



University College, Oxford. Goodhart Building Project

Written Scheme of Investigation

for an Archaeological Excavation and Watching Brief

Centred on SP 518 062

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1 INTRODUCTION

1.1 Project details

- 1.1.1 Oxford Archaeology (OA) has been requested by Dr Roland Harris to produce this Written Scheme of Investigation (WSI) for archaeological excavation and watching brief associated with the refurbishment of the Goodhart Building and the adjacent Goodhart Seminar Room and Goodhart Cottage at University College, Oxford (Fig. 1).
- 1.1.2 The work is being undertaken as a condition of planning approval for the scheme from Oxford City Council (planning reference; 13/02347/FUL approved 22.12.2013). A brief has been prepared by Dr Roland Harris (Harris, Feb. 2014), which sets out the archaeological recording work necessary to discharge the planning condition. The brief drew upon baseline data presented in the Archaeological Assessment and Mitigation Strategy (Harris, July 2013) which detailed the heritage resource at the site, outlined the design of the proposed development and proposed a mitigation strategy which was designed to minimise the impact of the latter upon the former.
- 1.1.3 This WSI outlines how OA will implement the requirements for below-ground archaeology within the brief to discharge the planning condition. The archaeological works will be undertaken as set out in both this document and the brief (Harris, Feb. 2014).
- 1.1.4 All work will be undertaken in accordance with local and national planning policies. Two policies in the Oxford Local Plan 2001-16 (adopted November 2005) are of particular relevance to below ground archaeology: Policy HE2 and HE3 (Harris, July 2013). Furthermore all work will be carried out in full accordance with the appropriate sections of the Institute for Archaeologists (IFA) Code of Conduct, the IFA Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology, the IFA Standards and Guidance for excavation, the IFA Standards and Guidance for an Archaeological Watching Brief, and the British Archaeologists and Developers Liaison Group Code of Practice.

1.2 Location, geology and topography

- 1.2.1 The site is situated on the eastern side, and c 100m north, of the edge of a gravel promontory consisting of Quaternary River Gravels of the 2nd (Summertown-Radley) Terrace Deposits (British Geological Survey sheet 236). The promontory extends between the River Isis c 1 km to the west and the River Cherwell c 400m to the east. The gravels on this terrace are typically overlain by a 0.3m depth of red brown loessic loam. It is centred on NGR SP: 518 062.
- 1.2.2 Existing ground levels are recorded at approximately 61.60m OD. During excavations at University College Buttery and Kitchen in 2007, natural gravel was recorded at 58.9m OD, although this is likely to have been truncated (OA, 2007). The excavations



at Logic Lane in the 1960s (Radcliffe, 1963) recorded gravel at between 4 and 5 feet from ground level (1.22m - 1.52m). This was seen to be overlain by "*a small area of ancient red loamy topsoil*" (i.e. the loess) and consequently the top of the gravel encountered does appear to have been undisturbed. Assuming that the ground level in the 1960s was similar to that of today, it is anticipated that the top of the undisturbed gravel will be encountered at 60.08m - 60.38m OD.

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND AND POTENTIAL

2.1 Archaeological and historical background

2.1.1 An Archaeological Assessment and Mitigation Strategy has been prepared by Dr Roland B Harris for this project (Harris, July 2013), which details the archaeological and documentary background of the site. It summarizes the use of the site before the construction of the Goodhart Building and adjacent Goodhart Cottage in 1961-2, as evidenced by documentary and cartographic sources and by previous archaeological investigations on the site and in the vicinity. The archaeological and historical background from this document are reproduced below, full references and illustrations can be found in the source document (Harris, July 2013).

Previous archaeological investigations

Logic Lane excavation 1960-1

2.1.2 In July and August 1960 rescue excavations were carried out prior to construction of the Goodhart Building. These were followed, in October 1960 to January 1961, by more limited archaeological examination of the foundation pits dug by the building contractors. The report makes no reference to any archaeological investigation within the substantial area excavated for the basement of the Goodhart Building. The archaeological excavation had the aim of finding evidence of medieval Kybald Street and Saxon occupation. Accordingly, the initial trench was located largely below the Goodhart Seminar Room, adjacent to the dogleg in Logic Lane that marks the point where it crossed Kybald Street. This first trench encountered what the excavator described as a 'Victorian wine-cellar' (but which was probably a garage pit), so was expanded eastwards and north-eastwards by two adjacent trenches. These saw significant discoveries that included two prehistoric ditches, Late Saxon pits, and later medieval buildings, pits and evidence of Kybald Street. The findings of the subsequent inspection of the foundation pits dug by the contractors were less significant, but did include further evidence of the prehistoric ditches in three of the trenches: importantly, one of the foundation pits revealed the continuation of one of the two ditches excavated in the main archaeological trenches, and showed that it was curved and, thus, probably part of a ring-ditch.

Geotechnical trial pits 2013

2.1.3 Two geotechnical test pits were excavated in May 2013, to investigate the foundations of 1961-2. Test Pit 1 was located towards the south end of the arcade of the Goodhart Building, against the outside wall of the store by staircase 3. It was excavated against the side of one of the concrete pad foundations to a depth of 1.9m below ground level: probing by the engineer showed that the foundations continued to at least 3.0m below ground level (c.58.60m OD). Test Pit 2 was excavated against the eastern end of the north wall of Goodhart Cottage. It revealed the bottom of the foundation of the cottage at 1.4m below present ground level (c.60.20m OD). Neither test pit revealed any stratified archaeology or pre-1961 features, although in both cases an homogenous

deposit of mid-brown clayey silt was identified at c.1.0m below-ground level (c.60.60m OD) and below: in Test Pit 1 this included fragments of modern (i.e. 20th-century material) and in Test Pit 2 it included 19th-century material, which included part of a marmalade jar (doubtless reflecting the proximity of Cooper's marmalade factory from 1874-1900, and then shop to 1919, at 34 High Street). This deposit was evidently disturbed so close to the 1961-2 foundations, but may represent post-medieval garden soils. The findings were in contrast to those of the 1960-1 Logic Lane excavation, where significant archaeology was found just 3.7m west of Test Pit 2.

Previous archaeological investigations in the vicinity

Angel Inn 1876

- 2.1.4 Excavations on the site of the Angel Inn, demolished in 1876 to make way for the new Examination Schools, revealed a series of pits, some with steps cut into the sides. Little is recorded and initially the site was misinterpreted as a British settlement, but the form of the pits and the finds (which included pottery and a ring of twisted gold wire) suggest Late Saxon occupation that included cellared buildings along the High Street.

University College kitchens 1892

- 2.1.5 Excavations (presumably during building works) in 1892 produced finds comprising medieval pottery, which included jugs.

University College Radcliffe Quadrangle 1940

- 2.1.6 Subsidence in 1940 revealed a stone-built chamber under the north-east corner of the southern half of the lawn, which was probably an 18th-century sump pit.

University College new Common Room 1969

- 2.1.7 During construction of a new Common Room (south of the 17th-century kitchen) in 1969, a large stone-lined chamber with a brick vault (probably a cess pit) was discovered lying across the line of Kybald Street. Evidently this must post-date the 17th-century partial closure of this part of Kybald Street. Post-medieval pottery was found.

92-3 High Street 1969

- 2.1.8 Medieval rubbish pits (producing a substantial pottery group) were exposed during construction of a new strong room for the bank in 1969.

Postmaster's Hall Yard, Merton College, Merton Street 2000-3

- 2.1.9 Excavations took place prior to building works to the rear of 4a Merton Street (Merton stables – a stone townhouse of c.1200). This revealed 11th-century (or later) pits, an undercroft adjacent to 4a Merton Street (probably supporting a chamber rather than a hall), a second building to the north (on the Kybald Street frontage), and later medieval pits.

University College kitchen and buttery 2006-8

- 2.1.10 An evaluation, trial holes, excavation and watching brief were undertaken prior to and during refurbishment of the kitchen and replacement of the kitchen stores and buttery. The excavation showed that intact and deeply stratified archaeological levels survive as early as the 13th century. Remains of an earlier wall were found: it is unclear whether this wall formed part of an earlier building that predates the college or if it was part of part of a boundary wall between two plots of land fronting either the High Street or

Kybold Street. The construction trenches for the chapel (1639-41) and the buttery (1859-61) were identified. It is not completely clear whether the construction trench for the chapel relates to the original building or to possible reconstruction works during the 17th century, prior to the construction of the kitchen (1668-9). The watching brief revealed two walls that coincide with those depicted on James King's plan (1848), comprising the west wall of the larders/scullery located (i.e. on the south side of the kitchen) and a wall defining the eastern extent of the Fellows' Garden. There was very little stratified Late Saxon or Saxo-Norman pottery present, with 13th to 14th-century sherds (mainly of Brill/Boarstall wares) representing the earliest significant assemblage. However, Late Saxon and Saxo-Norman pottery was discovered as residual material in later phases, so it seems probable that deposits of the 10th and 11th centuries were disturbed by later action, most probably the 13th-century construction of the college. Other finds included a fragment of Romanesque worked stone (beak-head).

The site before the Goodhart Building

Prehistoric period

- 2.1.11 The Logic Lane excavation in 1960-1 produced several struck flints, representing residual finds in medieval and later contexts, which included an end-scraper or long-flake probably of Mesolithic origins. Other residual finds of Mesolithic date have been found in Oxford, although no site has yet been identified.
- 2.1.12 Neolithic finds in the Logic Lane excavations were limited to a single sherd from a Peterborough Ware bowl and, possibly, some of the struck flints and a fragment of a pick of red-deer antler. More substantial evidence for Neolithic occupation in Oxford is attested by other sites, and includes a Middle Neolithic enclosure at the Radcliffe Infirmary site.
- 2.1.13 By contrast, the 1960-1 excavation at Logic Lane provided significant evidence of Bronze Age activity on the site in the form of remains of two ditches. Ditch 1 was 0.86m wide and had a U-shaped bottom cut 0.79m into the natural gravels: the ditch was curved and probably formed part of a ring-ditch. Ditch 2 was wider, at 2.16m, and its more gently sloping bottom was cut 0.74m into the gravels: it appeared to be straight. Bronze Age finds include a barbed and tanged arrowhead. The ring-ditch suggests that the Logic Lane site represents part of a Bronze Age barrow cemetery. Such evidence is widespread in Oxfordshire and, more locally, within Oxford: more substantial evidence has been identified by aerial photography and excavation at the University Parks and Science Area, Port Meadow, the Sackler Library (Beaumont Street), and the Radcliffe Infirmary.

Roman

- 2.1.14 Roman finds from the Logic Lane excavation of 1960-1 were limited to a few sherds of pottery in residual contexts. Only one of these was described in the excavation report, comprising a colour-coated shallow bowl, of local manufacture imitating Samian ware and probably of 4th-century date. Similarly small quantities of residual pottery are typical of excavation sites in central Oxford, along with some *ex situ* building materials: a denser concentration of such finds could suggest Roman occupation in the Christchurch and All Saints, High Street, area to the west of University College.

Saxon

- 2.1.15 A putative beam slot (possibly two post holes, as only observed in the sections), a post hole, and four pits were identified during the Logic Lane excavation of 1960-1 as Late Saxon features. The possible beam slot and post-hole appear to have marked an east-



west aligned boundary below later Kybald Street (presumably separating properties fronting the High Street from those fronting Merton Street), while the pits were short-lived rubbish pits. The latter produced a significant assemblage of Late Saxon pottery, mainly comprising St Neots ware. Other finds of this period include a bone implement, bones from domesticated animals, and two knife blades.

- 2.1.16 A second substantial assemblage of St Neots ware was excavated at 4a Merton Street in 2000-3, and this site, together with the findings on the site of the Angel Inn in 1876, provides further evidence of Late Saxon occupation in this area of Oxford. This evidence for occupation is consistent with the fact that Oxford was an Anglo-Saxon burh founded as part of the system of 31 fortresses, which the most recent analysis suggests were built between May 878 and August 879 as a crucial part of Alfred's successful military strategy to drive the Vikings from Mercia and London. If correct, this dating represents a significant revision of the conventional assignment of the construction of the burh at Oxford to between 911 and 914-19, but is more consistent with the discovery of a silver penny of King Alfred (871-99), which carries the mint-name Oxford (Ohsnaforda).
- 2.1.17 The location of a burh at Oxford was doubtless stimulated by the important Mid Saxon crossing of the Thames in St Aldate's. The extent of the burh is not entirely certain, although it has long been accepted that the area between the later medieval Eastgate and Schools Street/Oriel Street (in which the proposed development lies) represents an extension, perhaps of the early 11th century or, even the 10th century. The evidence for this is largely topographic (the eastern part of the later medieval town wall is offset northwards by c.60m at this point). The case for a smaller burh has also relied on matching the length of the perimeter of the defences to the value of the hidage for Oxford (itself not entirely clear for this burh due to the corrupted text) in the Burghal Hidage, despite the fact that a strict relationship between hides, manpower, and wall length demonstrably does not apply throughout the system of Alfredian fortresses. The importance of determining the extent of the Saxon burh can be over emphasized, however, since it is probable that it had suburbs from the outset. Certainly, the archaeological evidence (such as the extent of Saxon metalled road surfaces, which includes Catte Street and the eastern part of the High Street, and evidence of domestic occupation predating the late 10th or early 11th-century foundation of St Peter in the East) for the so-called eastern extension does not differentiate this area from the more certainly identifiable Saxon burh to the west.

Medieval

- 2.1.18 Indisputably, by the early to mid-11th century the site lay within the town centre and to the south of the High Street, which led to the Eastgate and to a crossing of the Cherwell beyond (later Magdalen Bridge). Use of the area set well back from the High Street at this period is demonstrated by the discovery of 11th-century rubbish pits at Logic Lane, and 11th-century (or later) pits at Postmaster's Hall Yard, Merton Street. The excavations at Logic Lane showed that east-west Kybald Street (marked today by the dogleg in Logic Lane, and its surviving western section) was created around 1130, possibly along the line of an 11th-century boundary fence. The excavators also conclude that Logic Lane (which doglegged across Kybald Street) was established at the same time or later, but this assumes that the lengths north and south of Kybald Street are coeval. Beam slots were excavated along the north and south frontages of Kybald Street. Both appeared to be contemporary with the setting out of the street and had gone out of use by the mid-12th century: that on the south side was replaced by a stone wall (either of a building or boundary) on its northern side, encroaching slightly into the road. Four sections of later medieval walls were discovered, two sections at



least probably dating to the 13th century, but their relationship and function were not clear. Numerous pits were excavated, mostly south of Kybald Street (reflecting the location of the archaeological trenches), with pottery dating from the 11th century through to the 15th century.

- 2.1.19 Documentary evidence of the High Street and Kybald Street plots in the area now occupied by the Goodhart Building and Goodhart Cottage survives from the early 13th century onwards, and records the location of the proposed development within several tenements and academic halls. The rear boundary of the High Street properties lay just south of Goodhart Cottage, so that the cottage, the northern part of the Goodhart Building and Cecily's Court lie within what were the rear parts of the plots of 83-7 High Street. In the medieval period 83-4 High Street was a tenement (owned by University College from c.1275); 85 High Street was a tenement (recorded from 1279 and known, by 1452, as the Sarsen Head); and 86-7 High Street was a tenement recorded from the 13th century and an academic hall (Bostar Hall and, from 1448, Magdalen Hall) between 1352 and 1462. South of these High Street properties were tenements fronting the north side of Kybald Street, comprising, east to west, Baggard's tenement (recorded from the 13th century, later forming part of the yard of the Tabard – or Angel – Inn, and today approximating to the yard east of the Goodhart Building; Wine, or Vine, Hall (an academic hall in 1305, and today occupied by the majority of the Goodhart Building); and Horsemull Hall (a tenement recorded from c.1200, but an academic hall called Horsemull Hall by 1293, which absorbed Vine Hall c.1310, became Hare Hall in 1325-6, ceased to be an academic hall after 1461, and today approximates to the garden west of the Goodhart Building). The southern end of the Goodhart Building and the Goodhart Seminar Room lie within part of properties between Kybald Street and Merton Street, respectively comprising Nightingale Hall and Chimney Hall (both academic halls by 1293: Chimney Hall ceased to be recorded after 1426, at which point it either merged with Nightingale Hall – which survived until c.1460 – or became part of a garden and vacant plot in this area). It is unclear how the history of these properties, as studied by Salter, can be reconciled with the archaeological evidence.
- 2.1.20 In 1447 the eastern part of Kybald Street was closed, at which point it was called Harehall lane or Nightingale Hall Lane.

Post medieval and Modern period

- 2.1.21 The Logic Lane excavation of 1960-1 revealed two post-medieval rubbish pits, of 16th to 17th-century date, which had been cut through medieval Kybald Street. Agas's 1578 map shows the area south of the High Street properties east of Logic Lane as given over to gardens, and the site of the Goodhart Building is again shown as gardens and yards on Loggan's more reliable map of 1675. By the date of Faden's map of Oxford (1789) buildings had extended southwards along the east side of Logic Lane nearly as far as the dogleg. The 1876 Ordnance Survey 1:500 Town Plan (Plan 1) shows that the Merton Street frontage had been mostly built up and that rear of these plots and those fronting the High Street had been largely infilled: the substantial blank area immediately east of the development shows the site cleared for the building of the Examination Schools.
- 2.1.22 The late 19th century saw University College acquire additional properties east of Logic Lane, so that it owned all the land between the lane and the Examination Schools: in 1885 it acquired 86-7 High Street and 9-12 Merton Street, along with the land between, from Magdalen College. In 1895-6 10 new rooms were built behind 88-9 High Street (University Hall), but all of this property was then replaced in 1902-3 by Moore's Durham Buildings. Unlike that of its predecessor, the rear wing of the new building was set back from Logic Lane behind a narrow garden. In 1935 the upper floors of 83 and



84 High Street were converted to 10 sets of undergraduate rooms. The upper floors of 85 High Street and Bostar Hall (86-7 High Street) were converted to student use in 1946 and 1949 respectively. A dedicated law library was created in the Durham Buildings in 1949/50.

- 2.1.23 The development site in the late 1950s was described as ‘a mess, containing a cottage, some garages, and a rickety furniture store’.

3 PROJECT AIMS

3.1 General

- 3.1.1 The general aims of the work are to:

- determine the character of any remains present (if uncovered in the watching brief determine the character without compromising any deposit which may merit investigation under future more extensive excavation);
- ensure that deposits are removed (where appropriate and practicable) by proper controlled archaeological methods;
- ensure that archaeological data is recovered from the areas subject to watching briefs;
- determine or estimate the date range of any remains from artefacts or otherwise;
- determine the potential of the deposits for significant palaeo-ecological information;
- seek any evidence for medieval pre-college property boundaries and buildings, and medieval and post-medieval college buildings.

3.2 Specific aims and objectives

- 3.2.1 The specific aims and objectives of the excavation and watching brief are listed below and will assess:

- evidence for the nature of the palaeo-environment (ancient environment), and the prehistoric, Roman, Saxon and later pre-college medieval human activity in the area (including further evidence for Bronze Age ditches as found in the 1960-1 Logic Lane excavation);
- evidence for medieval occupation of High Street tenements, including property boundaries;
- evidence for medieval Kybald Street;
- evidence for post-medieval occupation, including property boundaries.

4 PROJECT SPECIFIC EXCAVATION AND RECORDING METHODOLOGY

4.1 Scope of works

- 4.1.1 The 1960-1 Logic Lane excavation and the 2013 geotechnical test pits have guided the development of a mitigation strategy for subsurface archaeology. The impact on significant archaeological deposits and features by the proposed works has been minimized by:

- limiting most of the refurbishment works to the main Goodhart Building to above-ground works, without modification of the 1961 foundations;
- reusing existing drain runs and service routes; and
- undertaking archaeological excavation and watching briefs to investigate and record the loss of any significant archaeology.

- 4.1.2 The mitigation strategy adopted for the proposed developments means that few elements of the works will penetrate the level of significant archaeology. However, minor elements of the proposed development will approach or go deeper than the

1960-2 interventions, and these will be subject to minor excavations and watching briefs (Figure 2).

Excavation

- 4.1.3 The subsurface interventions which will be subject to archaeological excavation will comprise:

Area 1: Goodhart Cottage

- 4.1.4 The foundation for an extended plan of the extension (i.e. the replacement of Goodhart Cottage): the new building will extend 2.1m further south and 0.6m further west, and will be a storey taller, requiring replacement of the 1961-2 mass concrete strip foundations. The existing 1.4m-deep foundations will be removed and back-filled with granular fill, and new foundations created on the north and east sides through this using concrete strip foundations c.830mm wide. The slight adjustment to the position of the west foundation will require back-filling of the trench resulting from removal of the 1961-2 foundation, and then creation of a new trench partly within the granular-fill and partly to the west, up to 1.4m deep (i.e. to c.60.20m OD) for concrete strip foundations c.830mm wide. The entirely new southern foundation will be of the same design, requiring a 1.4m-deep (i.e. to c.60.20m OD) trench for concrete strip foundations c.830mm wide.

Area 2: Lift shaft

- 4.1.5 The foundation for a lift in the Goodhart Building: area towards south end on west side of staircase 3 to be partly cut into the 1961 foundation pad, but mostly into the area to the south-east (c.6m²) down to the bottom of the 1961 foundation (i.e. at least to 3.0m below ground level – i.e. c.58.60m OD).

Watching brief

- 4.1.6 The subsurface interventions which will be subject to archaeological watching brief will comprise:
- 4.1.7 Floor slab for the extension (i.e. the replacement of Goodhart Cottage), comprising 150mm reinforced concrete slab, on 50mm lean mix concrete and 150mm Type 1 stone. For the most part this represents replacement of the existing slab, but the slightly larger footprint means that the new slab will project beyond that existing.
- 4.1.8 Limited re-routing of services, drainage and IT/comms requiring trenches (detail to be supplied).
- 4.1.9 Minor landscaping work in Cecily's Court, including installation of ramps.

4.2 Programme

- 4.2.1 The exact timing of the works have yet to be confirmed. The archaeological works will be managed for Oxford Archaeology by Ben Ford, Senior Project Manager.
- 4.2.2 All fieldwork undertaken by Oxford Archaeology (South) is overseen by the Head of Fieldwork, Dan Poore MIFA.

4.3 Site specific methodology

- 4.3.1 A summary of OA's general approach to excavation and recording can be found in Appendix A. Standard methodologies for Geomatics and Survey, Environmental evidence, Artefactual evidence and Burials can also be found below (Appendices B, C, D and E respectively).
- 4.3.2 Site specific methodologies will be as follows:

**General**

- 4.3.3 Position of trenches shall be accurately surveyed in by EDM/REDM.
- 4.3.4 All plans and sections will be tied to the Ordnance Survey (OS) grid and OS datum with electronic survey equipment.
- 4.3.5 All archaeological remains affected by the development within the excavation and watching brief areas as defined on Figure 2 will be sample excavated with all significant relationships defined and investigated within the limitations defined below.
- 4.3.6 Appendix C provides an environmental sampling strategy. In general different environmental sampling strategies may be employed according to the perceived importance of the strata under investigation. Bulk samples, preferably of 40 litres if possible, will be taken for flotation for charred plant remains. Bulk samples will be taken from any waterlogged or mineralised deposits present for macroscopic plant remains. Columns for pollen analysis and mollusc samples will be collected will be taken if appropriate. Other bulk samples for small animal bones and other small artefacts may be taken from appropriate contexts. Sub-sampling will be undertaken to retrieve evidence of metal-working. The sampling process will be constantly reviewed on-site with the advice of Dr. Rebecca Nicholson, Head of the Environmental Dept. at Oxford Archaeology.
- 4.3.7 Artefact assemblages will be recovered (by context) by hand to assist in dating the stratigraphic sequences and for obtaining ceramic assemblages for comparison with other sites. The finds will provide an invaluable contribution to the interpretation of the functions and activities taking place on (and off) the site, as well as reveal aspects of trade and economy. All artefacts will be retained from excavated contexts unless they are of recent origin. In these cases sufficient of the material will be retained to date and establish the function of the feature.
- 4.3.8 Appropriate procedures will be followed in the event of discovery of objects, which fall within the scope of the Treasure Act (1996). It should be noted that there is a presumption that objects of treasure found during the course of archaeological excavations will be kept with the archaeological archive. Where removal of intrinsically valuable objects cannot be effected on the same working day as the discovery, suitable security measures will be taken to protect the finds from theft.
- 4.3.9 In certain circumstances where unusual or extremely fragile and delicate objects are found, their recovery may be by appropriate specialists.
- 4.3.10 Opportunities will be sought for scientific dating, including secure stratigraphic sequences containing contexts yielding CPR (charred plant remains) relating the occupation and use of structures. Provision will be made for a minimum of five C14 dates.

Excavation

- 4.3.11 Mechanical excavation (if required) to be carried out with a machine suited to the site and ground conditions, fitted with a toothless bucket of appropriate width to create a clean surface, and continuously supervised by an archaeologist. Upcast from mechanical trenching to be scanned for artefacts, to be recorded and retained. Mechanically assisted ground reduction will be achieved in spits of no greater than 100mm. Mechanical excavation will be only to the top of significant archaeological features/deposits. Modern intrusions will be removed during this process where practicable.
- 4.3.12 Where the significant archaeological horizon, comprised of surfaces, occupation deposits, structures and discrete archaeological features are encountered these will be excavated by hand.



- 4.3.13 These archaeological contexts are of high potential and detailed hand excavation, recording and recovery of finds is therefore justified, as per Appendices .
- 4.3.14 Excavations below safe working depth may require shoring, the installation of which will be the responsibility of the main contractor, although the archaeological contractor must ensure that shoring is fit for archaeological purposes.

Watching Brief

- 4.3.15 For the watching brief areas, all groundworks with the potential to impact on below ground archaeological deposits, as listed above, will be closely monitored by the Site Archaeologist. Should significant archaeological remains be exposed during such works, the Main Contractor on site will allow sufficient time and working space for the attending Archaeologist to carry out any of the agreed mitigation procedures required. However, this work will be undertaken in such a way as to mitigate any delays to the Main Contractor's work programme.

Human Remains

- 4.3.16 Human remains will be left in place and the Coroner informed. Where removal is necessary a licence shall be obtained from the Home Office, and the remains will be removed under the supervision of an experienced Osteoarchaeologist.

5 PROJECT SPECIFIC REPORTING AND ARCHIVE METHODOLOGY

5.1 Programme

- 5.1.1 The report will be completed within eight weeks of the completion of the fieldwork.
- 5.1.2 Three bound copies of the completed report(s) will be provided to University College, two copies and a .pdf copy for the UAD to David Radford, Oxford City Archaeologist; and a .pdf copy to Dr Roland Harris.
- 5.1.3 A summary report will be sent to the editors of ***South Midlands Archaeology*** no later than three months after the end of the calendar year in which the work is undertaken.

5.2 Report type and content

- 5.2.1 A Publication Report will be produced if significant archaeological remains are uncovered, and results of the above ground historic building recording will be taken into account where relevant and/or pertinent in the drafting of this report. The Publication Report shall be published in a suitable form in an appropriate journal or monograph to be agreed with the Oxford City Archaeological Advisory Service. The report will be provided to the Oxford City Council Archaeologist (OCCA) within one year of the completion of fieldwork (unless a longer time period has been agreed in writing with the OCCA). If no significant archaeological remains are uncovered within the excavation area, a client report (grey literature) will suffice.
- 5.2.2 The content of the report(s) will be as defined in Appendix F.

5.3 Specialist input

- 5.3.1 OA has a large pool of internal specialists, as well as a network of external specialists with whom OA have well established working relationships. A general list of these specialists is presented in Appendix G; in the event that additional input should be required, an updated list of specialists can be supplied.

5.4 Archive

- 5.4.1 The site archive will be deposited with Oxfordshire County Museum Service following completion of the project.



- 5.4.2 All digital products of the archive will be submitted on CD-ROM or DVD-ROM to Dr Roland Harris within eight weeks of the completion of the site works. The data will include:
- all line drawings (plans, sections and elevations) as electronic files/scans;
 - all photographs as high quality non-proprietary raw files (DNG) or .tif images (with a minimum of 10 megapixel uninterpolated image size);
 - survey data, showing traverses (adjusted or otherwise), sideshots, witness diagrams, derivation of OSBM values etc.
- 5.4.3 A summary of OA's general approach to documentary archiving can be found in Appendix H.

6 HEALTH AND SAFETY

6.1 Roles and responsibilities

- 6.1.1 The Senior Project Manager, Ben Ford, has responsibility for ensuring that safe systems of work are adhered to on site. He delegates elements of this responsibility to the Site Archaeologist who implements these on a day to day basis.
- 6.1.2 The Director with responsibility for Health and Safety at OA is Robert Williams (Chief Operations Officer); he is advised by the OA Group Health and Safety Coordinator, Dan Poore (NEBOSH Level 3).

6.2 Method statement and risk assessment

- 6.2.1 A summary of OA's general approach to health and safety can be found in Appendix I. A risk assessment will be undertaken and approved prior to commencing work and will be kept on site, along with OA's standard health and safety file, which will contain all relevant health and safety documentation.
- 6.2.2 The Health and Safety file will be available to view at any time.

7 MONITORING OF WORKS

- 7.1.1 At least five days notice of the commencement of the excavation and watching brief works will be given to David Radford of Oxford City Council.
- 7.1.2 David Radford will have free access to the site (subject to Health and Safety considerations) and all records to ensure the works are being carried out in accordance with this WSI and all other relevant standards.



8 REFERENCES

- Harris,R July 2013 *University College, Oxford Goodhart Building. Archaeological Assessment and Mitigation Strategy.*
- Harris, R Feb. 2014 *University College, Oxford, Kitchen. Brief for Archaeological Excavation and Watching Brief.*
- OA
(Ed. Wilkinson, D) 1992 *Fieldwork Manual*
- OA 2007 *The Buttery and Kitchen, University College, High Street, Oxford. Archaeological Excavation Report*
- Radcliffe, F 1963 *Excavations at Logic Lane, Oxoniensia Volumes XXVI/XXVII 1961/2*



OA STANDARD FIELDWORK METHODOLOGY APPENDICES

The following methods and terms will apply, where appropriate, to all OA fieldwork unless varied by the accompanying detailed Written Scheme of Investigation.

Copies of all OA internal standards and guidelines referred to below are available on request.

APPENDIX A. GENERAL EXCAVATION AND RECORDING METHODOLOGY

A.1 Standard methodology – summary

Mechanical excavation

- A.1.1 An appropriate mechanical excavator will be used for machine excavation. This will normally be a JCB or 360° tracked excavator with a 1.5 m to 2 m wide toothless ditching bucket. For work with restricted access or working room a mini excavator will be used.
- A.1.2 All mechanical excavation will be undertaken under direct archaeological supervision.
- A.1.3 All undifferentiated topsoil or overburden of recent origin will be removed down to the first significant archaeological horizon, in successive, level spits.
- A.1.4 Following mechanical excavation, all areas that require examination or recording will be cleaned using appropriate hand tools.
- A.1.5 Spoil heaps will be monitored in order to recover artefacts to assist in the analysis of the spatial distribution of artefacts. Modern artefacts will be noted but not retained.
- A.1.6 After recording, evaluation trenches and test pits will usually be backfilled with excavated material in reverse order of excavation, and compacted as far as is practicable with the mechanical excavator. Area excavations will not normally be backfilled.

Hand excavation

- A.1.7 All investigation of archaeological levels will usually be by hand, with cleaning, examination and recording both in plan and section.
- A.1.8 Within significant archaeological levels the minimum number and proportion of features required to meet the aims of the excavation will be hand excavated. Pits and postholes will usually be subject to a 50% sample by volume. Linear features will be sectioned as appropriate. More complex features such as those associated with funerary activity will usually be subject to 100% hand excavation.
- A.1.9 In the case of evaluations, it is not necessarily the intention that all trial trenches will be fully excavated to natural stratigraphy, but the depth of archaeological deposits across the site will be assessed. The stratigraphy of a representative sample of the evaluation trenches will be recorded even where no archaeological deposits have been identified. Any excavation, both by machine and by hand, will be undertaken with a view to avoiding damage to any archaeological features or deposits, which appear to be worthy of preservation in situ.

Recording

- A.1.10 Written descriptions will be recorded on proforma sheets comprising factual data and interpretative elements.
- A.1.11 Where stratified deposits are encountered a Harris matrix will be compiled during the course of the excavation.
- A.1.12 Plans will normally drawn at 1:100, but on urban or deeply stratified sites a scale of 1:50 or 1:20 will be used. Detailed plans will be at an appropriate scale. Burials will be drawn at scale 1:10 or recorded using geo-referenced digital photography.



- A.1.13 The site grid will be accurately tied into the National Grid and located on the 1:2500 or 1:1250 map of the area.
- A.1.14 A register of plans will be kept.
- A.1.15 Long sections of showing layers will be drawn at 1:50. Sections of features or short lengths of trenches will be drawn at 1:20.
- A.1.16 A register of sections will be kept.
- A.1.17 Generally all sections will be tied in to Ordnance Datum.
- A.1.18 A full black and white photographic record, illustrating in both detail and general context the principal features and finds discovered will be maintained. The photographic record will also include colour (digital) working shots to illustrate more generally the nature of the archaeological work.
- A.1.19 Photographs will be recorded on OA Photographic Record Sheets.

A.2 Relevant industry standards and guidelines

- A.2.1 The Institute for Archaeologists' Standard and Guidance notes relevant to fieldwork are:
- Standard and Guidance for Field Evaluation
 - Standard and Guidance for Excavation
 - Standard and Guidance for an Archaeological Watching Brief.
- A.2.2 These will be adhered to at all times.

A.3 Relevant OA manual and other supporting documentation

- A.3.1 All fieldwork will be undertaken in accordance with the requirements of the OA Field Manual (ed. D Wilkinson 1992), and the revised OA fieldwork manual (publication forthcoming).
- A.3.2 Further guidance is provided to all excavators in the form of the OA 'Fieldwork Crib Sheets - a companion guide to the Fieldwork Manual'. These have been issued ahead of formal publication of the revised Fieldwork Manual.

APPENDIX B. GEOMATICS AND SURVEY

B.1 Standard methodology – summary

- B.1.1 The aim of OA methodology is to provide comprehensive survey cover of all investigation areas. Additionally, it is designed to provide coverage for any areas, beyond the original scope of the project, which arise as a result of further work. It provides digital plans of all required elements of the project and locates them within an overall grid.
- B.1.2 It also maintains all necessary survey data and ensures that the relevant information is copied into the primary record, in order to ensure the integrity of the project archive. Furthermore, it ensures that all core data is securely stored and backed up. It establishes accurate project reference systems utilising a series of control stations and permanent base lines.
- B.1.3 The survey will be conducted using a combination of Total Station Theodolite (TST) survey utilising Reflectorless Electronic Distance Measurement (REDM) where appropriate, hand-measured elements and GPS (Global Positioning System).
- B.1.4 Before the main work commences, a network of control stations will be laid out encompassing the area. Control stations will be tied in to known points or existing features using rigorous metric observation. The control network will be set in using a TST to complete a traverse or using techniques as appropriate to ensure sufficient accuracy. A GPS, or other appropriate method, will be used to orientate the control network to National Grid or other recognised coordinate system.



- B.1.5 All control stations will be checked by closed traverse and/or GPS, as appropriate. The accuracy of these control stations will be accessed on a regular basis and re-established accordingly. All stations will be recorded on Survey Control Station sheets.
- B.1.6 Each control station will be marked with a PGM (Permanent Ground Marker). Witness diagrams will include the full 3-D co-ordinates generated, a sketch diagram and measurements to at least three fixed details, written description of the mark and a photograph of the control point in its environs.
- B.1.7 Prior to entry into the field all equipment will be checked, and all pre-survey information will be logged onto the field computer and uploaded onto survey equipment as appropriate. The software in the field computer will be verified and all cabling between the GPS and/or TST and computer will be checked. Prior to conducting the survey the site will be reconnoitred for locations for a viable control network and check the line of sight and any possible hindrance to survey. Daily record sheets will be kept to record daily tasks and conditions.
- B.1.8 All spatial data will be periodically downloaded onto a field computer, and backed up onto CD, or DVD. It will be cleaned, validated and inspected.
- B.1.9 All survey data will be documented on daily survey record sheets. Information entered on these sheets includes key set up information (Instrument height etc.) as well as daily variables and errors/comments. All survey data will be digitally recorded in a raw format and translated during the download process this shall allow for any errors to be cross referenced with the daily survey record and corrected accordingly.
- B.1.10 A weekly summary of survey work will be produced to access development and highlight problems. This information also will be recorded on the weekly survey journal. Technical support for the survey equipment and download software shall be available at all times. In those instances where sites are remotely operated, all digital data will be backed up regularly and a copy returned to Oxford on a weekly basis.
- B.1.11 A site plan will initially be created by a rapid survey of relevant archaeological features by mapping their extent using a combination of TST and GPS. This will form the basis for deciding excavation strategy and will be updated as the excavation clarifies the extent of, and relationships between, archaeological features.
- B.1.12 Excavated archaeological interventions and areas of complex stratigraphy will be hand drawn. At least two Drawing Points (DPs) will be set in as a baseline and measurements taken off this by tape and offset. The hand drawn plans will be referenced to the digitally captured pre-site plan by measuring in the DPs with a TST or GPS. These hand drawn elements will then be scanned in, geo-referenced using the DPs as reference points and digitised following OA's digitising protocols. For further details on hand planning procedure please refer to the fieldwork guidelines.
- B.1.13 Where appropriate rectified photography may be used to record standing structures or burials. This will be carried out in line with Standard OA procedures for rectified photography.
- B.1.14 Survey data recorded in the field will be downloaded using appropriate downloading software, and saved as an AutoCAD Map DWG file, or an ESRI Shapefile. These files will be regularly updated and backed up with originals being stored on an OA server in Oxford.
- B.1.15 All drawings will be composed of closed polygons, polylines or points in accordance with the requirements of GIS construction and OA Geomatics protocols. Once created, additional GIS/CAD work will normally be carried out at the local OA central office or at



on-site remote locations when appropriate. Support for all GIS/CAD work will be available from OA's Oxford Office during normal office hours. The aim of the GIS/CAD work is to produce workable draft plans, which can be produced as stand-alone products, or can be readily converted to GIS format. Any hand-drawn plans will be scanned and digitised on site in the first instance. Subsequent plans will be added to the main drawing as it develops.

- B.1.16 All plan scans will be numbered according to their plan site number. Digital plans will be given a standard new plan number taken out from the site plan index.
- B.1.17 All digital data will be backed up incrementally on CD or DVD. On each Friday the entire data directory will be backed up and returned to Oxford where it will be copied onto the OA projects server. Each CAD drawing will contain an information layout which will include all the relevant details appertaining to that drawing. Information (metadata) on all other digital files will be created and stored as appropriate. At the end of the survey all raw measurements will be made available as hard copy for archiving purposes.

B.2 Relevant industry standards and guidelines

- B.2.1 English Heritage (2009), Metric Survey Specifications for Cultural Heritage
- B.2.2 English Heritage (2006), Understanding Historic Buildings A Guide to Good Practise
- B.2.3 English Heritage, (2007) Understanding the Archaeology of Landscapes A Guide to Good Recording practise

B.3 Relevant OA manual and other supporting documentation

- B.3.1 OA South Metric Survey, Data Capture and Download Procedures
- B.3.2 OA South Digitising Protocols
- B.3.3 OA South GIS Protocols
- B.3.4 These will be superseded by the OA South Geomatics Manual (in progress).

APPENDIX C. ENVIRONMENTAL EVIDENCE

C.1 Summary of Standard methodology

- C.1.1 Different environmental and geoarchaeological sampling strategies may be employed according to established research targets and the perceived importance of the strata under investigation. Where possible an environmental specialist(s) will visit the site to advise on sampling strategies. Sampling methods will follow guidelines produced by English Heritage and Oxford Archaeology. A register of samples will be kept. Specialists will be consulted where non-standard sampling is required (eg. TL, OSL or archaeomagnetic dating) and if appropriate will be invited to visit the site and take the samples.
- C.1.2 Geoarchaeological sampling methods are site specific, and methodologies will be designed in consultation with the geoarchaeological manager on a site by site basis.
- C.1.3 Bulk soil samples, where possible of 40 litres or 100% of a deposit if less is available, will be taken from potentially datable features and layers for flotation for charred plant remains and for the recovery of small bones and artefacts. Larger soil samples (up to 100L) may be taken for the complete recovery of animal bones, marine shell and small artefacts from appropriate contexts. Smaller bulk samples (general biological samples) of 10-20 litres will be taken from any waterlogged deposits present for the recovery of macroscopic plant remains and insects. Series of incremental 2L samples may be



taken through buried soils and deep feature fills for the recovery of snails and/or waterlogged plant remains, depending on the nature of the stratigraphy and of the soils and sediments. Columns will be taken from buried soils, peats and waterlogged feature fills for pollen and/or phytoliths, diatoms, ostracods and foraminifera if appropriate. Soil samples will be taken for soil investigations (particle size, organic matter, bulk chemistry, soil micromorphology etc.) and possibly for metallurgical analysis in consultation with the appropriate specialists.

- C.1.4 Bulk samples from dry deposits will be processed by standard water flotation using a modified Siraf-style machine and meshes of 0.25mm (flot) and 0.5 or 1mm depending (residue). Heavy residues will be wet sieved, air dried and sorted. Samples taken exclusively for the recovery of bones, marine shell or artefacts will be wet sieved to 2mm. Waterlogged samples (1L sub-sample) and snail samples (2L) will be processed by hand flotation with flots and residues collected to 0.25mm (waterlogged plants) and 0.5mm (snails) respectively; these flots and residues will be sorted by the specialist. Samples specifically taken for insects, pollen, other microflora and microfauna, metallurgy and soil analysis will be submitted as whole earth to the appropriate specialists or processed following their instructions.

C.2 Relevant Industry Standards and Guidelines

- C.2.1 English Heritage 2010. Waterlogged Wood: Guidelines on the recording, sampling, conservation and curation of waterlogged wood.
- C.2.2 English Heritage 2001. Archaeometallurgy. Centre for Archaeology Guidelines 2001.01.
- C.2.3 English Heritage 2011. Environmental Archaeology. A guide to the theory and practice of methods, from sampling and recovery to post excavation, (2nd ed)
- C.2.4 English Heritage 2004. Dendrochronology: Guidelines on Producing and Interpreting Dendrochronological Dates.
- C.2.5 English Heritage 2006. Archaeomagnetic Dating. Guidelines for Producing and Interpreting Archaeomagnetic Dates.
- C.2.6 English Heritage 2007. Geoarchaeology. Using Earth Sciences to Understand the Archaeological Record.
- C.2.7 English Heritage 2008. Luminescence Dating. Guidelines on Using Luminescence Dating in Archaeology.
- C.2.8 English Heritage 2008. Guidelines for the Curation of Waterlogged Macroscopic Plant and Invertebrate Remains.

C.3 Relevant OA manual and other supporting documentation

- C.3.1 Oxford Archaeology 2005. Environmental Sampling Guidelines, 2nd ed.

APPENDIX D. ARTEFACTUAL EVIDENCE

D.1 Summary of Standard methodology

- D.1.1 Before a site begins arrangements concerning the finds will be discussed with the Head of Finds. Information will be provided by the project manager about the nature of the site, the expected size and make-up of the finds assemblage and any site specific finds retrieval strategies. On-site requirements will be discussed and a conservator appointed who can be called on to make site visits if required. Special requirements regarding particular categories of material will be raised at this early stage for instance the likelihood of recovering assemblages of waterlogged material, large timbers, quantities of structural stone or ceramic building material. Specialists may be required to visit sites to discuss retrieval strategies.



- D.1.2 The project manager will supply the Head of Finds with contact details of the landowner of the site so that consent to deposit any finds resulting from the investigation can be sought.
- D.1.3 The on-site retrieval, lifting and short term packaging of bulk and small finds will follow the detailed guidelines set out in the OA Finds Manual (sections 2 and 3), First Aid for Finds and the UKIC conservation guidelines No.2.
- D.1.4 All finds recovered from site will be transported to an OA regional office for processing; local sites will return finds at the end of each day, away based sites at the end of each week. Special arrangements can be discussed for certain sites with the department manager before the start of a project. Larger long running sites may in some instances set up on-site processing units to deal with the material from a particular site.
- D.1.5 All finds qualifying as Treasure will be removed to a safe place and reported to the local Coroner according to the procedures relating to the Treasure Act (1996), and the Treasure (Designation) Order 2002. Where removal can not be effected on the same working day as the discovery, suitable security measures will be taken to protect the finds from theft.
- D.1.6 Each box of finds will be accompanied by a finds context checklist itemising the finds within each box. The number of bags of finds from each context and individual small find from each context will be recorded. A member of the processing team will check the list when it arrives in the department. There are separate forms for finds recovered from fieldwalking.
- D.1.7 The processing programme is reviewed on a weekly basis and priorities are worked out after discussions with the Head of Fieldwork and the Head of Post-excavation. Project managers will keep the Head of Finds informed of any pressing deadlines that they are aware of. All finds from evaluations are dealt with as a matter of priority.
- D.1.8 All bulk finds are washed (where appropriate), marked, bagged and boxed by the processing team according to the guidelines set out in section 4 and 5 of the OA Finds Manual, First-aid for finds and the UKIC guidelines No.2. They must also take into account the requirements of the receiving museum. Primary data recording count and weight of fragments by material from each context is recorded on the site database.
- D.1.9 Unstable and sensitive objects are recorded onto the database and then packaged and stored in controlled environments according to their individual requirements. The advice of a conservator will be sought for sensitive objects in need of urgent conservation. All metalwork will be x-rayed prior to assessment (and to meet the requirements of most receiving museums).
- D.1.10 Finds recovered from the environmental sample processing will be incorporated into the main assemblage and added to the database.
- D.1.11 On completion of the processing and data entry a finds file for each archaeological investigation will be produced, a summary of which is available for the project manager. The assemblage is allocated an OA number for storage purposes. Bulk finds are stored on a roller racking system, metals in a secure controlled storage and organic finds are refrigerated where possible.
- D.1.12 The movement of finds in and out of the department storage areas is strictly monitored and recorded. Carbon copy transit forms exist to record this information. Finds will not be removed from storage without the prior knowledge of the Head of Finds.



- D.1.13 Finds information summarised in the finds compendium is used to assess the finds requirements for the post excavation stages of the project. The Finds department holds a list of all specialists used by OA (see below) both internal and external.
- D.1.14 On completion of the post excavation stage of the project the department prepares the finds assemblage for deposition with the receiving museum. Discussions will be held with the museum, the excavator and the head of finds to finalise any selection, retention or discard policy. Most museums issue strict guidelines for the preparation of archives for deposition with their individual labelling, packaging and recording requirements.

D.2 Relevant industry standards and guidelines

- D.2.1 UKIC, 1983, Packaging and Storage of Freshly-Excavated Artefacts from Archaeological Sites. Conservation Guidelines No.2. Archaeology Section, United Kingdom Institute for Conservation.
- D.2.2 UKIC, 1988, Excavated Artefacts and Conservation: UK sites Revised Edition. Conservation Guidelines No.1. Archaeology Section, United Kingdom Institute for Conservation.
- D.2.3 Society of Museum Archaeologists, 1993, Selection, retention and dispersal of Archaeological Collections. Download available via <http://www.socmusarch.org.uk/publica.htm>
- D.2.4 Watkinson, D E & Neal, V, 1998, First Aid for Finds (3rd edition). RESCUE & UKIC

D.3 Relevant OA manual and other supporting documentation

- D.3.1 Allen, L, and Cropper, C (internal publication only) Oxford Archaeology Finds Manual.

APPENDIX E. BURIALS

E.1 Summary of Standard methodology

- E.1.1 Human remains will not be excavated without a relevant licence/faculty and, where applicable (for example, a post medieval cemetery), a risk assessment from the local environmental officer.
- E.1.2 All human remains will be treated with due care and regard to the sensitivities involved, and will be screened from the public throughout the course of the works.
- E.1.3 Excavation will be undertaken in accordance with IFA (Roberts and McKinley 1993) and English Heritage and The Church of England guidelines (Mays 2005). For crypts and post-medieval burials the recommendations set out by the IFA (Cox 2001) in Crypt Archaeology: an approach, are also relevant.
- E.1.4 In accordance with recommendations set out in the English Heritage and Church of England (2005) document Guidance for best practice for treatment of human remains excavated from Christian burial grounds in England, skeletons will not be excavated beyond the limits of the trench, unless they are deemed osteologically or archaeologically important.
- E.1.5 Where any soft tissue survives and/or materials (for example, inner coffins, mattresses and other paddings) soaked in body liquor, no excavation or handling of the remains will take place until an appropriate risk assessment has been undertaken. Relevant protocols (i.e. Cox 2001) for their excavation, recording and removal will be adhered to.
- E.1.6 OA does not excavate or remove modern burials (post-1907) and does not remove or open sealed lead coffins. Appropriate PPE (e.g. chemical suit, latex gloves) will be worn by all staff when working with lead coffins.



- E.1.7 Graves and their contents will be hand excavated in plan. Each component (for example, skeleton, grave cut, coffin (or remains of), grave fill) will be assigned a unique context number from a running sequence. A group number will also be assigned to all of these, and small finds numbers to features such as coffin nails, hobnails and other grave goods (as appropriate).
- E.1.8 Soil samples will be taken during the excavation of inhumations, usually from the region of the skull, chest, right hand, left hand, abdomen and pelvis, right foot and left foot. Infants (circa. less than 5 years) will normally be recovered as bulk samples. Soil samples will also be taken from graves that appear to contain no human bone.
- E.1.9 Burials (including the skeleton, cremation, coffin fittings, coffin, urn, grave goods / other) will be recorded by photographic and written record using specialised pro forma context sheets, although these records may only include schematic representations of the location and position of the skeletons, depending on the nature and circumstances of the burial.
- E.1.10 Where necessary, hand drawn plans (usually at 1:10, sometimes 1:5) will be made, especially of contexts where required details cannot be adequately seen using digital rectified photography (for example, urned cremations; undisturbed hob nails).
- E.1.11 Levels will be taken. For inhumations this will be on the skull, pelvis and feet as a minimum.
- E.1.12 Human remains that are exhumed will be bagged and labelled according to skeletal region and carefully packed into suitable containers (for example, acid free cardboard boxes) and transported to a suitable storage location. Any associated coffins and coffin fittings will be contained with the human remains wherever possible.
- E.1.13 Urned cremations will not usually be half sectioned or excavated in spits, but recovered as a bulk sample.
- E.1.14 Wherever possible, urned cremations will be carefully bandaged, recovered whole and will be excavated in spits in the laboratory, as per the recommendations of McKinley (2004).
- E.1.15 Unless deemed osteologically or archaeologically important disarticulated bone / charnel will be collected and reserved for re-burial if immediate re-internment as close to its original position is not practicable. In some instances, a rapid scan of this material may be undertaken by a qualified osteologist, if deemed relevant.
- E.1.16 If undisturbed, pyre sites will normally be excavated in quadrants, at the very least in 0.5 m blocks of 0.5 m spits.
- E.1.17 Pyre debris dumps will be half sectioned or quadrant and will be subject to 100% sampling.
- E.1.18 Wooden and lead coffins and any associated fittings, including fixing nails will be recorded on a pro forma coffin recording sheet. All surviving coffin fittings will be recorded by reference to Reeve and Adams (1993) and the unpublished master catalogue that is being compiled by OA. Where individual types cannot be paralleled, they will be drawn and/ or photographed and assigned a style number. Biographical details obtained from legible departum plate inscriptions will be recorded and further documentary research will be made.
- E.1.19 Funerary structures, such as brick shaft graves and/or vaults will be hand-drawn at a scale of 1:10 or 1:20, as appropriate. Location, dimensions and method of construction will be noted, and the structure added to the overall trench plan.
- E.1.20 Memorials, including headstones, revealed within the areas of development will be recorded irrespective of whether they are believed to be in situ.
- E.1.21 Where required, memorials will be accorded an individual context number and will also be included as part of the grave group, if the association with a burial is clear.



- E.1.22 Memorials will be recorded on pro-forma context sheets, based on and following the guidelines set out by Mytum (2002), and will include details of:
- Shape
 - Dimensions
 - Type of stone used
 - Iconography (an illustration may best describe these features)
 - Inscription (verbatim record of inscription; font of the lettering)
 - Stylistic type

E.2 Relevant industry standards and guidelines

- E.2.1 Cox, M, 2001 Crypt archaeology. An approach. IFA Paper No. 3
- E.2.2 Mays, S, 2005 Guidance for Best Practice for Treatment of Human Remains Excavated from Christian Burial Grounds in England. Church of England and English Heritage.
- E.2.3 McKinley, J, and Roberts, C, 1993 Excavation and post-excavation treatment of cremated and inhumed human remains, IFA Technical Paper No. 13
- E.2.4 McKinley, J, 2004 Compiling a skeletal inventory: cremated human bone. In Brickley, M, and McKinley, J (eds) Guidelines to the Standards for Recording Human Remains, IFA Technical Paper No. 7. 9-13.
- E.2.5 Mytum, H, 2000 Recording and Analysing Graveyards. CBA Handbook No. 15.
- E.2.6 Reeve, J, and Adams, M, 1993 The Spitalfields Project. Volume I – The Archaeology Across the Styx. CBA Research Report No. 85
- E.2.7 The Human Tissue Act 2004

E.3 Relevant OA manual and other supporting documentation

- E.3.1 Loe, L, 2008 The Treatment of Human Remains in the Care of Oxford Archaeology. Oxford Archaeology internal policy document.
- E.3.2 Excavating and recording human remains. Oxford Archaeology internal guidelines document.

APPENDIX F. REPORTING

F.1 Summary of Standard methodology

- F.1.1 For Watching Briefs and Evaluations, the style and format of the report will be determined by OA, but will include as a minimum the following:
- A location plan of trenches and/or other fieldwork in relation to the proposed development.
 - Plans and sections of features located at an appropriate scale.
 - A section drawing showing depth of deposits including present ground level with Ordnance Datum, vertical and horizontal scale.
 - A summary statement of the results.
 - A table summarising the features, classes and numbers of artefacts contained within, spot dating of significant finds and an interpretation.
 - A reconsideration of the methodology used, and a confidence rating for the results.
 - An interpretation of the archaeological findings both within the site and within their wider landscape/townscape setting.
- F.1.2 For Excavations, a Post-Excavation Assessment and Project Design will generally be prepared, as prescribed by English Heritage Management of Research Projects in the Historic Environment (MoRPHE) 2006, Section 2.3. This will include a Project Description containing:
- A summary description and background of the project.



- A summary of the quantities and assessment of potential for analysis of the information recovered for each category of site, finds, dating and environmental data. Detailed assessment reports will be contained within appendices.
 - An explicit statement of the scope of the project design and how the project relates to any other projects or work preceding, concurrent with or following on from it.
 - A statement of the research aims of the fieldwork and an illustrated summary of results to date indicating to what extent the aims were fulfilled.
 - A list of the project aims as revised in the light of the results of fieldwork and the current post-excavation assessment process.
- F.1.3 A section on Resources and Programming will also be produced, containing:
- A list of the personnel involved indicating their qualifications for the tasks undertaken, along with an explanation of how the project team will communicate, both internally and externally.
 - A list of the methods which will be used to achieve the revised research aims.
 - A list of all the tasks involved in using the stated methods to achieve the aims and produce a report and research archive in the stated format, indicating the personnel and time in days involved in each task. Allowance should be made for general project-related tasks such as monitoring, management and project meetings, editorial and revision time.
 - A cascade or Gantt chart indicating tasks in the sequence and relationships required to complete the project. Due allowance will be made for leave and public holidays. Time will also be allowed for the report to be read by a named academic referee as agreed with the County Archaeological Officer, and by the County Archaeological Officer.
 - A report synopsis indicating publisher and report format, broken down into chapters, section headings and subheadings, with approximate word lengths and numbers and titles of illustrations per chapter. The structure of the report synopsis should explicitly reflect the research aims of the project.
- F.1.4 The Project Design will be submitted to the County Archaeological Officer or equivalent for agreement.
- F.1.5 Under certain circumstances (eg with very small mitigations), and as agreed with the County Archaeological Officer or equivalent, a formal Assessment and Project Design may not be required and either the project will continue straight to full analysis, or a simple Project Proposal (MoRPHE 2006 Section 2.1) will be produced prior to full analysis. This proposal may include:
- A summary of the background to the project
 - Research aims and objectives
 - Methods statement outlining how the aims and objectives will be achieved
 - An outline of the stages, products and tasks
 - Proposed project team
 - Estimated overall timetable and budget if appropriate.
- F.1.6 Once the post-excavation Project Design or Project Proposal has been accepted, the County Archaeological Officer or his appointed deputy will monitor the progress of the post-excavation project at agreed points. Any significant variation in the project design will be agreed with the County Archaeological Officer.
- F.1.7 The results of the project will be published in an appropriate archaeological journal or monograph. The appropriate level of publication will be dependent on the significance of the fieldwork results and will be agreed with the County Archaeological Officer. An OASIS (Online Access to the Index of Archaeological Investigations) form will be completed for each project as per English Heritage guidelines.

F.2 Relevant industry standards and guidelines

F.2.1 Oxford Archaeology (OA) adheres to the national standards in post-excavation procedure as outlined in English Heritage's Management of Research Projects in the Historic Environment (MoRPHE; EH 2006). Furthermore, all post-excavation projects take into account the appropriate regional research frameworks as well as national research agendas such as the Framework for Historic Environment Activities & Programmes in English Heritage (SHAPE; EH 2008).

APPENDIX G. LIST OF SPECIALISTS REGULARLY USED BY OA

G.1.1 Below are two tables, one containing 'in-house' OA specialists, and the other containing a list of specialists who are regularly used by OA.

Internal archaeological specialists used by OA

Specialist	Specialism	Qualifications
Lisa Brown	Early Prehistoric pottery	BA, PGDip, MLitt, MifA
Paul Booth	Iron Age and Roman pottery	BA, FSA, MifA
John Cotter	Medieval and Post Medieval pottery, Clay Pipe and CBM	BA (Hon.), MifA
Cynthia Poole	CBM and Fired Clay	BA (Hon.), MSc
Edward Biddulph	Roman Pottery	BA (Hon.), MA, MifA
Ian Scott	Metalwork and Glass	BA (Hon.)
Leigh Allen	Metalwork and worked bone	BA (Hon.), PGDip
Dr Ruth Shaffrey	Worked stone artefacts	BA, PhD
Julian Munby	Architectural Stone	BA, FSA
Dr Rebecca Nicholson	Fish and Bird Bone	BA (Hon.), MA, D.Phil, MifA, FSA Scot
Elizabeth Huckerby	Pollen and waterlogged plant remains	BA, MSc, MifA
Lena Strid	Animal bone	MA
Kath Hunter	Charred and waterlogged plant remains	Bsc, MifA
Dr Denise Druce Pollen	Charred plant remains and charcoal	BA, PhD, MifA
Liz Stafford	Geoarchaeology and land snails	BA, Msc
Nicola Scott	Archaeological archive deposition	BA
Mike Donnelly	Flint	BSc, MifA

External archaeological specialists regularly used by OA

Specialist	Specialism	Qualifications
Lynne Keys	Slag	BA (Hon.)
Quita Mould	Leather	BA, MA
Penelope Walton Rogers, The Anglo Saxon Laboratory	Identification of Medieval Textiles	FSA, Dip.Acc
Dana Goodburn-Brown	Conservation	BSc (Hon.), BA, MSc
Steve Allen, York Archaeological Trust	Conservation	BA, MA, MAAIS
Dr Richard McPhail	Soils, especially Micromorphology	BA (Hon.), MSc, PhD
Dana Challinor	Charcoal	MA (Hon.), MSc
Dr Nigel Cameron	Diatoms	BSc, MSc, PhD
Dr David Smith	Insects	BA (Hon.), MA, PhD
Professor Adrian Parker	Phytoliths and pollen	BSc (Hons.), D.Phil
Dr David Starley	Slag	BSc, PhD
Wendy Carruthers	Charred and waterlogged plant remains	
Dr Sylvia Peglar	Pollen	PhD
Dr John Whittaker	Ostracods and Foraminifera	BA (Hons), PhD
Dr John Crowther	Soil Chemistry	MA, PhD
Dr Martin Bates	Geoarchaeology	BSc, PhD
Professor Mark Robinson	Insects, molluscs, waterlogged plant remains	MA, PhD
Dr Dan Miles	Dendrochronology	D.Phil, FSA
Dr Jean-luc Schwenninger	Optically Stimulated Luminescence Dating	PhD
Dr David Higgins	Clay Pipe	BA, PhD, MifA
Dr Hugo Lamdin Wymark	Flint	BSc, PhD, FSA Scot, MifA

APPENDIX H. DOCUMENTARY ARCHIVING

H.1 Standard methodology – summary

H.1.1 The documentary archive constitutes all the written, drawn, photographic and digital records relating to the set up, fieldwork and post-excavation phases of the project. This documentary archive, together with the artefactual and environmental ecofact archive



- collectively forms the record of the site. The report is part of the documentary archive, and the archive must provide the evidence that supports the conclusions of the report, but the archive may also include data which exceeds the limitations of research parameters set down for the report and which could be of significant value to future researchers.
- H.1.2 At the outset of the project OA Archive department will contact the relevant local receiving museum or archive repository to notify them of the imminent start of a new fieldwork project in their collecting area. Relevant local archiving guidelines will be observed and site codes, which integrate with the receiving repository, will be agreed for labelling of archives and finds.
- H.1.3 During the course of the project the Archive department will assist the Project Manager in the management of the archive including the cataloguing and development technique suitable for photographic archive requirements.
- H.1.4 The site archive will be security copied either by microfilming and the master sent to English Heritage as part of the National Archaeological Record or it will be digitally scanned and stored in a dedicated archive section of the OA computer network. A copy of the work as microfiche diazo or .pdf/a on disk will be sent to the receiving museums with the hard copy. This will act as a safeguard against the accidental loss and the long-term degeneration of paper records and photographs.
- H.1.5 Born digital data where suitable will be printed to hard copy for the receiving museum but if the format is such that it needs maintaining in digital form a copy will be sent to the receiving museum by CD. Back-up copies will be stored on the OA digital network and or posted to the ADS in accordance with AAF & ADS guidelines. In most cases a digital copy of the report will be included in the OASIS project library hosted by ADS.
- H.1.6 Prior to deposition the Archive department will contact the museum regarding the size and content of the archive and discuss any retention and dispersal policies which may be applicable in line with local and SMA Guidelines ' Selection, Retention & Dispersal of Archaeological Collections' 1993
- H.1.7 The site archive will then be deposited with the relevant receiving museum or repository at the earliest opportunity unless further archaeological work on the site is expected. The documentary archive will include correspondence detailing landowner consent to deposit the artefacts and any copyright licences in accordance with the receiving museum guidelines.
- H.1.8 Oxford Archaeology will retain full copyright of any commissioned reports, tender documents or other project documents, under the Copyright, Designs and Patents Act 1988 with all rights reserved; excepting that it will provide a licence to the client in all matters directly relating to the project as described in the Written Scheme of Investigation.
- H.1.9 OA will advise the client of any such materials supplied in the course of projects which are not OA's copyright.
- H.1.10 OA undertakes to respect all requirements for confidentiality about the client's proposals provided that these are clearly stated. It is expected that such conditions shall not unreasonably impede the satisfactory performance of the services required. OA further undertake to keep confidential any conclusions about the likely implications of such proposals for the historic environment. It is expected that clients respect OA's general ethical obligations not to suppress significant archaeological data for an unreasonable period.



H.2 Relevant industry standards and guidelines

- H.2.1 At the end of the project the site archive will be ordered, catalogued, labelled and conserved and stored according to the following national guidelines:
- H.2.2 The 2007 AAF guide Archaeological Archives A Guide to best practice in creation, compilation, transfer and curation. Brown D.
- H.2.3 The IFA Standard & Guidance for the creation, compilation, transfer and deposition of archaeological archives
- H.2.4 The UKIC's Guidelines for the preparation of excavation archives for long-term storage
- H.2.5 The MGC's Standards in the museum care of archaeological collections
- H.2.6 Local museum guidelines such as Museum of London Guidelines: (<http://www.museumoflondonarchaeology.org.uk/English/ArchiveResearch/DeposResouce>) will be adopted where appropriate to the archive collecting area.
- H.2.7 The site archive will be prepared to at least the minimum acceptable standard defined in Management of Archaeological Projects 2, English Heritage 1991.

H.3 Relevant OA manual and other supporting documentation

- H.3.1 The OA Archives Policy.

APPENDIX I. HEALTH AND SAFETY

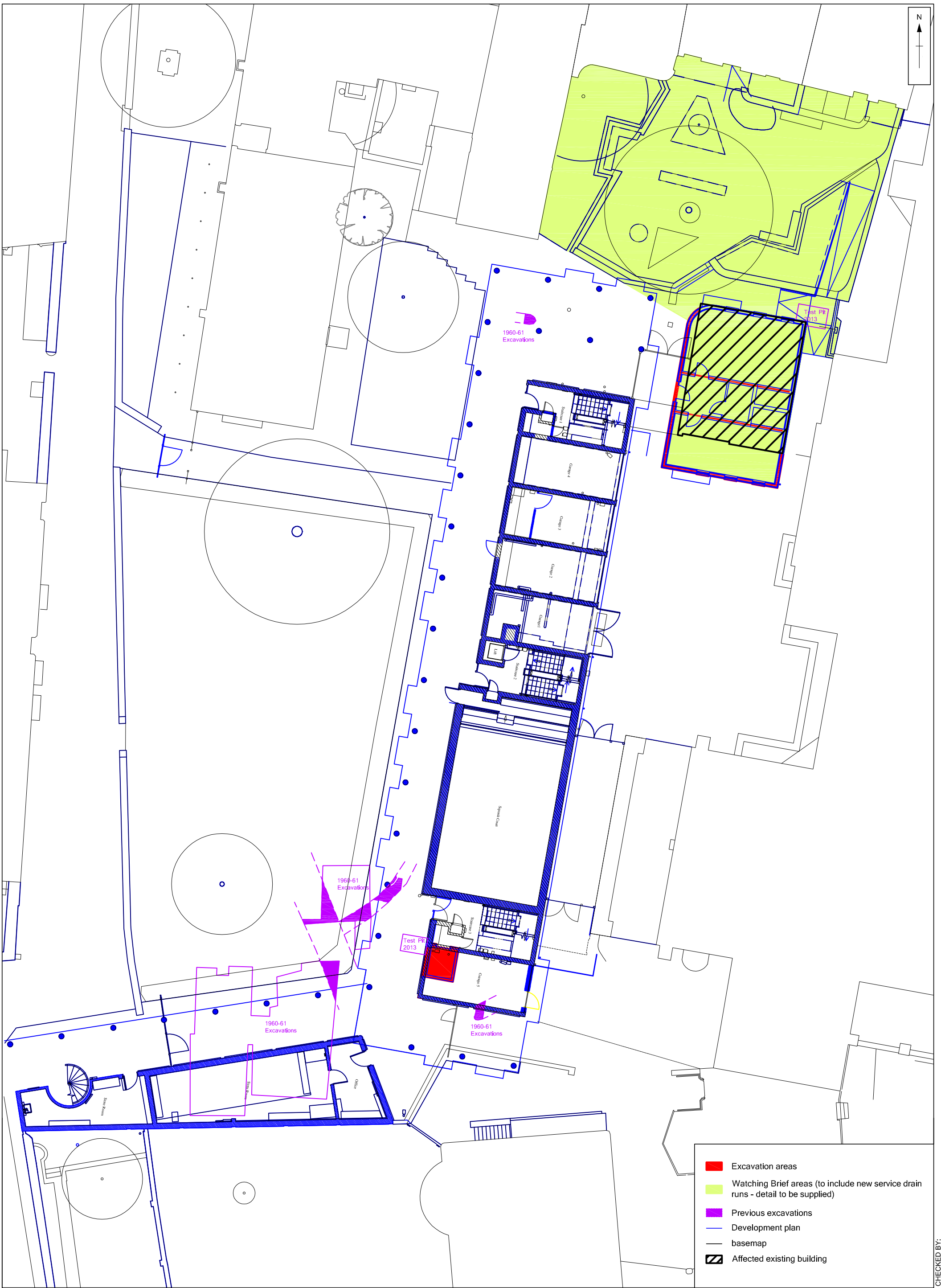
I.1 Summary of Standard Methodology

- I.1.1 All work will be undertaken in accordance with the OA Health and Safety Policy (Revision 13, August 2009), the OA Site Safety Procedures Manual, a site-specific Risk Assessment and, if required, Safety Plan or Method Statement. Copies of the site-specific documents will be submitted to the client or their representative for approvals prior to mobilisation, and all relevant H and S documentation will be available on site at all times. The Health and Safety documentation will be read in conjunction with the project WSI.
- I.1.2 Where a site is covered by the The Construction (Design and Management) Regulations (2007), all work will be carried out in accordance with the Principal Contractor's Construction Phase Plan.
- I.1.3 All work will be carried out according to the requirements of all relevant legislation and guidance, including, but not exclusively.
 - The Health and Safety at Work Act (1974),
 - Management of Health and Safety at Work Regulations (1999),
 - Manual Handling Operations Regulations 1992 (as amended in 2002),
 - The Construction (Design and Management) Regulations (2007), and
 - The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (1995).



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Figure 1: Site location



- Excavation areas
- Watching Brief areas (to include new service drain runs - detail to be supplied)
- Previous excavations
- Development plan
- basemap
- Affected existing building

0 10 m
Scale at A3 1:200

Figure 2: Composit plan of previous excavations and detail of proposed design with excavation and watching brief areas

CHECKED BY: