# Lincoln College, Garden Building, Oxford

***Written Scheme of Investigation for an Excavation and Historic Building Recording***

*Centred on NGR SP 5149 0628*

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# 1 INTRODUCTION

## 1.1 Project details

1.1.1 Oxford Archaeology (OA), has been commissioned by Stephen Oliver of Rodney Melville and Partners Ltd, on behalf of Lincoln College, Oxford, to produce this document in advance of a programme of archaeological works related to the proposed redevelopment of the Garden Building. This work will involve the partial demolition of the Lecture Room attached to the Garden Building, the erection of a two storey extension to, and renovation of the adjacent existing Garden Building / New Library building, drainage and service installation and landscaping. Below-ground archaeological investigations (Figure 1) will be required for:

- the proposed basement;
- the proposed tree pit;
- the below ground drainage;
- other below ground services.

1.1.2 Historic building recording focusing on the listed garden building will also be required prior to the start of site works.

1.1.3 The work is being undertaken as a condition of Planning Permission (planning ref: 11/03306/FUL). A brief has been set by David Radford detailing the Local Authority's requirements for work necessary to discharge the planning condition; this document outlines how OA will implement those requirements.

1.1.4 All work will be undertaken in accordance with local and national planning policies (PPS5 Policy HE 12.3) and is subject to planning conditions 10 and 11 as stated in the brief.

## 1.2 Location, geology and topography

1.2.1 The site, centred on NGR SP 5149 0628, lies within the confines of Lincoln College, Oxford. It is bounded to the north by Brasenose Lane, to the east by Brasenose College, to the south by High Street and to the west by Turl Street. The college is situated within the historic core of Oxford and is part of the Oxford Central Conservation Area.

1.2.2 The proposed basement (Fig. 1) is located to the north of what is referred to as the Garden Building, on the site presently occupied by the Lecture Room. Associated proposed works lie in the surrounding grounds of these buildings, which includes areas of grass, paving and planting beds with limited tree cover (including tree root protection areas).

1.2.3 The site is situated on drift geology on the Summertown-Radley gravel terrace, which is part of the Second Gravel Terrace of the Thames sequence. These have been described as reddish silts encountered at about 62.1-62.3m aOD (above Ordnance Datum), (OAU 1998, 4). The gravels were laid down in the Quarternary Period as part of the fluvial systems of the nearby Rivers Thames and Cherwell. The underlying solid geology is of the Oxford Clay formation (BGS website). The ground level at the site is flat and relatively consistent at 64.15m OD .

# 2 Archaeological and Historical Background and Potential

## 2.1 Archaeological and historical background

2.1.1 The archaeological and historical background to the site has been described in detail in a Desk-Based Assessment (Coppack 2012), and further summarised by David Radford (2012); that summary is reproduced below:

2.1.2 Previous investigations have demonstrated the presence of an extensive Middle Neolithic-Early Bronze Age ritual and funerary monument complex spread across the terrace. The nearest recorded monument is a possible barrow recorded at Logic Lane 280m to the south-east (UAD Event No 181).

2.1.3 The site is of particular interest because it lies within the eastern part of the late Saxon burh and is located between three nearby sites that have all produced late Saxon evidence. Previous investigations have recorded late Saxon remains to the north at the Lincoln College Kitchen excavations (Kamesh et al. 2002), to the south at the All Saints Church excavations (Hassall 1974; UAD Event No 272) and to the east at Brasenose College Staircases 16,17 and 18 (UAD Event No 179).

2.1.4 The All Saints and Lincoln Kitchen excavations both preserved evidence of burnt structures and burnt cereals suggesting an area within the burh that may be associated with cereal storage and potentially related commercial activity (e.g. bread making or malting). The kitchen site produced evidence for a sequence of burning episodes and evidence for fire clearance episodes manifested as pits with multiple fills. The kitchen site also produced evidence for meat and fish storage and metalworking. The All Saints site produced evidence for possible cloth manufacturing.

2.1.5 The kitchen site produced evidence for late 11th century cellar pit construction (previously the pits were generally assumed to be an early 11th century phenomenon). There was also evidence for the cellar pits having a commercial rather than domestic use (e.g. clay-lining, lack of domestic pottery). Furthermore the site also produced one of the most extensive Late Saxon pottery assemblages recovered from Oxford to date. It was also notable for producing evidence for significant activity away from the principal street frontage in the 11th century (e.g. orientated on Brasenose Lane to the north) providing evidence for the density of urban activity within the Burh defences. The Late Saxon pottery imports recovered from the college kitchen and All Saint's Church sites, both located in the eastern part of the burh, appear to be different from known contemporary sites located in the western part of the burh. Thus raising the possibility that different cultural traditions of pottery use, indicating perhaps two distinct ways of cooking and eating amongst the resident population, may be identifiable within the settlement (See Saxon and Scandinavian city research agenda 5.9.4).

2.1.6 The Garden Building site is located between All Saint's Church (High Street frontage) and the Lincoln College kitchen site (Brasenose Lane) and provides an opportunity to further understanding of urban development within a street block of the burh. The site therefore may present an exceptional opportunity to enhance our understanding of late Saxon Oxford.

2.1.7 The kitchen site produced evidence for a hiatus of activity for perhaps 300 years from the around the Conquest until the early 13th century, in contrast to patterns of activity elsewhere in the town. During this time gravel pits rather than rubbish pitting or dumping appeared to be the primary activity in this area.

2.1.8 The available documentary evidence indicates that in the 13th century the Garden Building site was located within tenements belonging to the Hospital of St John and

John Warwick and Roger Folkus. The later tenement may have originated as a plot fronting onto the High Street which was later subdivided. This and the Hospital of St John plot may have subsequently been accessed via a lane located to the north of All Saints churchyard, later to become a yard off Rotten Row, a lane established around the east and northern sides of the churchyard.

2.1.9 Lincoln College was founded as The College of the Blessed Virgin Mary and All Saints of Lincoln in 1427 by Richard Fleming, Bishop of Lincoln. It originally consisted of a single quadrangle on the angle on Turl Street and Brasenose Lane. A second quadrangle (Chapel Quadrangle) was added to the south in the 17th century and walled garden (The Rectors Garden) was established to the east. In the post-medieval period the Garden Building site was partly occupied by structures fronting onto Rotten Row but is likely to have also included land within the walled Rectors Garden and an adjacent garden space between Lincoln and Brasenose College. The area of Rotten Row was finally cleared in 1808 when eleven houses were demolished, a new wall built towards Turl Street, and the Fellows Garden as laid out. This was recorded in detail on the first edition Ordnance Survey town map of 1876.

2.1.10 Previous watching briefs in the Fellows' Garden have identified a series of walls west of the current Garden Building, located 300mm below the present ground surface, thought to be associated with the post-medieval buildings of Rotten Row (Kamesh et al. 2002). A poorly understood vaulted structure has also recorded west of the Garden Building in the southern part of the Fellows Garden (UAD Event No 472). A heavily constrained evaluation by Thames Valley Archaeological Services in 2010 involving pits excavated against the external wall of the Garden Building failed to identify any significant remains, although the depth of the investigations was limited (TVAS 2010).

#### *2.1.11 The Garden Building*

2.1.12 The Garden Building was designed by Read & MacDonald Architects and was constructed in 1905-6 as the New Library, located at the east end of the Fellows' Garden. The new structure comprised a main two storey building, housing the modern or Junior Library on the ground floor and the Senior Library on the upper floor, together with a single storey lecture block to the north.

2.1.13 The building was listed at Grade II in 1954 although the list description is remarkably brief, comprising of little more than the address and date of the building, and therefore it is somewhat ambiguous exactly which parts the listing covers.

2.1.14 In the 1970s the college library moved into the adjacent and redundant All Saints Church and the old library was then converted into a lecture room on the first floor and a number of uses on the ground floor. Library fittings were moved from the 1905-6 building into All Saints and the interior of the building, particularly the ground floor, was extensively remodelled.

## 2.2 Archaeological potential

2.2.1 An archaeological excavation is considered necessary for this site because of the high potential for prehistoric, Saxon, medieval and post medieval remains in this location. The archaeology is likely to be of multiple phases and may represent varied activities. There is potential for a wide range of feature and deposit types to be preserved including: occupation layers, property boundaries, possible paths or roads, rubbish pits, structural evidence and human burials. The site has a good potential to demonstrate influences from both secular and religious activity in the adjacent areas. There is also a good potential for artefacts of all categories to be present and the presence of

significant environmental deposits can be anticipated based on the results of previous nearby excavations.

# 3 RESEARCH OBJECTIVES

## 3.1 Introduction

3.1.1 Both the general and specific research objectives presented below are reproduced directly from the Brief. Where appropriate, references to the draft Oxford Archaeological Resource Assessments and Research Agendas (OARARA 2012) have been added. These documents will be consulted and referred to during the course of the excavation and subsequent assessment and analysis.

## 3.2 General

3.2.1 The aim of the investigation is to identify and record any significant archaeological features or deposits which will be affected by the development, with special reference to the potential for Late Saxon, medieval and post-medieval urban remains that might help enhance our understanding of the character and evolution of urban development in this part of the burh/town. It is also aimed to conduct building recording to provide an adequate archived record of the listed Garden Building prior to its partial demolition.

3.2.2 The principal aim of the building recording will be to investigate and record for posterity the garden building and other parts of the existing building which will be impacted by the proposed works.

3.2.3 The building recording will:

- place the building within the wider context of the college
- analyse and study the recorded data;
- make the record publicly accessible through a report (a public document) and a project archive deposited with a public institution.

## 3.3 Specific aims and objectives

3.3.1 The specific aims and objectives of the below-ground investigations are:

(i) Produce an archive quality record of the building prior to partial demolition utilising existing plans and documentation;

***Late Saxon***

(ii) It has been suggested that cellar pits are a phenomenon of the first half of the 11th century but the Lincoln Kitchen Building 3 cellar pit dated to second half of the 11th century (Kamesh et al 2002). If cellar pit forms are present what was their orientation, location in relationship to other structures, form, function and date? (OARARA 2012, Ch5, p6).

(iii) The Lincoln kitchen site was notable for the survival of evidence for above ground structures (postholes, stake holes and beam slots) which are rare in Oxford and comparable contemporary sites because of the impact of later urban pitting. Can the Garden Building site provide further information about Late Saxon structural forms and the use of urban space?

(iv) Can the combined results of this and adjacent excavations further clarify the suggested subdivision of larger primary burh plots and the potential arrangements

of frontage commercial structures with cellar pits and residential structures to the rear? Can we learn more about plot layout and density of use over time?(OARARA 2012, Ch5, p6).

(v) Can evidence for higher status urban residences be identified from the examination of building remains and material culture in the Late Saxon burh (e.g. numbers of glazed vessels, joints of high quality meat, evidence for metal smelting)? (OARARA 2012, Ch5, p7,9).

(vi) The lack of a sizable Late Saxon bone assemblages from the town puts a premium on recovering well preserved assemblages. Also understanding Late Saxon patterns of fish consumption has become of greater interest since the discovery of the St John's College mass grave, the occupants of which have been suggested to be Scandinavian settlers who consumed higher than average amounts of fish as adults (Pollard *et al*. 2010: 77). Can the careful recovery of animal/fish bone assemblages provide further evidence consumption patterns and the supplementation of urban diets by hunting and fowling (noting evidence for foods such as plovers, pike, chub, eel, salmonids, red and roe deer from the Lincoln Kitchen site)? (OARARA 2012, Ch5, p9).

(vii) Some variation in Late Saxon bone assemblages have been noticed (e.g. the composition of cattle and sheep). Can further evidence be found for variations in disposal strategies perhaps relating to the location of different industries associated with carcass processing? Does any bone assemblage from the Garden Building site compliment the evidence from the kitchen site (e.g. low status sheep and to a lesser extent cattle, farmed for secondary products them killed for meat)? (OARARA 2012, Ch5, p7).

(viii) Previous investigations at All Saints Church and Lincoln College Kitchen indicate that burning episodes in the Late Saxon period have preserved in-situ grain deposits in this area. These may indicate '*a quite substantial building or complex was associated with large scale storage of free freshing wheat and barley for baking or malting'* (Pelling in Kamesh et al. 2002: 271). Can this 'complex' be further identified and understood? Can structures related to grain storage be identified?

(ix) Is there any evidence for specialised activity in this location (e.g. large scale cereal storage, malting, cloth production, metal working, meat storage, fish storage, tanning)? Is there any evidence for semi rural activity (cereal processing, or farmyard animals, especially domestic fowl)? (Crawford 2012, 5)

(x) It is noted that pit assemblages at the Lincoln Kitchen site produced evidence for subtle changes in activity over time e.g. evidence for domestic refuse, the storage of pickled herring, slag from metal working etc, can the careful investigation of deposits reveal similar patterns?

(xi) The results from previous excavations within the suggested primary Late Saxon burh have noted a distinct distribution pattern of pottery imports that differentiates contemporary sites to the west and east of Cornmarket Street (Kamesh et al. 2002: 237). Can this pattern be further refined and understood?

***Medieval***

(xii) Why were so many properties in Oxford recorded as waste in Domesday considering the town was not obviously affected by warfare? Can the patterning of

occupation and waste in different quarters of the town and along the principal and side streets be further identified? (OARARA 2012, Ch6, p4; Munby 2010, 5).

(xiii) How did patterns in material culture change after the Conquest and in what way was Norman culture influential? Can the impact of Norman production or decoration techniques be identified and studied? (OARARA 2012, Ch6, p6).

(xiv) To what extent is economic prosperity in the late 11th-12th century reflected in changing patterns of pottery use, the increase in the volume of pottery in assemblages and the development of a 'display culture' for pottery in addition to utilitarian considerations? Can this process be further mapped between different intra-mural areas?(OARARA 2012, Ch6, p6-7).

(xv) How is the late 11th century and 12th century growth of the town manifested in changes to domestic assemblages? Can further assemblages be identified relating to high and low status intra-mural domestic sites, specialised manufacturing and commercial sites? (OARARA 2012, Ch6, p3; Munby 2010, 4).

(xvi) How was the Garden Building plot used in the 11th-13th century and how does this use compares with the kitchen site? What are the continuities and discontinuities of land use between plots fronting Turl Street/Rotten Row, Brasenose Lane and High Street? (OARARA 2012, Ch6, p3).

(xvii) What can further investigation of charcoal deposits tell us about how fuel was sourced for the town? (OARARA 2012, Ch6, p5; Ch7, p7).

(xviii) What can bone assemblages and environmental samples tell us about the urban economy, diets and nutrition during this period (including evidence for social status and variations in cultural practice)? Can fish bone evidence be contrasted with adjacent college kitchen site during the late medieval and post-medieval period (e.g. evidence for increasing varied of consumption with many luxury and exotic foods)? (OARARA 2012, Ch6, p7; Munby 2010, 4).

(xix) Can the boundary between the rectory garden and the plot to the east be identified? Are pits present in either plot and if so how do college and adjacent assemblages compare?

(xx) The archaeology of medieval Oxford has exceptional potential to clarify apparent patterns of economic expansion of the town in the 12th-early 13th century and the subsequent contraction and decline in the later 13th-15th centuries suggested by documentary records. To what extent can this pattern be refined with relation to geographical areas, trades and specific communities and institutions? Can the assumed drivers of wealth creation in the wool and cloth trades be archaeologically identified? Can the subsequent apparent shift to service industries supplying the collegiate market be likewise identified? (OARARA 2012, Ch7, p3).

***Post-medieval***

(xxi) From a fairly small start Oxford grew dramatically from about the 1580s to the eighteenth century, largely driven by post-Reformation expansion of the University. This is clearly seen in the difference between the Agas map and the Loggan map of the city. This population growth was largely still confined within the walled town and the immediate suburbs. Can this growth be identified in terms of increased development across former open plots? Is there an increase in material domestic culture (pottery, food debris) over this period to suggest increased population? (OARARA 2012, Ch8, p4).

(xxii) Can features related to the 'lower status' buildings on Rotten Row be identified? What was the density and character of occupation here in this lane leading off the High Street?

(xxiii) The location and study of workshop spaces has great potential to enhance our understanding of craft industries, the social relations of production, social practices and production techniques. Can we identify evidence for small-scale production, for example brewing or manufacturing and servicing workshops for the colleges or other large institutions? Slightly elevated levels of arsenic have been noted in the soil survey for this site, this could suggest an association with tanning activity. What was the character and extent of any manufacturing activity in this location? (OARARA 2012, Ch8, p7).

# 4 Project Specific Excavation and Recording Methodology

## 4.1 Scope of works

4.1.1 The project will entail the archaeological excavation of the basement, tree pit and associated services required in advance of the extension to and renovation of the Garden Building.

## 4.2 Programme

4.2.1 It is anticipated that the fieldwork will take six to eight weeks to complete, by a team consisting of a Project Officer, directing up to six Project Archaeologists, under the management of Richard Brown MIfA, 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:

***Excavation:***

4.3.3 This pertains primarily to the excavation in the large area for the proposed basement and adjacent drainage and tree pit. The area of works may not correspond to the furthest extent of the site outline on Figure 1, due to the need for stepping in of the excavation edges. The current ground level is at approximately 64.2m aOD and the work is to reach 62.1m aOD, an overall depth in excess of 2m. It is understood that the area includes space for the edges to be battered/tapered baulks or stepped baulks to achieve the required depth (as per SFK Drawings sections 09021.151-154, 09021.159-163, and these relate to plan 09021.158). The use of shoring will be dependant on the stability of the excavation sides, appropriateness and health and safety requirements.

4.3.4 The previous evaluation (TVAS 2011), which excavated to depths between 0.67m to 1.35m, indicated that the upper deposits are probably disturbed overburden. During the initial machining of such overburden/made ground deposits it may be possible to gauge whether shoring will be required and suitable, or whether battered/stepped edges would be preferable, but throughout a flexible approach will be maintained and safety will

remain of paramount importance. It will also be necessary to work within any advice or guidance given as to the proximity to which work can take place adjacent to any standing structures, such as Brasenose College boundary wall and the Garden Building itself.

4.3.5 A machine fitted with a toothless bucket will be used to remove the topsoil and overburden in spits no greater that 0.10m thick, to the first significant archaeological horizon or natural geology (whichever is encountered first). This will be done under the direct control of an experienced Project Supervisor.

4.3.6 Following the removal of non-archaeological overburden, the significant archaeological horizon will be sufficiently hand-cleaned to determine the extent and character of archaeological deposits. Hand excavation and recording (see Appendix 2) of a selection of archaeological deposits/features encountered within all trenches will be undertaken to fulfil the aims outlined above. Within significant archaeological levels the minimum level of excavation of certain feature types will be as outlined in the Brief and reproduced below:

- Enclosure ditches: 20% including any terminals, significant stratigraphic relationships and concentrations of anthropogenic material.
- Ring gullies: 25% including terminals and sections at each side and to the rear of the gully, any significant stratigraphic relationships and concentrations of anthropogenic material.
- Linear ditches: 20% including terminals, significant stratigraphic relationships and concentrations of anthropogenic material.
- Postholes: Half-sectioned with full excavation if rich in environmental or artefactual remains or otherwise justified in relation to identified research priorities.
- Pits: 100% (by number) will be half sectioned. Where Late Saxon pits can be identified these should be fully excavated. Of the medieval and post-medieval pits at least 50% (by number) of the pits should be fully excavated. Decisions as to which pits will be fully excavated will be made in the light of information gained in half sectioning.
- Stone structures: Sufficient excavation to establish the nature and sequence of construction and any significant stratigraphic relationships.
- Floor/occupation layers: Full excavation and environmental sampling if justified in relation to identified research priorities.
- Kilns/furnaces etc: Full excavation (and bulk sampling) to determine function and structure if encountered. Archaeomagnetic dating should be considered and undertaken if appropriate.
- Animal and human burials: Full excavation.
- Other structured deposits: Full excavation and bulk sampling. Articulated bone, placed deposits and artefacts must be excavated, recorded and retained as individual items ("small finds").
- Waterlogged deposits: Appropriate sampling of most contexts for environmental analysis in consultation with the Archaeological Science adviser and/or environmental specialist.

4.3.7 Specific consideration will be given to where Late Saxon pits can be identified; these will all be half sectioned, recorded and then fully excavated.

4.3.8 Of the medieval and post-medieval pits at least 50% (by number) of the pits should be fully excavated. Decisions as to which pits will be fully excavated will be made in the light of information gained in half sectioning. Sample excavation will target features displaying as many as possible of the following characteristics:

- Pits showing concentric fill patterns that suggest subsidence of deep fills, i.e. wells, or shrinkage of organic fills, i.e. sanitary use.
- Pits with evidence of masonry or wood linings capable of reuse, i.e. cellars, wells or cess pits.
- Pits with contents that are significantly different from medieval domestic assemblages, hence indicators of craft or trade.
- Pits with irregular or poorly compacted outlines that need not have been open for more than a few days before filling.
- Pits in the mid region of a burghage plot contrasted with those to extreme rear of same plot.
- Pits respecting a primary tenement boundary and or other tenement subdivision

4.3.9 If, having dealt with the features and deposits, there is a need to carry out further machining of extensive, homogenous layers in order to reveal earlier remains, this will be done only after discussion and agreement with the City Archaeologist. This may particularly be relevant as the final depth of the basement is as 62.1m and some earlier features may truncate the underlying natural geology but may be covered by natural accumulations such as more recent fluvial material.

4.3.10 If identified human remains are encountered they will initially be left *in situ*, covered and protected. Subject to agreement and the granting of a burial licence from for their excavation as issued by the Ministry of Justice the excavation of the remains will proceed in accordance with Appendix E. It is difficult to estimate the numbers of burials that may potentially be uncovered, but best practice will be maintained at all times.

***Watching Brief:***

4.3.11 This pertains primarily to the smaller scale ground works that may be associated with below ground drainage and service trenches. The works will involve the observation during machining and the excavation of any significant archaeological features and deposits uncovered. The archaeological investigations will be undertaken commensurate with the specified objectives of the project.

4.3.12 The main contractor on site will allow sufficient time and working space for the attending Archaeologist(s) to carry out any agreed mitigation procedures required. However, this work will be undertaken in such a way as to minimise any delays the main contractor's work program.

***Environmental Sampling and Archaeological Science strategy:***

4.3.13 The strategy for the excavation will aim to retrieve suitable samples for the recovery of various palaeoenvironmental indicators in order to fulfil the research objectives set out in section 3. Particular attention will be paid to in-situ Late Saxon surfaces and fills, although not to the exclusion of earlier or later features and deposits.

4.3.14 Provision will be made for the sampling of a wide range of contexts for assessment and potential analysis of plant and animal micro and macrofossils and soils/sediments. Specialist staff will be integrated into the works at an early stage to ensure that

archaeological deposits are sampled appropriately to retrieve palaeoenvironmental and economic indicators to fulfil the project aims. The preparation for and methods of taking samples together with their size presentation and processing shall be in accord with current best practice (see Appendix C).

4.3.15 Dry Deposits: A range of 'dry' deposits encountered in the excavation are likely to include pit fills (possibly including cesspits), occupation surfaces, hearths/kilns, tenement backplot soils and middens. Previous work as shown that these have high potential for the preservation of significant charred and silicified remains. Samples of 40 litres in volume will be recovered from stratigraphically secure and potentially datable deposits, or all the deposit available, should it be less than this volume, with samples taken from points where the chance of mixing earlier and later material is lowest. All occupation surfaces, hearth/kiln fills and fully excavated pits will be sampled; spatial samples may be taken from surfaces and hearth/kiln fills, following specialist guidance. Sampling will bear in mind the need to obtain securely stratified sequences of short-lived material for radiocarbon dating and possible Bayesian analysis.

4.3.16 Recovery of small mammal, bird and fish bones will normally be achieved through processing and sorting of the bulk samples collected for charred plant remains, or may be taken specifically to sample rich deposits. Particular attention should also be paid to retrieving complete assemblages of animal and larger bird and fish remains, by hand collection on site and (if appropriate) by wet-sieving larger samples (up to 100 litres) specifically for bone retrieval if significant collections of bones are discovered. It is important that bones from larger fish (eg. of the cod family – Gadidae) are recovered, since it is this evidence which may help to determine whether imported dried and salted fish (stockfish) were eaten. During the Late Saxon period, these fish, along with herring, would be typical of a Scandinavian diet (but note that herring and eel also seem to have been eaten in quantity by the native urban populations, together with a range of other fish, some from freshwater sources) .

4.3.17 If evidence for metalworking is discovered, spatial samples of 1kg each will be taken, following specialist instruction.

4.3.18 Waterlogged Deposits: Previous work in the area had demonstrated that the likelihood of encountering waterlogged deposits is low, however the possibility that anaerobic deposits survive in deeper features (eg wells) should be considered. Samples from waterlogged fills should, where possible, be should be 10-20 litres from each waterlogged context. Monoliths may be required in order to test for the presence of pollen and diatoms where it is considered they will shed further light on the local and depositional environment.

4.3.19 Sediments : Provision shall be made, in consultation with the relevant specialist, for the retrieval of suitable samples for sedimentary or chemical analysis or micromorphology from features such as sealed buried soil horizons. Sampling for soil micromorphology and pollen will utilise monolith tins.

4.3.20 Contingency will be allowed for at least four scientific dates should the results of the excavation warrant them.

***Public Dissemination:***

4.3.21 An information board detailing the aims and ongoing results of the archaeological works will be erected during works on Turl Street and provision should be made for site visits by local interest groups (e.g. East Oxford Community Archaeology Project). Provision will be made for an illustrated handout and a information made available

through websites should the results of the excavation warrant it (e.g. if significant late Saxon and medieval urban deposits are present). Acknowledgement will be made to the role of the local planning authority in facilitating the work.

# 5 Project Specific Building Recording Methodology

## 5.1 Introduction

5.1.1 Considerable research into the history of the garden building has already been undertaken by Rodney Melville and Partners (2011) and the original architects drawings for the building survive. This reduces the scope of new survey work and research required and the OCC brief specifies that the recording required should comprise:

- A photographic survey at English Heritage Level 2 (as defined in *Understanding Historic Buildings: A Guide to Good Recording Practice*).
- A 'contextual summary' at Level 3 detailing the building's interest and utilising the existing documents.

5.1.2 *Understanding Historic Buildings: a Guide to Good Recording Practice* (2006) defines a Level 2 survey as '*a descriptive record, made in circumstances similar to those of Level 1 but when more information is needed. It may be made of a building which is judged not to require any fuller record or it may serve to gather data for a wider project. Both the exterior and interior will be viewed, described and photographed. A plan and sometimes other drawings may be made but the drawn record will normally not be comprehensive.*

5.1.3 *A Level 3 survey is defined as 'an analytical record, and will comprise an introductory description followed by a systematic account of the buildings origins development and use. It will also include all drawn and photographic records that may be required to illustrate the building's appearance and structure and to support an historical analysis'*.

5.1.4 The site recording would consist of two main elements: a descriptive, written record and a photographic record. Particular attention would be paid to evidence of the former use of the building. Any evidence relating to the primary or historic use would be recorded and interpreted to inform the overall understanding of the site.

5.1.5 The work will include all the areas proposed for demolition or alteration in the development although the precise scope of the recording will reflect the relative significance of the different parts of the structure as well as the nature of the proposed alterations. Structures or features of the 1905-6 building which are proposed for demolition or removal (eg the whole single storey lecture theatre and the internal elements of the two storey structure) will be particularly recorded.

5.1.6 The work will attempt to confirm or where appropriate clarify the indicative phasing shown in the previous studies undertaken by Rodney Melville & Partners.

***Photographic Record***

5.1.7 The photographic record is intended to act as a general record of the historic building, prior to the development. It will include both general shots (exterior and interior) of accessible areas as well as detail shots of items/features of archaeological detail. It will consist of both archivally-stable 35mm black and white print film and digital photography (jpeg format) with an 8 megapixel camera.

5.1.8 The range of photographs taken will include:

- Setting, particularly showing the building within the context of the college and the Fellow's Garden;
- Internal walls, floors, ceilings;
- Internal features, particularly any relating to the historic use of the building;
- Other features and fittings
- Evidence relating to the former use of the building

5.1.9 All photographic records will be accompanied by a photographic register. Each film will have a unique film number, related to an agreed site code (agreed with Oxfordshire County Museums Service).

5.1.10 A photographic scale will be used in images of features or artefacts. It is anticipated that a flash will be required for most of the photographs.

***Written Record***

5.1.11 The written record is intended to supplement and support the photographic recording and to provide additional descriptive analysis of the building, in terms of its architecture, setting, construction, history, development, significance, use and relationship with other parts of the college. The written record will particularly utilise the surviving original architects drawings and any other metric survey drawings of the building. Features of interest such as blocked openings, constructional breaks or significant primary elements will be highlighted on the drawings.

***Historical research and consultation***

5.1.12 As detailed above Rodney Melville & Partners have undertaken historical research on the building and therefore no new archival investigation is proposed as part of the current building recording. The previous report on the history of the building will however inform the investigation.

***Programming***

5.1.13 The building recording will be undertaken prior to the start of demolition works.

***Personnel***

5.1.14 The building recording will be undertaken by Jonathan Gill under the overall management of Julian Munby, Head of OA's Historic Buildings Department.

# 6 Project Specific Reporting and Archive Methodology

## 6.1 Introduction

6.1.1 It is anticipated that the reporting on the two elements of the project (excavation and building recording) will be undertaken separately.

## 6.2 Reporting on Excavation Works

***Programme***

6.2.1 An interim report, including a statement of the results and assessment of the site's significance, will be completed within four weeks of the completion of the fieldwork.

6.2.2 A post-excavation assessment and updated project design (MAP Stage 3) will be submitted for approval by the City Archaeologist within six months of the completion of fieldwork.

6.2.3 The publication draft will be produced within a year of the completion of fieldwork, unless this date proves to be impracticable, in which case this arrangement will amended by agreement with the City Archaeologist.

6.2.4 A bound copy of the completed report will be provided to David Radford. A CD containing a copy of the report in Adobe Acrobat (.pdf) format will also be provided.

***Content***

6.2.5 The content of this report will be as defined in Appendix F.

***Specialist input***

6.2.6 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.

## 6.3 Reporting on Building Recording

6.3.1 After completion of the on-site building recording an A4 bound report would be produced detailing the project. This will contain the EH Level 3 'contextual summary' required by the brief. The report will contain:

- Introduction and background to the project;
- Aims and objectives, Methodology; date of recording
- an historical background
- an internal and external description of the buildings
- an assessment of the wider functional context of the building within the college;
- an analysis of the historical form, development, significance and use of the building
- Conclusions
- copies of the original architects drawings and other significant historical maps or plans
- a site location plan
- a selection of photographs

6.3.2 The report will be submitted to the City Archaeologist and the Oxford City Council Historic Environment Record.

## 6.4 Archive

6.4.1 A single site archive including all records collected and produced during the works (photographs, negatives, notes, drawings, report etc) will be compiled including both the results of the excavation and the building recording works. All archive storage material will comply with the requirements of the UKIC. The archive will be indexed and internally consistent. The archive will be deposited with the County Museum following completion of the project.

6.4.2 A summary of OA's general approach to documentary archiving can be found in Appendix H.

# 7 Health and Safety

## 7.1 Roles and responsibilities

7.1.1 The Senior Project Manager, Richard Brown, has responsibility for ensuring that safe systems of work are adhered to on site. He delegates elements of this responsibility to the appointed Project Officer, who implements these on a day to day basis.

7.1.2 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).

## 7.2 Method statement and risk assessment

7.2.1 A summary of OA's general approach to health and safety can be found in Appendix I. A risk assessment has also been undertaken and approved and will be kept on site, along with OA's standard health and safety file, which will contain all relevant health and safety documentation.

7.2.2 The H and S file will be available to view at any time.

# 8 Monitoring of works

8.1.1 At least five days notice of the commencement of the excavation works will be given to David Radford, the Oxford City Council Archaeologist.

8.1.2 David Radford will have free access to the site (subject to H and S considerations) and all records to ensure the works are being carried out in accordance with this WSI and all other relevant standards.

8.1.3 A programme of monitoring will be agreed with the Oxford City Council Archaeologist prior to the commencement of fieldwork. The archaeological contractor will keep the Oxford City Council Archaeologist regularly informed of the project's progress and facilitate the monitoring of the project at each stage, including post-excavation. There will be no substantial modification of the approved brief and project design without the prior consent of the Oxford City Council Archaeologist.

8.1.4 The Oxford City Council Archaeologist will be informed at the earliest opportunity of any unexpected discoveries, especially where there may be a need to vary the project design.

# 9 References


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TVAS 2010 *Lincoln College Garden Building Archaeological Evaluation,* unpublished client report

# 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 excavated trenches. This will normally be a JCB or 360° tracked excavator with a 1.8 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 of the trench 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, the trenches will be backfilled with excavated material in reverse order of excavation, but will otherwise not be fully reinstated.

#### *Hand excavation*

A.1.7 All investigation of archaeological levels will be by hand, with cleaning, examination and recording both in plan and section.

A.1.8 Within significant archaeological levels the minimum number of features required to meet the aims will be hand excavated. Pits and postholes will usually be subject to a 50% sample by volume. Linear features will be sectioned as appropriate. Features not suited to excavation within narrow trenches will not be sampled. No archaeological deposits will be entirely removed unless this is unavoidable.

A.1.9 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 entire site will be assessed. The stratigraphy of all evaluation trenches will be recorded even where no archaeological deposits have been identified.

A.1.10 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.1.11 Written descriptions will be recorded on proforma sheets comprising factual data and interpretative elements.

A.1.12 Where stratified deposits are encountered a Harris matrix will be compiled during the course of the excavation.

A.1.13 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.1.14 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.1.15 A register of plans will be kept.

A.1.16 Long sections of trenches showing layers will be drawn at 1:50. Sections of features or short lengths of trenches will be drawn at 1:20.

A.1.17 A register of sections will be kept.

A.1.18 Generally all sections will be tied in to Ordnance Datum.

A.1.19 A full black and white and colour (digital) photographic record, illustrating in both detail and general context the principal features and finds discovered will be maintained. The photographic record will also include working shots to illustrate more generally the nature of the archaeological work.

A.1.20 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 Unurned 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 disarticuled 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 quadranted 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 (verbatum 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.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.) |
| Dan Stansbie | Roman Pottery | BA (Hon.), MA, AIfA |
| 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 | BA (Hons) |
| Andrew Bates | Animal Bone | BA, MA |
| 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 |

| Specialist | Specialism | Qualifications |
|---|---|---|
| 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. Archaeological Archives Forum

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/DeposResource) 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).