and the town* Oxford Archaeology

Gelling, M, 1953 *The Place-Names of Oxfordshire I* (EPNS 23)

Lambrick, G, 2012 Prehistoric Oxford, *Oxoniensia* **78**, 1-49

VCH Oxon V, Lobel, M D (ed), 1957 Parishes: St. Clement's, *A History of the County of Oxford: Volume 5, Bullingdon Hundred*, London, 258-266. British History Online <http://www.british-history.ac.uk/vch/oxon/vol5/pp258-266> [accessed 25 September 2016]

Marcus Beale Architects, 2016 St Hilda's College Oxford, Redefining St Hilda's, Heritage Assessment, Issue 4 (unpublished client report)

Munby, J, 2003 The eastern extension, in Dodd *et al.* 2003, 24-5

Peshall, J, 1773 *Ancient and Present State of The City of Oxford*

Ryanor, M E, 1993 *The Centenary History of St Hilda's College Oxford*, Oxford

VCH Oxon III: Salter, H E and Lobel M D (eds), 1954 St. Hilda's College, *A History of the County of Oxford: Volume 3, the University of Oxford*, 348-350. British History Online <http://www.british-history.ac.uk/vch/oxon/vol3/pp348-350> [accessed 4 October 2016].

Wigram, S, 1894 Cartulary of the Monastery of St Frideswide I, Oxford Hist. Soc. 28 (1894), 426 (608), 457 (658), 472 (682)

Other Sources

Oxford Urban Archaeological Database

Cartographic Sources

Manuscript map of the defences of Oxford 1644 by Sir Bernard de Gomme (Bodleian Library)

David Loggan's Map of Oxford 1675

Isaac Taylor's Map of Oxford 1750

Fadan's Map of Oxford 1789

Davis's map of Oxford 1793

1st Edition Ordnance Survey Map Oxford 1876 (1:500)

Oxford History Centre

Iffley 1847 Tithe map (Oxford History Centre, 227/M)

Cowley 1865 Tithe map (Oxford History centre, 122/M)

Ordnance Survey Oxfordshire XXXIX.3, 1:2500 (1900)

Ordnance Survey Berkshire VI.3, 1:2500 (1921)

Ordnance Survey Berkshire VI.3, 1:2500 (revised 1939, published 1947)

Appendix 3

The Garden Wall of Cowley House

The garden wall of 'Cowley House' and Milham Ford was inspected on a site visit by the writer in October 2016

At the south end of the 'Cowley House' garden, behind the Milham Ford building, is a small area of garden enclosed by a low stone wall. The wall is between one and two metres high and is constructed of coursed rubble masonry. It has an irregular outline, is approached from the east down some steps, and stops before it reaches the river bank.

In terms of modern property history (as implied by the 1878 OS map, and the 1933 valuation plan in the college archives) this was a separate area of the garden, with a lawn sloping down to the river and seats on a riverside walk. However, the oblique angle followed by the eastern side of the wall continues into the angled boundary of the Milham Ford building, and there is reason to suppose that the wall was originally the rear boundary of the buildings at Milham Ford. On Robert Hoggar's 1850 survey of Oxford the properties in Cowley Place (and their back gardens) are distinctly shown. Cowley House, at that date without its side extensions, addressed a large garden on its west and south sides, and with the south-west corner terminating with a footbridge over the Cherwell. The southern garden boundary clearly follows the irregular line of the garden wall currently under discussion, and which rather appears to demarcate the rear yard of the Milham Ford building rather than a subdivision of the garden. None of this can be detected on the Faden's 1789 or Davis's 1793 maps, which indicates a large open garden behind Sibthorpe's Cowley House. Going back to Loggan's birdseye view of 1675 he only shows hedges and no fixed internal divisions in what must have been approximately the same plot of land.

The conclusion would seem to be that although this has become an internal dividing wall, it was initially a property boundary at the south end of Sibthorpe's garden, and can be no earlier than the late 17th or 18th century, and is of no special significance except as a relict boundary.

Julian Munby
Oxford Archaeology
October 2016

Appendix 4

St Hilda's College: Results of an Archaeological Watching Brief on Geotechnical Works

Between 19th – 22nd September 2016, Oxford Archaeology maintained a Watching Brief on the initial geotechnical works relating to the proposed new development at St Hilda's College, Oxford. These works comprised seven small Test Pits (TP) measuring c 0.25 x 0.25m, six Window Samples (WS) where cores were opened and logged on site, four Boreholes (BH) which were manually excavated in a 0.15 x 0.15m hole to c 1.2m b.g.l and then sealed cores extracted which were not opened on site; and two Permeability Test Pits (PT) measuring c 1 x 1.5 m. The position of these interventions are shown on Figure 15. Descriptions for each intervention are laid out below, this is followed by a general summary. Levels presented in m OD are approximate.

Test Pits

TP1

Excavated to a depth of 0.60m from existing ground levels (c.59.98 mOD). Consisted of 0.60m of loose mid yellowish brown sand containing bricks and building stone.

TP 2

Excavated to a depth of 0.80m from existing ground levels (c.57.74 mOD). Consisted of 0.75m of loose mid yellowish brown sand containing bricks and building stone, overlying 0.15m of stiff mottled bluish grey clay.

TP 3

Excavated to a depth of 1.10m from existing ground levels (c.57.09 mOD). Consisted of 0.15m of top soil, overlying 0.75m of dark yellowish brown sand containing abundant brick and building stone fragments. These deposits overlay 0.20m of loose dark brownish yellow gravelly sand with c. 15% limestone granules and traces of clay.

TP 4

Excavated to a depth of 0.70m from existing ground levels (c.56.03 mOD). Consisted of 0.15m of top soil, overlying 0.55m of loose dark brownish yellow sand with common brick fragments and limestone pebbles.

TP 5

Excavated to a depth of 0.80m from existing ground levels (c.57.88 mOD). Consisted of 0.20m of top soil overlying 0.60m loose dark brownish yellow sand with frequent building stone fragments, and brick.

TP 6

Excavated to a depth of 0.70m from existing ground levels (c.57.80 mOD). Consisted of 0.10m of top soil overlying 0.30m of loose dark yellowish brown sand containing frequent (30%) small to medium pebbles and brick fragments, and pottery (1 sherd of yellow ware 1820 – 1900) – this deposit is possibly the backfill associated with the construction of the historic wall and suggests a date for this structure. Underlying these deposits were 0.10m of brownish yellow gravelly sand containing fragments of CBM and stone with limestone pebbles and 0.20m+ of gravelly sands interpreted as natural Pleistocene gravels.

TP 7

Excavated to a depth of 1.45m from existing ground levels (c.56.85 mOD). Consisted of 0.20m of top soil overlying 0.65m of dark yellowish brown sand with inclusions of CBM, limestone, and charcoal fragments. Underlying these deposits were 0.35m of light yellowish sand with inclusions of angular building stone, and 0.25m+ of tenacious clayey sandy silt, with limestone inclusions and charcoal fragments.

Window Samples

WS1

Excavated to a depth of 6.0m below existing ground levels (estimated to be c.55.92 MOD). Consisted of 1.35m of yellowish brown sand and aggregate containing brick fragments, CBM and sub angular stones. This overlay 0.05m of sandy gravel, interpreted as being Pleistocene in origin. Underlying the gravels was 4.40+ of blueish grey 'Oxford Clay'.

WS2

Excavated to a depth of 3.25m below existing ground levels (estimated to be c.57.95 MOD). Consisted of 0.13m of top soil overlying 0.67m of modern made ground consisting of brownish yellow sand with frequent CBM and brick fragments. This was overlying 0.90m of dark brownish yellow, clayey gravelly sand. Underlying this was 1.0m of mid brownish yellow sandy gravel, and 0.95m+ of blueish grey 'Oxford Clay'.

WS3

Excavated to a depth of 6.0m below existing ground levels (estimated to be c.58.59 MOD). Consisted of 1.60m of stone aggregate and sand modern made ground. This was overlying 0.20m of dark brownish yellow gravel, interpreted as being Pleistocene in origin, which overlay 4.20m+ of blueish grey 'Oxford Clay'.

WS4

Excavated to a depth of 6.0m below existing ground levels (estimated to be c.59.07 MOD). Consisted of 0.47m of modern made ground overlying 1.13m of dark yellowish brown silty sand with abundant brick fragments. Underlying this was 0.40m of dark brownish yellow and brown gravelly sands interpreted as being Pleistocene in origin, which were overlying 4.0m+ of blueish grey 'Oxford Clay'.

WS5

Excavated to a depth of 6.0m below existing ground levels (estimated to be c.57.94 MOD). Consisted of 0.20m of top soil overlying 0.50m of modern made ground. Underlying these deposits was 5.30m+ of blueish grey 'Oxford Clay'.

WS6

Excavated to a depth of 4.0m below existing ground levels (estimated to be c.57.83 MOD). Consisted of 0.10m of top soil overlying 1.20m of modern made ground (including a piece of undatable iron). Underlying these deposits was 0.20m of blueish grey clay with yellow mottling, interpreted as redeposited alluvium. This overlay 0.05m of limestone and dark grey sand interpreted as potentially belonging to a demolished wall which overlay 0.85m of mid yellowish brown silty sand containing CBM and 2 sherds of pottery 1580 – 1900 Post Med Red Ware and rare charcoal fragments. Underneath this, 0.10m of redeposited blueish mottled clay containing rare charcoal fragments overlay 0.80m+ of blueish grey 'Oxford Clay'.

Bore Holes

BH 1

Excavated to a depth of 1.20m below existing ground levels (estimated to be c.59.21 MOD). Consisted of 0.20m of modern made ground overlying 1.0m of silty sand with frequent brick fragments, also interpreted as made ground.

BH 2

Excavated to a depth of 1.20m below existing ground levels (estimated to be c.56.14 MOD). Consisted of 0.40m of made ground comprised of yellowish brown gravelly sand, frequent large sub angular stones and building stone. Underlying this was 0.25m of dark brownish yellow sandy gravel, which was overlying 0.55m+ of yellowish grey sand with frequent fragments of limestone, interpreted as the possible remains of a demolished structure.

BH 3

Excavated to a depth of 0.75m below existing ground levels (estimated to be c.56.60 MOD). Consisted of 0.10m of top soil overlying 0.35m modern made ground, dark yellowish brown sand

with brick fragments. This overlay 0.30m of mid yellowish brown sand containing frequent angular limestone fragments interpreted as a possible surface.

BH 4

Excavated to a depth of 1.20m below existing ground levels (estimated to be c.58.20 MOD). Consisted of 1.20m+ of mid yellowish brown silty sand, frequent small – large stones, brick and CBM fragments.

Permeability Test Pits

PT 1

Excavated to a depth of 1.75m below existing ground levels (estimated to be c.57.65 MOD). Consisted of 0.18m of top soil overlying 0.82m of yellowish brown silty sandy subsoil. These deposits overlay 0.10m of brownish yellow sand with c.15% pebbles, interpreted as Pleistocene gravels, which overlay 0.90m+ of blueish grey 'Oxford Clay'.

PT 2

Excavated to a depth of 2.35m below existing ground levels (estimated to be 57.87 MOD). Consisted of 0.10m of top soil overlying 0.95m of made ground of sand, CBM, slate, slag, and modern pottery (5 sherds transfer printed ware (TPW) including Keillers Dundee Marmalade jar dating to 1863-1900). This overlay 0.25m of mid blueish grey alluvium and a 0.50m thick deposit of yellowish brown sand and brick fragments which contained a 0.15m thick lens of ash. Beneath this was 0.55m+ of a yellowish brown sand with 15% pebble inclusions interpreted as the top of the Pleistocene gravels.

General Summary and Conclusions

All of the interventions, bar the Permeability Test Pits, were very limited in size, with some also limited in depth, (also the full borehole logs have not been seen), and therefore the conclusions below, although useful, only offer a restricted indication of the potential for archaeological deposits and structures to remain in-situ at the site.

Natural terrace gravels were observed sealing the presumably untruncated level of the Oxford Clay in three locations. This demonstrated that the Oxford Clay slopes down (east – west) towards the Cherwell from 57.07mOD (WS4) – 56.80m OD (WS3) - 56.55m OD (PT1) - 55.25mOD (WS2) - c. 54.52mOD (WS1). Other observed levels (possibly truncated) were seen in WS5 (57.24mOD) and WS6 (55.33mOD), which reflected this same trend.

The overlying terrace gravels followed the general fall observed in the clay (although the possibility that these levels are a result of later truncation must be considered (as no in-situ sub-soils were seen above the gravels). To the east, at the greatest distance from the Cherwell higher levels of 57.47mOD (WS4), 57.3mOD (TP6) and 57.00mOD (WS3) were recorded, nearer the river these fell to 56.65mOD (PT1), 56.25mOD (WS2) and 56.07mOD (PT2), and adjacent to the river WS1 recorded gravel at a depth of 54.52mOD. The depth of gravel was thinner to the north (0.05 – 0.10m thick in PT1 and WS1), thicker in the centre of site (0.2m+ TP6, 0.4m in WS4, and 1.0m in WS2). Thicker deposits were also seen in the single observation in PT2 to the south of the site at 0.55m+ thick.

Directly overlying gravels and clay the majority of the interventions recorded deposits between 0.6 and 1.4m thick of gravelly sand containing brick and other ceramic building material fragments. These deposits were generally deeper nearer to the Cherwell and suggest that the ground has been raised, levelled, and perhaps terraced (probably incorporating the demolished remains of previous buildings at the site) to provide the present topography for the current buildings.

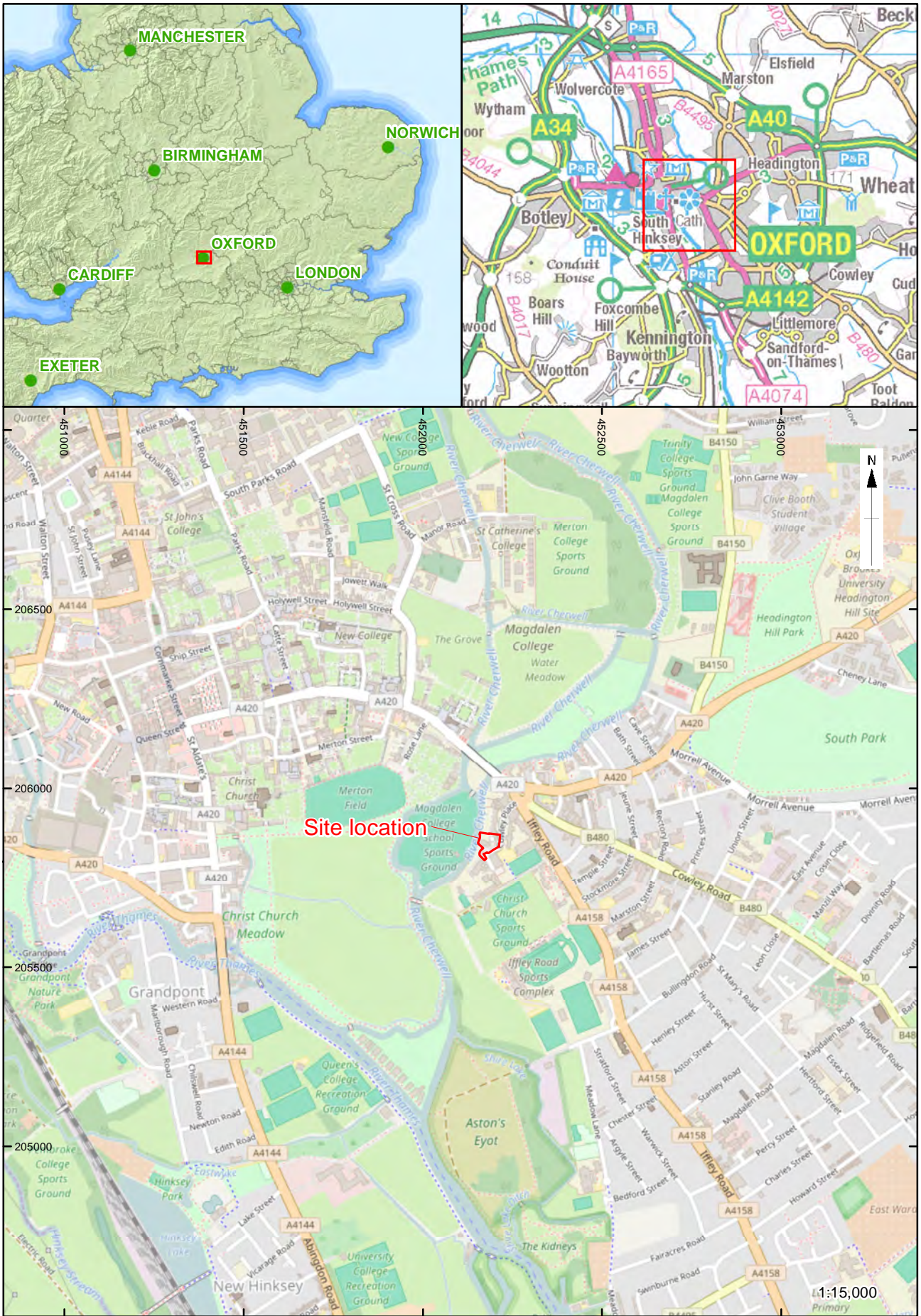
Certain interventions revealed deposits which are indicative of surviving archaeological deposits, an ash layer was observed in PT2 (between 56.07-56.57mOD), and limestone and charcoal were observed in TP7 (between 55.40 – 55.65mOD). There is a tendency to raise ground and formalise

the boundary between land and water (to mitigate flood events) at built up riverside locations, considering this, it is possible that previous buildings in the central part of the site (as shown on the historic maps) have been demolished but to some extent survive below the ground raising deposits encountered within the interventions. Examples of this were seen in BH2 (possible demolished wall below 55.49mOD), BH3 (possible demolished wall below 55.85mOD), and possibly TP3 (limestone pieces below 56.19mOD). Also the deposits between circa 56.53 – 54.63 mOD (WS6) are potentially representative of a demolished building (some Post-medieval Red Ware pottery was collected from this deposit, which offers a broad date range of 1580 – 1900).

A single sherd of yellow ware 1820 – 1900 was found adjacent to the extant historic wall in TP6, this deposit, possibly from the backfill associated with the construction of the historic wall, suggests a potential date for this structure.

Although not observed during the Watching Brief, the presence of in situ natural gravel deposits raises the possibility that potential archaeological features of all archaeological periods such as (pits and post-holes etc), as well as the approach to, and structural remains of the historic bridge crossing survive in the northern part of the site (west of Hall Building). In the central part of the site (north of Milham Ford Building and south of Hall Building) there is potential for archaeological remains of former structures (as seen on historic maps), and the riverside location here would be a logical place for the historic mill. This potential may extend below the extant Milham Ford Building, where not destroyed by foundations etc. There would also appear to be limited potential for in situ structural remains to the south of Milham Ford Building.

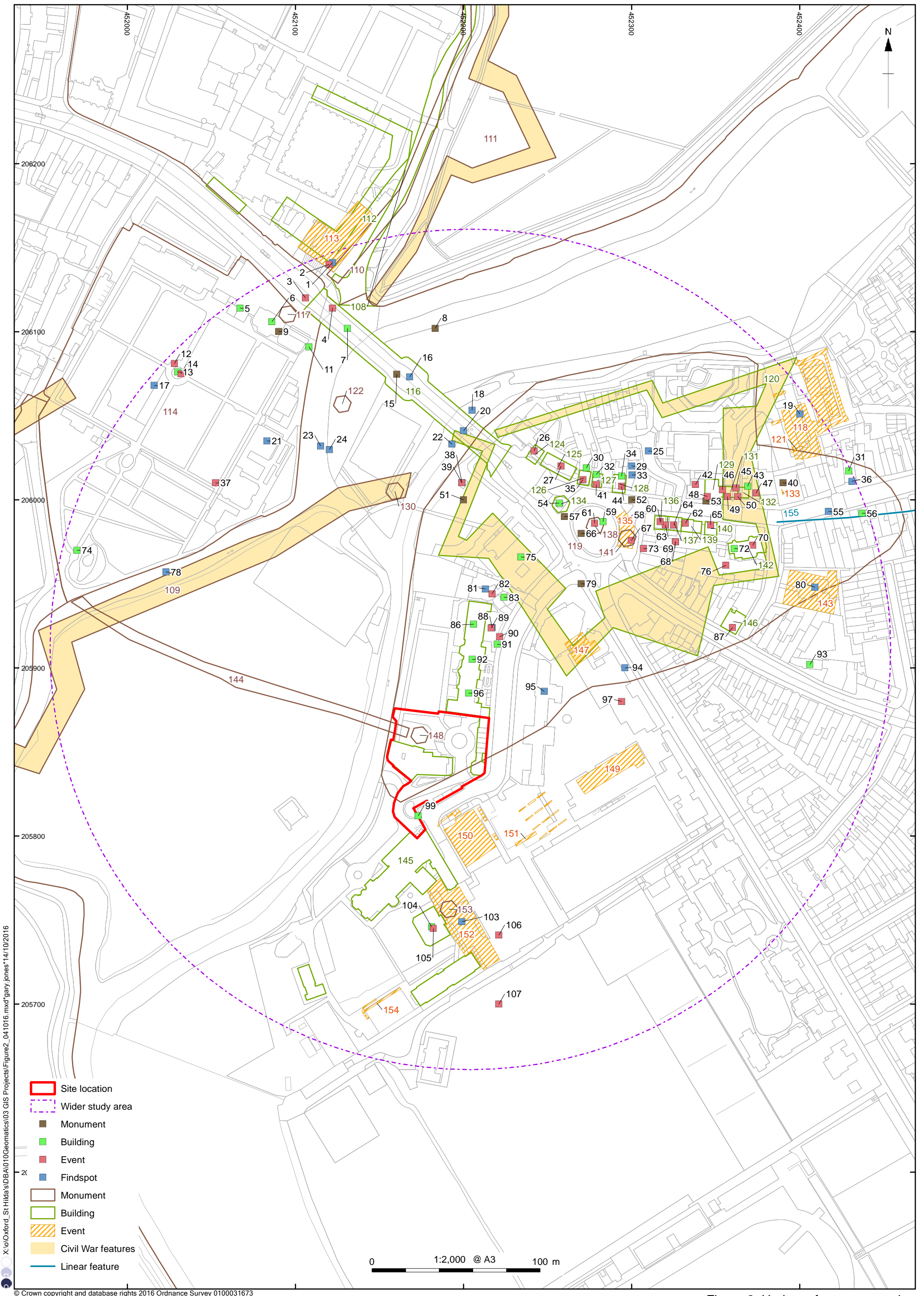
Ben Ford
October 2016



\\10.0.10.86\invoice codes i thru q\O_codes\OXHILDP\OXHILDP_R_Fig_01.mxd\markus.dylewski\13/10/2016

Contains Ordnance Survey data © Crown copyright and database right 2014
 (c) OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA)

Figure 1: Site location



X:\Oxford_St_Hilda's\IDBA\10\Geomatics\03 GIS Projects\Figure2_041016.mxd\gary.jones\14/10/2016

Figure 2: Heritage features mapping



Figure 3: Agas's map of Oxford 1578

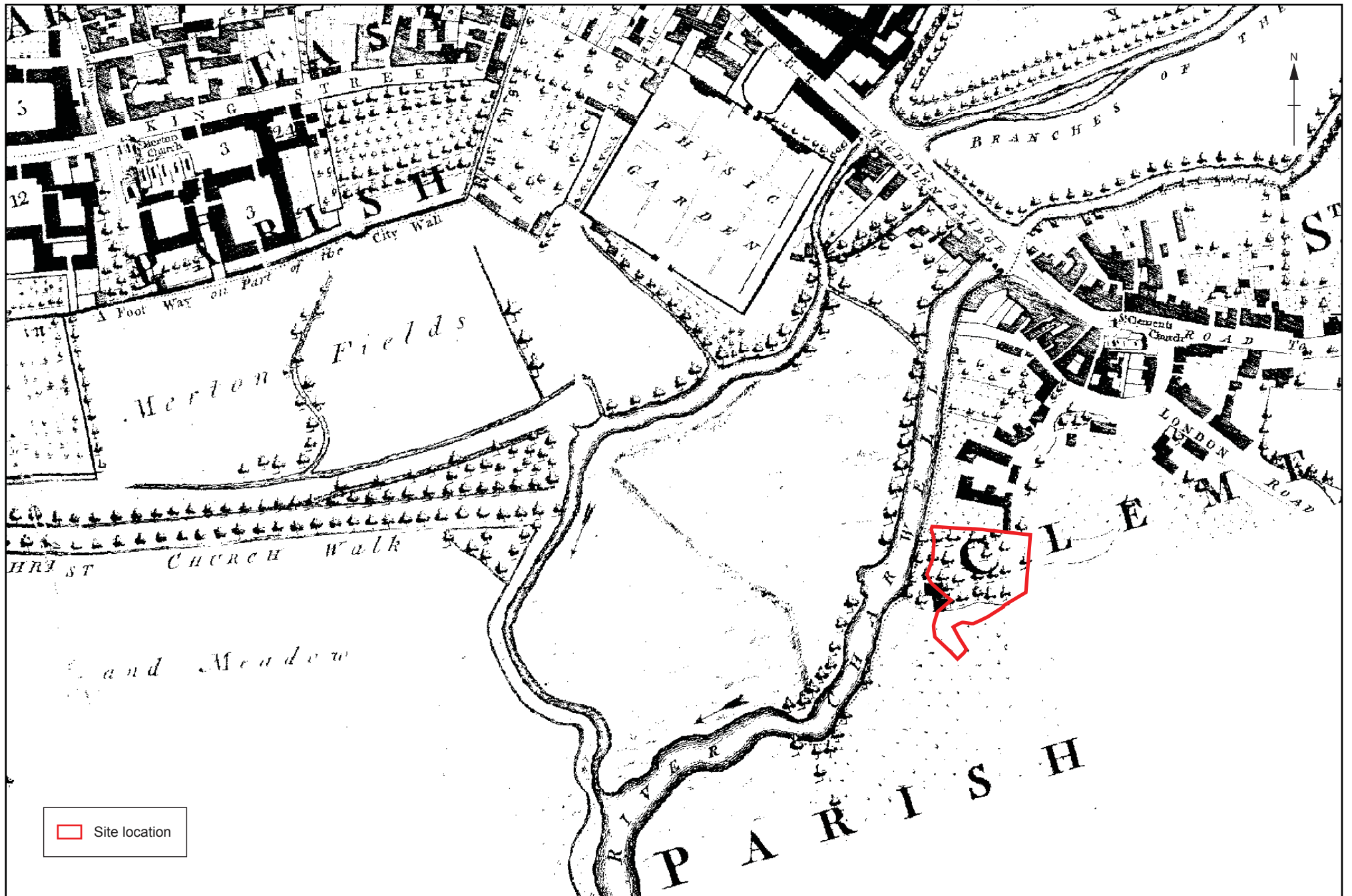


Figure 4: Plan of the defences of Oxford 1644 by Sir Bernard de Gomme



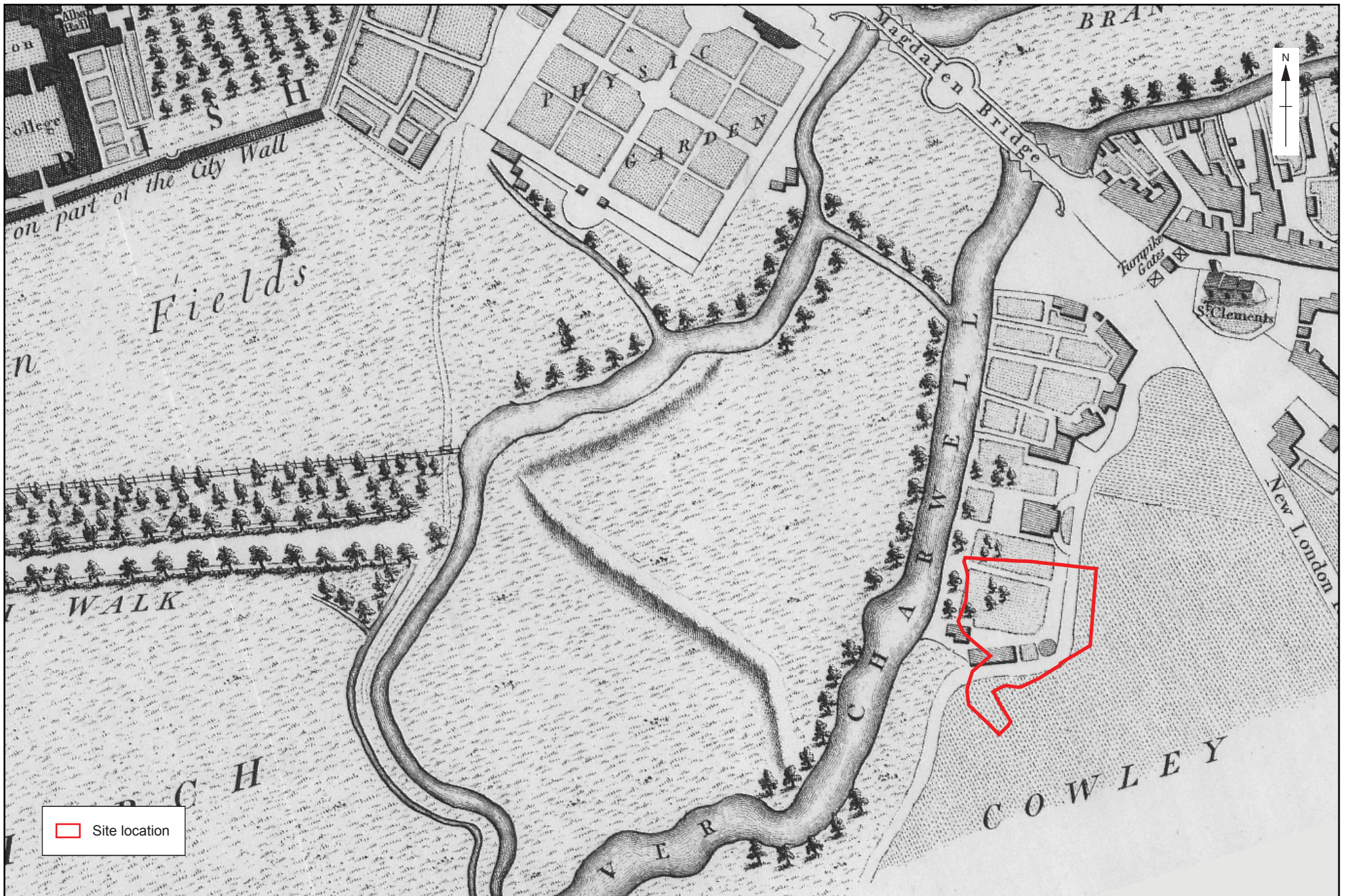
Not to scale

Figure 5: Loggan's map of Oxford, 1675 (with inset view of the site)



Not to scale

Figure 6: Taylor's map of Oxford 1750



Site location

Not to scale

Figure 7: Davis's map of Oxford, 1793



Figure 8: Iffley 1847 Tithe map (Oxford History Centre, 227/M)



Figure 9: Hoggar's map of Oxford 1850



Figure 10: Cowley 1865 Tithe map (Oxford History Centre, 112/M)

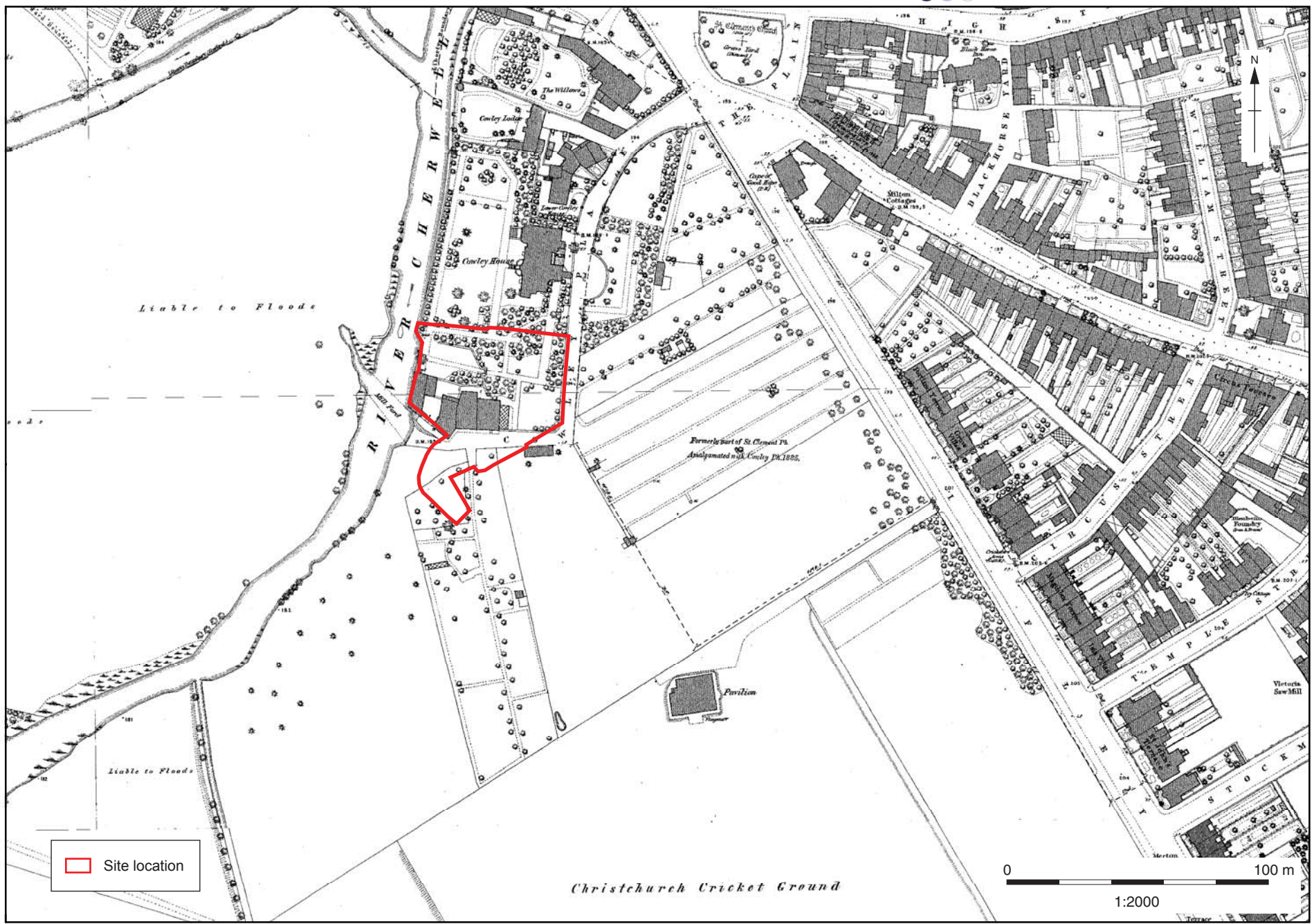
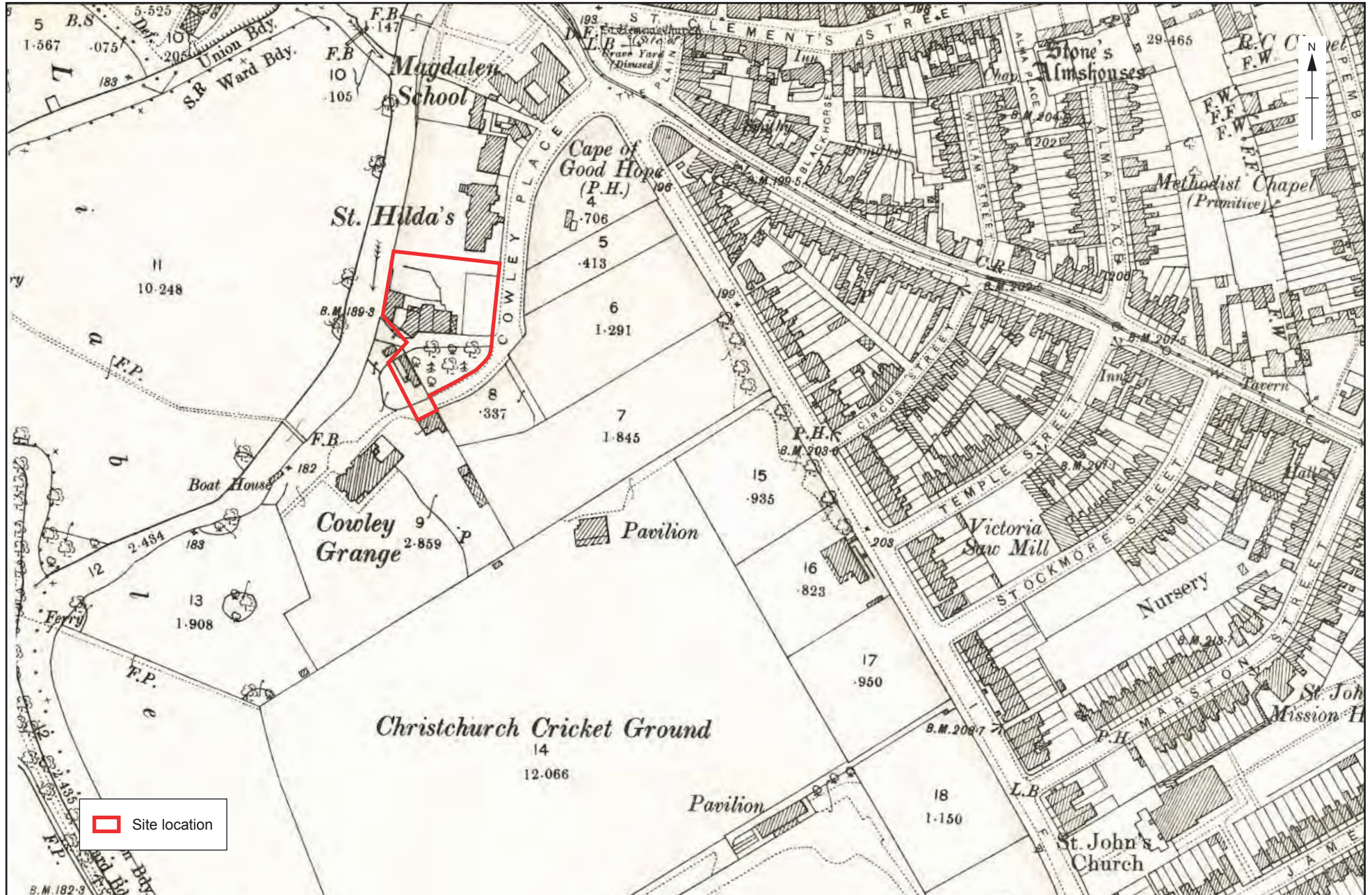


Figure 11: 1st Edition Ordnance Survey 1:500 Map, 1876



Site location

Not to scale

Figure 12: Ordnance Survey Oxfordshire XXXIX.3, 1:2500 (1900) (OHS)



Not to scale

Figure 13: Ordnance Survey Berkshire VI.3, 1:2500 (1921) (OHS)



Not to scale

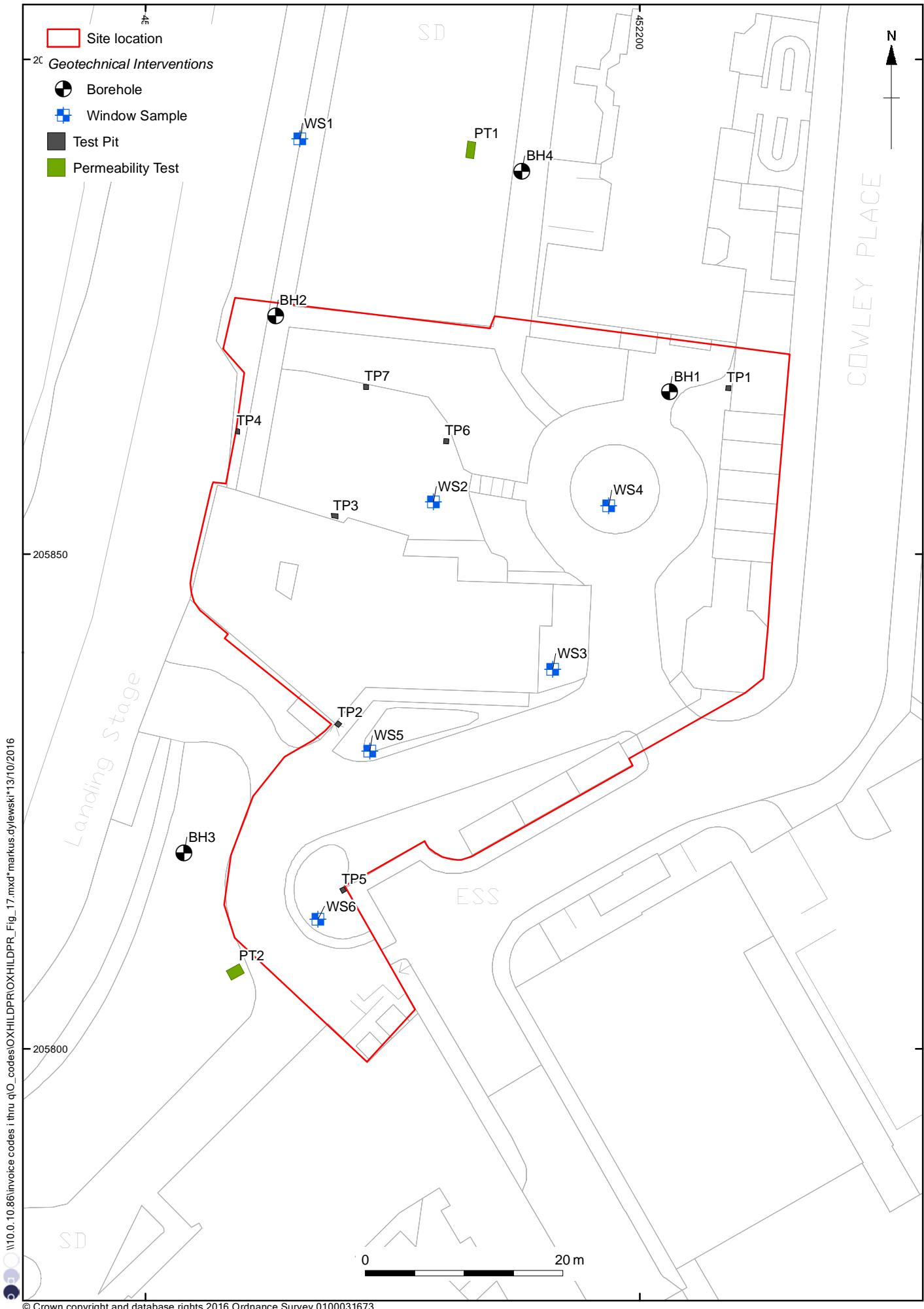
Figure 14: Ordnance Survey Berkshire VI.3, 1:2500 (revised 1939, published 1947) (OHS)



Figure 15: Existing layout of the Site



Figure 16: Plan of the proposed development



\\10.0.10.86\invoice codes i thru q\O_codes\OXHILDPR\OXHILDPR_Fig_17.mxd\markus.dylewski\13/10/2016

Figure 17: Geotechnical interventions



Plate 1 The south elevation of the Milham Ford Building (facing north-west)



Plate 2 The east elevation of Milham Ford Building (facing west)



Plate 3 St Hilda's College Porters' Lodge (facing north west)



Plate 4 The early 20th century south wing of St Hilda's north building (facing north)



Plate 5 The gardens to the north of the Milham Ford Building (facing east)



Plate 6 A section of the historic garden wall (facing south west)



Head Office/Registered Office/ OA South

Janus House
Osney Mead
Oxford OX2 0ES

t: +44 (0) 1865 263 800
f: +44 (0) 1865 793 496
e: info@oxfordarchaeology.com
w: <http://oxfordarchaeology.com>

OA North

Mill 3
Moor Lane
Lancaster LA1 1QD

t: +44 (0) 1524 541 000
f: +44 (0) 1524 848 606
e: [oanorth@oxfordarchaeology.com](mailto: oanorth@oxfordarchaeology.com)
w: <http://oxfordarchaeology.com>

OA East

15 Trafalgar Way
Bar Hill
Cambridgeshire
CB23 8SQ

t: +44 (0) 1223 850500
e: [oaeast@oxfordarchaeology.com](mailto: oaeast@oxfordarchaeology.com)
w: <http://oxfordarchaeology.com>



Director: Gill Hey, BA PhD FSA MCifA
*Oxford Archaeology Ltd is a
Private Limited Company, N^o: 1618597
and a Registered Charity, N^o: 285627*