

**A127/A1159 PRIORY CRESCENT AND CUCKOO
CORNER
SOUTHEND-ON-SEA**

Essex

Method Statement for
an archaeological excavation

National Grid Reference: TQ 878874

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Non-technical summary

The purpose of this Method Statement is to present an archaeological strategy for field excavation on the road improvement scheme proposed for the A127/A1159, Southend-on-Sea. The document has been prepared by the Museum of London Archaeology Service at the request of W S Atkins Consulting Ltd, acting on behalf of Southend-on-Sea Borough Council.

It is proposed that there should be a controlled archaeological excavation where road widening is thought likely to encroach on a Romano-British/Anglo-Saxon cemetery, in an area to the west of the existing London Liverpool Street to Southend Railway Line.

The excavation will take place after topsoil stripping of the affected area, which will be carried out under archaeological supervision.

Accordingly, this Method Statement sets out the excavation objectives, and describes the methodology that MoLAS would employ to achieve those objectives.

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1 Introduction

1.1 Site background

The site lies to the east of Priory Park, Southend-on-Sea, between the present Priory Crescent (A1159) to the west and the railway line to the east, which leads from Rochford to Prittlewell and Southend. The centre of the site lies at TQ 878874 (see Fig 1).

There are no listed buildings or scheduled ancient monuments located on the site.

1.2 Proposed development

The site is subject to a highway proposal for road widening and realignment, including the widening and strengthening of the bridge over the railway.

Fig 1 Site location

1.3 Planning and legislative framework

1.3.1 Planning Policy Guidance (PPG16, DOE)

The Department of the Environment published its *Planning Policy Guidance Note 16: Archaeology and Planning* (PPG 16) in November 1990. This set out the Secretary of State's policy on archaeological remains on land, and provided recommendations many of which have been integrated into local development plans. The key points in PPG 16 can be summarised as follows:

- Archaeological remains should be seen as a finite and non-renewable resource, and in many cases highly fragile and vulnerable to damage and destruction. Appropriate management is therefore essential to ensure that they survive in good condition. In particular, care must be taken to ensure that archaeological remains are not needlessly or thoughtlessly destroyed. They can contain irreplaceable information about our past and the potential for an increase in future knowledge. They are part of our sense of national identity and are valuable both for their own sake and for their role in education, leisure and tourism.
- Where nationally important archaeological remains, whether scheduled or not, and their settings, are affected by a proposed development there should be a presumption in favour of their physical preservation.
- The key to informed and reasonable planning decisions is for consideration to be given early, before formal planning applications are made, to the question of whether archaeological remains are known to exist on a site where development is planned and the implications for the development proposal.
- When important remains are known to exist, or when archaeologists have good reason to believe that important remains exist, developers will be able to help by preparing sympathetic designs using, for example, foundations which avoid disturbing the remains altogether or minimise damage by raising ground levels under a proposed new structure, or by careful siting of landscaped or open areas. There are techniques available for sealing archaeological remains underneath buildings or landscaping, thus securing their preservation for the future even though they remain inaccessible for the time being.
- If physical preservation *in situ* is not feasible, an archaeological excavation for the purposes of 'preservation by record' may be an acceptable alternative. From an archaeological point of view, this should be regarded as a second best option.
- Agreements should also provide for the subsequent publication of the results of any excavation programme.

- Development plans should reconcile the need for development with the interests of conservation — including archaeology. Detailed development plans should include policies for the protection, enhancement and preservation of sites of archaeological interest, and their settings.
- Decisions by planning authorities on whether to preserve archaeological remains *in situ*, in the face of proposed development, have to be taken on merit, taking account of development plan policies and all other material considerations — including the importance of the remains — and weighing these against the need for development.
- Planning authorities, when they propose to allow development which is damaging to archaeological remains, must ensure that the developer has satisfactorily provided for excavation and recording, either through voluntary agreement with the archaeologists or, in the absence of agreement, by imposing an appropriate condition on the planning permission.

PPG16 itself forms part of an emerging European context which recognises the importance of the archaeological and historic heritage in consideration of development proposals. This has recently been formulated in the *Code of Good Practice On Archaeological Heritage in Urban Development Policies* established by the Cultural Heritage Committee of the Council of Europe, and adopted at the 15th plenary session in Strasbourg on 8-10 March 2000 (CC-PAT [99] 18 rev 3). As stated at the beginning of that document however, '*a balance must be struck between the desire to conserve the past and the need to renew for the future*'.

1.4 Planning background

No statutory designations relate to the site. The site is opposite a Scheduled Ancient Monument covering much of Priory Park (Prittlewell Priory SM29418), the boundary of which runs along the western boundary of Priory Crescent. The Surviving remains at Prittlewell Priory are a Grade 1 Listed Building.

1.5 Archaeological background

The archaeological background to the site is set out in the tender document (Atkins 2003), and can be summarised as follows:

During the building of the railway line in the late 1880s artefacts of various (mainly prehistoric) periods were recovered. Priory Crescent was subsequently constructed in 1923, during which part of a Roman and Saxon cemetery was disturbed. The digging of trenches for drainage/sewage in 1930 located further burials, to the east of the road. An initial report of the discoveries was published in 1923 (Pollitt, 1923) and a full analysis of the Saxon finds was published in 1988 (Tyler, 1988).

1.6 Status of document

The purpose of this *Method Statement* is to present a ‘written scheme of investigation’ for an archaeological excavation.

2 Objectives of the excavation

2.1 General considerations

An archaeological excavation as defined by the Institute of Field Archaeologists (IFA, 2001) will:

examine and record the archaeological resource within a specified area using appropriate methods and practices. These will satisfy the stated aims of the project, and comply with the Code of Conduct, Code of approved practice for the regulation of contractual arrangements in field archaeology, and other relevant by-laws of the IFA. It will result in one or more published accounts and an ordered, accessible archive.

Excavation is:

a programme of controlled, intrusive fieldwork with defined research objectives which examines, records and interprets archaeological deposits, features and structures and, as appropriate, retrieves artefacts, ecofacts and other remains within a specified area or site on land, inter-tidal zone or underwater. The records made and objects gathered during fieldwork are studied and the results of that study published in detail appropriate to the project design.

Attention may also be drawn to paragraph 1 (under 'The Role of Archaeologists') of the *Code of Good Practice On Archaeological Heritage in Urban Development Policies* established by the Cultural Heritage Committee of the Council of Europe which points out that archaeology can 'add value' to a development, influencing overall concept and/or architectural design: *...archaeological work will thereby contribute to the urban landscape of the future* (CHCE, 2000)

2.2 Site specific objectives and research aims

The following objectives follow those outlined in the tender document (Atkins, 2003).

The principal objective of the excavation is to locate, record and excavate any evidence for an extension of the known Romano-British/Anglo-Saxon cemetery to the west of the existing London Liverpool Street to Southend Railway Line and, if possible, identify its extent and any boundary. Other archaeological features may also be identified. The highway works will also affect the area beyond the north boundary of the site, where the extent of archaeological remains is uncertain.

3 Archaeological method statement

3.1 General excavation procedures

1. All works will be carried out in full accordance with standard MoLAS and MoLSS procedures unless alternative approaches and methodologies are thought to be appropriate within the framework of the stated research objectives. Such alternative techniques will not be employed without full consultation between the Local Planning Authority's representative/advisor, MoLAS and the client or their agent. Such consultations will be communicated to all members of the project team for comment.
2. Following machine clearance, the excavated areas which require examination or recording will be cleaned using appropriate hand tools. All investigation of archaeological levels will then be carried out by hand unless the use of machines is specifically required to remove certain layers or deposits. Where a machine re-enters the site, care and appropriate measures must be taken not to damage exposed archaeological features.
3. Once machine clearance of an area is complete, an archaeological team will be mobilised to clean the area using appropriate hand tools. At the same time a local grid, tied to an overall site grid, will be set out by the survey team. An area-wide plan will then be drawn to show the locations of all exposed features. When this is complete, excavation will proceed according to the strategy adopted by the supervising Senior Archaeologist. All excavation will take place in accordance with IFA and English Heritage guidelines.
4. All archaeological features will be recorded in plan, and/or, where appropriate, in section and elevation. Site-wide photographs at appropriate points in the excavation will be taken by the photographic team.
5. Standard MoLSS procedures for finds and environmental retrieval, processing and conservation will be adopted as appropriate, as outlined below. Any proposed deviations from these procedures will be discussed with all relevant parties before they are implemented.
6. Any human remains found shall be dealt with in accordance with the Burial Act of 1857.
7. Any finds of gold or silver will be removed to a safe place and the local Coroner notified. In the unlikely event that this cannot be effected on the same day, site security measures will be implemented.

3.2 Site specific excavation methodologies and procedures

1. The archaeological works at the site and the subsequent post-excavation analysis and publication programme will be carried out in accordance with standard MoLAS and MoLSS procedures (outlined below).
2. A site code shall be agreed with the Keeper of Human History, Southend Museum, and an Accession Number obtained from the Museum prior to commencement on site.
3. Prior to excavation mains service locations will be identified to avoid damage to these.
4. Due to the likelihood of discovering human remains, the coroner will be informed and a licence from the Home Office sought prior to the commencement of on-site works.
5. The site will be machine stripped to the top of the first archaeological horizon (unless agreement is obtained from the Keeper of Human History, Southend Museum, to deepen the excavated area by machine) and under the supervision of an experienced archaeologist (Senior Archaeologist). A toothless bucket will be used to clear back modern overburden to minimise damage to the underlying surface of archaeological strata. Clearance should be carried out progressively towards the spoil removal/collection point, and will be monitored by MoLAS staff under watching brief conditions. Due to the potentially sensitive nature of the site a maximum of 50% of the total area is to be topsoil stripped at a time; the topsoil is to be stored on undisturbed ground within the site at a location to be agreed with the Engineer.
6. Site clearance will include the emptying of modern backfilled features where these can be identified, down to the finished excavation level specified by the client. This could be carried out using a narrow trenching bucket under MoLAS direction, with final clearing by hand.
7. Deep modern foundations (ie those which continue below the level of archaeological interest) may be left *in situ* at this stage to avoid collateral damage to archaeological deposits and features. Shallow features which overlie archaeological deposits can be removed, either by machine, or if more appropriate, by hand.
8. Site access, and other site safety provisions (handrails, gantries etc) if required, will be in place at the outset, or as soon as possible after commencement of the excavation, to comply with HSE procedures and maximise the efficient use of MoLAS staff time by reducing disruption.
9. Following exposure of archaeological strata and features, cleaning will be continued by MoLAS archaeological personnel.
10. Details of the precise excavation strategy will be reviewed with the Keeper of Human History, Southend Museum, following the initial topsoil strip.

11. Graves will be subject to total excavation, while other features will be partially excavated, as appropriate. Grave fills will be excavated from outside the grave to avoid damage to skeleton or grave goods. Stray bones will not be removed until it is clear that a burial is not multiple. No graves will be left partially excavated at the end of the working day.
12. The precise method of recording skeletons in this instance is yet to be determined, and will be dependent on the number and density of burials. For low to medium density cemeteries skeletons may be hand-drawn or recorded using rectified photography. If the latter alternative is favoured, four co-ordinate targets will be positioned within the grave cut and located using a total station. Vertical photographs will be taken using either digital or 35mm cameras, enabling subsequent digitising of the burial layout from the photograph or rectified image. For high density cemeteries, particularly where individual grave cuts are difficult to define, skeletons may be recorded using a total station, with co-ordinates taken on the skull, ribcage, pelvis, feet and limb joints.
13. Heras type fencing, or similar, will be installed and maintained in position around the site. Contexts/features exposed that cannot be excavated before the end of each day will be covered over. The exact details of this and the storage of finds overnight to be agreed with the Keeper of Human History, Southend Museum, prior to the commencement of on-site works.
14. Regular site progress meetings of the appropriate members of the project team and the Local Planning Authority's designated representative/advisor will be held to review research aims, archaeological procedures, and site strategies. Progress reports will be produced by MoLAS and made available to the Local Planning Authority's designated representative/advisor. Reasonable access to the site will be granted to the representative/advisors of the Local Authority, who may wish to be satisfied, through site inspections, that the archaeological works are being conducted to proper professional standards and in accordance with the agreements made.
15. Excavated topsoil will be replaced and reinstatement will be monitored and specified in accordance with needs of proposed highway construction.

3.3 Excavation method statements

3.3.1 Excavation: general procedures and standards

The Project Manager and Site Supervisor(s) will be responsible for ensuring that the following principles are adhered to:

- Excavation: Field excavation work in all areas will be carried out in accordance with the MoL *Archaeological Site Manual* (1994), and in general with standards and guidance given by the Institute of Field Archaeologists *By-Laws, Standards and Policy Statements of the Institute of Field Archaeologists*, (2001), and English

Heritage GLAAS *Archaeological Guidance Paper 3* (English Heritage, revision June 1998).

- Objectives: the overall methodology and sampling strategy is primarily determined by the objectives set out in 2.2 above. These will be kept under constant review as set out in the next paragraph and will continue to drive the site strategy and methodology during excavation.
- Resources: within this methodological framework the project team will carry through a process of continual assessment and prioritisation of research objectives, allowing informed decisions to be made regarding the optimum level of sampling of archaeological strata. These decisions will reflect the need to balance the recovery of valid archaeological data with prudent management of available resources, avoiding inappropriate cost.
- Variation: Decisions made on these bases may result in the ‘enhancement’ or ‘simplification’ of recording systems as dictated by the evolving research framework. An example might be the adoption of phase recording of significant generalised deposits. Any changes in recording methods will be discussed and agreed in advance with the Local Planning Authority’s designated representative/advisor.

3.3.2 *Site survey*

The Project Manager and Site Supervisor(s) will be responsible for ensuring that the following principles are adhered to:

MoLAS Surveying Standards

Standards of precision and accuracy are outlined in the MoLAS Archaeological Site Manual, and are principally derived from three sources: the *General Standards for the Preparation of Archaeological Archives Deposited with the Museum Of London*, the GLAAS paper *Archaeological Guidance Paper 3 Standards and Practices in Archaeological Fieldwork* and, most importantly, the accepted standards of accuracy as used by chartered surveyors and defined by the RICS. The implementation and maintenance of survey standards within MoLAS is the responsibility of the Principal Surveyor and the Geomatics team. MoLAS Geomatics is responsible for the capture and processing of all survey data, both on and off-site.

Establishment and maintenance of Grids

Archaeological data will be recorded with reference to a MoLAS site grid implemented and maintained by the Geomatics team. The Site Supervisor(s) will be responsible for the all drawn records on the site related to the site grid. These records will be related horizontally to the MoLAS site grid and vertically to Ordnance Datum (OD). A temporary benchmark referenced to OD will be established on site.

Sites where significant archaeological remains are uncovered will be tied in to the Ordnance Survey National Grid (OSGB 36) by extending the MoLAS OS control network into the vicinity of the site and computing a plane transformation based on the site grid control points. Tying site grids to features identified on OS mapping is insufficiently accurate and a more suitable survey solution will always be sought.

Ordnance Survey control information is held on an Oracle database, sorted by station coordinates, borough, postcode, road name and order in the control network.

Survey Data: collection to archive

Survey data is collected using total stations, GPS receivers, dataloggers, automatic levels and pencomputers. Survey data is processed using the following software: SDRMap, Ski, AutoCAD, Oracle, ArcView GIS, and Surfer. Penmap software loaded on pencomputers is also used for on-site digital data capture. Survey data is archived in a standard format for each site. Digital survey data is stored in the survey database, which is an integral part of the MoLAS computing network

3.3.3 Written records

The Project Manager and Site Supervisor(s) will be responsible for ensuring that the following methodologies are employed:

- Detailed, standardised context sheets or their digital equivalent will be completed, in accordance with the procedures set out in the MoLAS *Site Archaeological Manual* (1994).
- The single context recording system will be used, whereby a context is identified as the physical representation of a single action, whether it leaves a positive or a negative record. Each context is given a unique number. All contexts will be considered equally with reference to the stratigraphic sequence, although, where the limits and formation of deposits, such as pit fills and modern deposits, are adequately defined by other means, single context planning of these deposits may be deemed inappropriate.
- A large number of separate records are likely to be produced. These field records will be checked by the Senior Archaeologists and relational indices compiled. The inter-relating of these records, and the compilation of a Harris stratigraphic matrix during the course of the excavation, will be the central processes leading to an understanding of the site sequence.
- Computerised systems of data capture and manipulation will be used wherever appropriate.

3.3.4 Drawn records

The Project Manager and Site Supervisor(s) will be responsible for ensuring that the following methodologies are employed:

- The immediate relationship of any one context to any other will be established by direct observation and recorded by drawing each cut feature, structure and layer in isolation, thus allowing a record of its total extent. Each of these contexts will be located on the site grid and drawn on drafting film, which can then be overlaid to show the stratigraphic relationships. If appropriate computerised data capture and survey systems, such as Penmap may be used to speed up recording.

- Digitisation of selected drawn records will take place using AutoCad or similar. See below.
- Plan matrices will be compiled to illustrate the relative stratigraphic positions of different contexts, using Bonn program or similar.
- Detailed sections will also be drawn where appropriate.

Details of the scales and conventions used are given in the MoLAS *Site Archaeological Manual* (1994).

3.3.5 Photographic records

The Project Manager and Site Supervisor(s) will be responsible for ensuring that the following methodologies are employed:

- The site record will include photographs taken by professional photographers employed by MoLAS, using 35 mm and medium or large format cameras. Digital cameras may also be used when deemed appropriate. The photographic record will be sufficiently thorough and detailed to illustrate all significant phases, structures, important stratigraphic and structural relationships, and individual items of interest, including artefacts.
- All site photographs, except working shots, will include a photographic scale of appropriate size.
- Both black and white and colour images will be taken. Negatives will be contact printed, with prints mounted on contact cards returned to the site supervisors for annotation during the excavation programme. Colour transparencies will be mounted.
- Photographs taken by field staff will be passed to the photographic section for processing and inclusion in the photographic archive.
- A computerised photographic index will be compiled, relating negative number, site photograph number, context numbers, excavation area, and other relevant information.
- At the request of client or archivist a file of site photographs may be produced and stored digitally on Compact Disc.

3.3.6 Archaeogeophysics

The Project Manager and Site Supervisor(s) will be responsible for ensuring that the methodologies for the following archaeogeophysical techniques are employed where appropriate:

Archaeomagnetic dating

- Archaeomagnetic sampling may be carried out on suitable structures such as hearths and burnt floor surfaces. MoLAS will make use of outside laboratories if necessary.
- As recommended by the Ancient Monuments Laboratory (English Heritage), 100% samples will be taken from any contexts containing large fuel assemblages (ie charcoal) which are adjacent to an archaeomagnetically dated structure, as these samples may produce complementary radiocarbon dating.

Radiocarbon dating

- Selective use may be made, where appropriate, of radiocarbon dating methods, particularly if potentially prehistoric material is recovered from aceramic contexts. MoLAS will make use of outside laboratories if necessary.
- Radiocarbon dating may also be of use for historic periods which are otherwise undated and/or where high-precision dating can be carried out on assemblages (eg burnt structures).

Metal detection

- Metal detection is used extensively by MoLAS as a means of improving the recovery of all metal finds from suitable contexts. Metal-detecting is normally carried out by specialist Museum of London Archaeology Service detector operators and/or members of the 'Society of Thames Mudlarks and Antiquaries' working for MoLAS.
- In general, only the fills of small features such as graves will be surveyed *in situ*. Road surfaces and laid floor surfaces will also be surveyed *in situ*.
- For larger features such as wells, ditches and cesspits, metal detecting will complement hand-retrieval during the excavation of the fills. All spoil generated by the hand excavation of appropriate large features or dumps will be subjected to comprehensive survey by the detector operator(s) on site. The spoil to be surveyed will be set aside on a discrete area of the site which is free of all extraneous sources of metal where it can be comprehensively scanned by the detector operator(s) before being removed from site by the site Attendance Contractors.
- The on-site treatment of all metal artefacts recovered by metal detection will follow the guidelines set out in the Museum of London's Standards and as advised by a MoLSS conservator.

3.3.7 Computing Support

3.3.7.1 Electronic data systems

1) Operating Systems: MoLAS runs a Microsoft Windows 2000 and NT 4.0 Server based network comprising several Compaq Proliant Servers. MoLAS is in the process of a major upgrade of desktop machines which involves installing approximately 100 new computers running Microsoft Windows 2000 Professional. Some older Windows

95 and Windows 3.11 machines remain in use for legacy applications. Two Apple Macintoshes are used for DTP and high-end Digital Photography work.

2) Office Applications: Office Applications : The Microsoft Office 2000 suite is used across the network and Microsoft Exchange Server is used for electronic mail communications.

3) Desktop Publishing and Graphics: the photographic department and Drawing Office have a full in-house design and pre-press service. The desktop publishing facilities are centred around Quark Express versions 3.32 and 4.0 running on Windows 95 Pentium machines. Corel Draw 9, Adobe Illustrator 7, and Adobe PhotoShop 4 graphics packages are used to provide publication quality images.

4) Survey: Ruggedised Kalidor pencomputers linked to surveying instruments and running PenMap software are used on site for digital data capture, while Sokkia SDR 33 dataloggers are used for traversing, resection, setting out etc. Industrial hand-held Psion data loggers are also used on larger sites for attribute data capture.

5) Database: MoLAS uses version 8 of the Oracle Workgroup Server Database system with Developer 2000 (Forms 4.5 and Reports 2.5) applications. The database structure has been developed specifically for archaeological data captured using the single context recording system.

6) CAD/Survey: AutoCAD release 2002 is used as the main draughting package. It is used in conjunction with Surfer to produce contour maps. The ArcView GIS 3.2 package is used to provide visual Geographical information incorporating Ordnance Survey and MoLAS survey data and data from the Oracle database using an ODBC link. PenMap software is used on some sites to provide digital plans of sites and archaeological data accurately and quickly, and to capture it in a CAD/GIS ready format.

7) Project Management: MoLAS monitors all major projects in which it is involved using Microsoft Project Version 2000.

8) File output and data exchange formats: The Word processing facilities used at MoLAS allow files to be read and output from a wide variety of packages. In addition, a file conversion program, Word for Word, means that MoLAS can receive and output word processed data in any format. AutoCAD files can be output as either .dwg or .dxf format. The latter (Drawing Exchange format) allows exchanges of data with clients using alternative CAD software such as Microstation. The project management software used by MoLAS imports and exports data in either text or CSV formats. Database information can be imported and exported via delimited text files or, by using the Microsoft Query utility data can be incorporated into Excel and Word files. Arcview .shp files are converted from/to Autocad .dwg format.

9) Security: Backups of the entire system are done on weekly, monthly and yearly cycles, while an incremental backup is ran each night. All backup media is stored off site at the Museum of London.

3.3.7.2 *Project-specific support*

The computing support for the project will involve the provision of input and validation mechanisms for site attribute data, digitising programmes for the planned information and word processing/desktop publishing for the production of reports.

3.3.7.3 *Bonn seriation & statistics*

1) The Harris Matrix module of the Bonn Archaeological Statistics package is now a tested and proven tool for the compilation and manipulation of the site matrix. The Harris module allows strings of stratigraphic relationships to be loaded and interactively checked. Inconsistent or contradictory relationships are identified and removed and a validated Harris matrix diagram produced as graphical output. A new program, ArchEd is currently being tested as a future alternative to the Bonn program.

2) The stratigraphic relationships of checked site records will be loaded by individual site supervisors as excavation progresses.

3) The use of the Bonn Harris module is expected to significantly increase the speed of stratigraphic checking at Site Archive stage. This is thought to be particularly advantageous on large sites where it is likely that the total excavation programme will generate thousands of single contexts and where different areas of excavation will be stratigraphically cross linked.

3.3.7.4 *Computer Aided Design (CAD)*

CAD will be used to input selected types of checked plan records (ie all structures and buildings) as excavation progresses. A CAD operator and platform will be included in the Site Archive budget. The use of CAD, allied to the Total Station on site, is expected to play a major part in the quality control and validation of plan data. The CAD data can be used as a predictive tool (ie identifying structural alignments across excavation areas dug at separate times or out of phase) during excavation, and an analytical tool during post-excavation assessment. CAD may also be used for the efficient production of interim drawings and the translation of construction grids and engineering grids essential to the graphical representation of the archaeological programme.

3.3.7.5 *Geographical Information Systems*

1) The site data set may benefit greatly from manipulation within a Geographical Information System (GIS). The immediate benefits of handling spatial and attribute data sets using a GIS include the more efficient production of graphical output to support and illustrate site interpretation and development. The more profound benefits are that such systems allow the spatial information from archaeological sites to be manipulated and interrogated with non-spatial attribute data, enhancing data visualisation and allowing the recognition of patterns and relations in our data from the computer terminal.

2) With the ORACLE database in use for archaeological information, and projects having an AutoCAD digitising programme as part of their standard treatment, two main elements of a GIS are now present. Digitising procedures are now tailored to provide GIS ready data sets.

3.4 Specialist method statements

The following method statements are the product of both MoLAS and the Museum of London Specialist Services (MoLSS). In general, and where not otherwise mentioned, the terms and procedures of the MoL *Archaeological Site Manual* (1994) will apply. Normally, primary data (artefacts or samples) is recovered by the excavation team (MoLAS), while subsequent handling and interpretation of this data is the concern of specialists (MoLSS; and external if required, eg dendrochronology). Where appropriate and as required, however, there will be full liaison between MoLAS and MoLSS in field recovery. Final responsibility rests with the Project Manager.

Where external specialists are necessary, eg dendrochronology, relevant method statements will be supplied if requested, but all work will be carried out in accordance with the MoL Archaeological Manual, IFA standards, using best practice within the discipline, and established guidelines (eg English Heritage AMLCT guidelines for dendrochronology and waterlogged wood; and new English Heritage Centre for Archaeology Guidelines).

3.4.1 Data recovery, general procedure

The MoLAS Project Manager and Site Supervisor(s) will be responsible for ensuring that the following methodologies are employed:

- Finds data recovery methods will include hand collection, and both intentional and incidental collection through the application of sampling procedures which will include bulk sampling and where appropriate 100% (whole earth) sampling.
- Finds retrieval and soil sampling methodologies will be led by the project research aims, and certain aspects may be emphasised as appropriate to the developing research strategy. Close liaison between the Project Manager and/or Site Supervisor(s) and MoLSS specialists will ensure that the processing and transfer of materials collected through differing media takes place as and when appropriate.
- Different sampling strategies may be employed according to established research targets and the perceived importance of the strata under investigation. These will be defined according to the 'information recovery levels' summarised by Carver (1987). Close attention will be given to sampling for date, structure and environment. Sample size will account for the frequency with which material is likely to occur. Bulk sieving is likely to be necessary where there is a low incidence of artefacts; or to recover small classes of artefacts (eg hammer scale or lithics).
- The strategy for sampling archaeological and environmental deposits and structures (which can include soils, timbers, animal bone and human burials) will be developed in consultation with MoLSS. Subsequent work and analysis of the processed samples and remains will be undertaken by MoLSS personnel.

- Organic samples will be subject to appropriate specialist analysis. Other forms of specialist analysis will be employed to advance project research aims as appropriate.
- The finds retrieval policies of the Museum of London will be adopted. All identified finds and artefacts will be retained, although certain classes of material can be discarded after recording if an appropriate sample is retained. No finds will, however, be discarded without consultation with the appropriate MoLSS specialist.
- All finds and samples will be treated in a proper manner and to standards agreed in advance with the Museum of London. They will be exposed, lifted, cleaned, conserved, marked, bagged and boxed in accordance with the guide-lines set out in the United Kingdom Institute for Conservation's *Conservation Guide-lines No. 2*, and the Museum of London, *General Standards for the preparation of archaeological archives deposited with the Museum of London*, (1998).
- All iron objects will be X-rayed with the exception of nails and slag, and then selected for conservation or scientific investigation as appropriate. Most copper alloy objects will also be X-rayed. All coins are X-rayed as part of the conservation and dating process.
- There will be regular liaison between designated and appropriate MoLSS specialists and the Project Manager and/or Site Supervisor during the course of the excavation. On larger, or finds- and environmentally-rich sites, this may take the form of weekly visits by the MoLSS specialist; alternatively, on smaller or less productive sites, communication may be just as effective by telephone or E-mail. The purpose of such liaison will be (a) to keep MoLSS and MoLAS aware of the progress of excavation on the one side and processing on the other; (b) to provide the site supervisor with whatever information he or she needs to review and, if necessary, revise the excavation strategy.

3.4.2 Ceramic finds procedure

The Project Manager and Site Supervisor will be responsible for ensuring that the following methodologies are employed

- In accordance with standard MoL procedures all pottery identified within primary single contexts (occupation deposits, etc.) will be hand collected. Where whole earth or partial sampling is carried out on key horizons all ceramics will be collected from the sieved material. Additional collection at the spoil processing point/metal-detecting area will also take place if contextual integrity is certain. Particular attention will be paid to retrieval from occupation and floor surface deposits. MoLSS pottery specialists will be consulted regarding unusual *in situ* groupings.
- On pottery production sites a retention policy will be imposed in conjunction with the relevant MoLSS specialists, which will identify the best practice for that site, with regard to recording and retention of large groups of waste sherds.

- The programme of ceramic dating and analysis will be undertaken in consultation between MoLAS and MoLSS. Spot-dating of pottery will not usually take place until all finds processing has been completed, though primary processing will generally be concurrent with site excavation. This is because spot-dating requires access to the reference collection and appropriate literature, the use of microscopes, and in particular that *all* pottery from a finished context is viewed at one time. In certain circumstances it may be useful for the site supervisor to have access to dating information during the course of the excavation, and provisional date-ranges of pottery or other finds from specific contexts can be provided by MoLSS on request.
- All pottery will be marked with the site code and context number and, where possible, with the Museum Accession Number. In all cases, all bags and boxes will be marked with the Museum Accession Number.

For further information on finds retrieval see MoLAS, *Site Recording Manual* (1994): Section 4.

3.4.3 *Building materials procedure*

The Project Manager and Site Supervisor(s) will be responsible for ensuring that the following methodologies are employed:

- Normally all building material over 50 mm across will be collected and retained. Mortar and *opus signinum* from structures will normally be sampled. Decorated mosaics will be lifted in consultation with MoLSS conservators, but plain tessellated pavements will be randomly sampled, with samples being taken of all different forms and fabrics.
- Painted wall plaster will normally be collected. Sampling may be appropriate, but only after consultation with the appropriate MoLSS specialists. Particular attention will be given to the recording of plaster if it can be related to structural evidence to enable later reconstruction. Conservation staff will advise and undertake lifting work if necessary. All *in situ* painted plaster or wall decoration will be photographed and recorded before removal.
- Rubble stone and cobbles may be sampled for petrological examination if appropriate; where there is doubt, a MoLSS building materials specialist will be consulted. Bricks of medieval date may be sampled if large quantities are present. Otherwise they will be retained because of their scarcity in London. Post-medieval bricks may be sampled, though any unusual ones will be kept. Where necessary, a MoLSS building materials specialist will be called in to advise. Mud bricks may also be sampled, although complete examples will be retained. Examples of keyed clay walling will be retained where possible.
- Materials which would normally be retained may be sampled when there is a large quantity present. Where possible such materials will comprise both *random* and *selected* spatial samples. A MoLSS building materials specialist will advise where appropriate.

- Where excavated structures are not to be removed (ie being preserved *in situ*) the building material will be studied *in situ* by a MoLSS building materials specialist.
- All building material will be marked with the site code and context number and, where possible, with the Museum Accession Number. In all cases, all bags and boxes will be marked with the Museum Accession Number.

3.4.4 Registered finds procedure

The Project Manager and Site Supervisor(s) will be responsible for ensuring that the following methodologies are employed:

- General Finds procedures are those outlined in the *Finds Procedures Manual* (MoLAS 1994). Finds may include pottery, glass, metal objects, industrial and metal-working debris, stone, shell, ivory, ceramic tobacco pipes, bone objects, prioritised building materials, and organic materials.
- Internal and external floor surfaces will be scanned using a metal detector to enhance recovery where appropriate. Other deposits to be scanned using a metal detector might include eg 'garden soil' type deposits, reclamation dumps, boreholes and primary pit fills.
- MoLSS Conservation staff will be consulted on lifting procedures and may be on hand to lift objects themselves as necessary.
- All finds except those requiring immediate conservation treatment will be accessioned and packaged as part of the Site Archive stage.
- Selective artefact collection procedures will only be considered following discussion between the Project Manager and/or Site Supervisor and the appropriate MoLSS specialist.
- Once finds have been taken from the site they will be recorded on a computer database using standard procedures.
- Other off-site work at Site Archive stage will include pottery identification, spot-dating as requested, cataloguing, building materials scanning, and debriefings as dictated by the *Post-Excavation assessment and revised project design*.
- Prioritisation of categories of artefact for research will be refined at the post-excavation assessment stage.

3.4.5 Dendrochronological sampling procedure

The Project Manager and Site Supervisor(s) will be responsible for ensuring that the following methodologies are employed:

- All artefacts must be submitted for timber identification, the method (visual or microscopic) to be determined in conjunction with the relevant MoLSS specialist, prior to any but the most basic conservation treatment; they will be kept moist and,

where necessary, supported to prevent collapse. No biocides will be used at any time. Each individual artefact will be placed in its own bag or if fragile a waterproof box with adequate permanent labelling.

- It is not always possible to sample large articulated artefacts (eg boat planks, barrel staves, doors, etc) due to their potential for later display or research. Such timbers may be removed whole. Timbers with potential for dendrochronological analysis will be seen by a MoLSS specialist on site prior to any conservation treatment taking place.
- Large artefacts and ‘special’ timbers (eg with toolmarks, unusual joints etc) will be identified, recorded and where appropriate, dendrochronologically analysed prior to conservation treatment.
- Structural timbers do not, in the main, fall into the above categories. They will be sampled relatively quickly, following the standard MoL recording procedures and advice from MoLSS specialists. Biocides will not be used.

3.4.6 Timber recording procedure

The Project Manager and Site Supervisor(s) will be responsible for ensuring that the following methodologies are employed:

- The MoLSS specialist will liaise with the Project Manager and/or Site Supervisor(s), and other MoLSS specialists, to monitor on-site and assist with work as necessary in order to ensure that the recording and processing of timbers is carried out in accordance with the procedures of the MoL Archaeological Manual, and following English Heritage guidelines on waterlogged wood.
- Recording and processing: The approach laid down in the Museum of London *Archaeological site manual* (1994) will be followed. Nearly all reused timbers will warrant systematic recording, as they are often repositories of a large amount of information regarding structural types rarely surviving on site, such as roof structures, cart wheels, boats, furniture etc.
- Conservation of timbers: It is the general policy of the Museum of London curatorial departments not to conserve structural woodwork except in a very small number of exceptional cases. Occasionally, the developer or another museum may wish to provide a home for ancient woodwork. Thus there will be no need for a large number of wet storage tanks: timbers will be kept temporarily either in 1-2 folding tanks or close wrapped in polythene.

3.4.7 Environmental procedure

The Project Manager and Site Supervisor(s) will be responsible for ensuring the following:

- General environmental procedures are set out in the MoLAS *Site Manual*, and also in the MoL *Environmental Procedures Manual* (Murray & Rackham 1990, currently being updated).

- A number of post-excavation analytical methods will be employed on biological material from the site. To facilitate this a number of different sampling approaches will be required:

CLASS	SAMPLE METHOD	PROCESSING METHOD
Plant macro-fossils	Bulk sampling	Flotation or waterlogged processing
Human bone	Hand collection	Hand washing
Large mammal small mammal, bird, fish, reptile, amphibian	Hand collection where possible, otherwise bulk sampled or spot sampled in the case of individual corpses.	Power hosed where possible, otherwise wet-sieved (either during flotation or purely wet-sieved)
Marine mollusc	Bulk sampled	Wet-sieving
Freshwater and terrestrial molluscs	Column sampled	Disaggregated and sieved
Ostracods		
Insects	Bulk sampled	Paraffin flotation
Eggshell	Bulk sampled	Wet-sieving
Coprolites	Spot or bulk sampled	Specialist treatment
Sediments	Monolith sampling	Initial laboratory cleaning
Soils/complex strata	Kubiena sampling	Resin impregnation
Pollen	Spot or monolith sampling	Monolith splits to standard pollen prep.
Diatoms	Spot or monolith sampling	Monolith splits to standard diatom prep.

Note: The various sampling approaches may be undertaken by both field (MoLAS) and environmental (MoLSS) staff. It is anticipated that in some cases external specialists will also undertake sampling: eg soil micromorphology.

- Uncontaminated negative features will be bulk sampled. Horizontal stratigraphy (if it survives in sunken floors, cellars etc) will be bulk sampled on a spatial basis, where appropriate. Sampling will be carried out, where possible and appropriate, in accordance with the procedures of the MOL Archaeological Manual.
- Animal bone will be collected by hand, and this will be supplemented by the residues from flotation samples.
- Human burials will be recovered individually, with the separate parts of the body (ie right arm, torso, left leg etc.) bagged separately on site. Samples will be taken for analysis of the abdominal area if soil conditions are wet or moist. Control samples will also be taken by consultation with the appropriate MoLSS specialist. Cremations will be excavated in consultation with MoLSS specialists.
- Environmental procedures will be monitored throughout the excavation, and modified where necessary, eg after the discovery of unexpected features or deposit

types, after consultation between the Project Manager and/or Site Supervisor and the appropriate MoLSS specialist.

3.4.8 Conservation procedure

The requirements of conservation and storage shall be agreed with the Keeper of Human History, Southend Museum, prior to the commencement of work. The Project Manager and Site Supervisor(s) will be responsible for ensuring that MoLSS conservators carry out work on site as follows:

- Liaison with MoLAS site and MoLSS staff throughout the excavation, and any specialist moulding or lifting of fragile objects as required.
- Routine cleaning and stabilisation of selected artefacts for 'spot dating', and in order to produce a stable archive (in consultation with MoLAS, MoLSS and MoL curatorial staff as necessary). This will include X-radiography and cleaning of all coins. Stratified coins not identifiable from X-ray will be cleaned and stabilised. If an exceptionally large coin assemblage is recovered, only a selection of the stratified coins not identifiable from X-ray need be cleaned. The selection procedure will be agreed between the Project Manager, and the appropriate MoLSS specialist.
- Development/refinement of methodologies for the storage and treatment of complex individual finds and large assemblages of similar material.
- The development/refinement of methodologies for any preservation of archaeological deposits *in situ*, and contributions to the design of mitigation strategies, as required.
- Providing immediate treatment for unstable finds, such as wet organic materials.
- Ensuring that all objects requiring prompt laboratory attention are transported immediately to a Conservation laboratory at MoLSS or the Museum of London

Non-portable remains: Any discovery of substantial structural remains requiring preservation *in situ* will entail detailed discussion between all relevant parties. The costs associated with excavating, conserving, lifting and curation of unforeseen objects or structures of national archaeological importance remain outside the agreed budget for the archaeological project.

4 Attendances, access and safety

4.1 General attendance

The archaeological excavation will be undertaken to the agreed timetable and attendance levels.

On completion of the archaeological excavation there will be a meeting on site to ensure that the archaeological works have been carried out to the satisfaction of the Local Planning Authority's designated representative/advisor.

4.2 Attendances/engineering

The spoil generated during the excavation will be stored away from that part of the site under excavation. If one half of the site is to be excavated first, spoil may temporarily be stockpiled on the unexcavated portion of the site.

It is anticipated that archaeological deposits will be relatively shallow. However, in the event of deeper deposits some or all of the following may apply:

- Shoring in all excavations which exceed 1.20m in depth, and in those of less than 1.20m which are judged unstable, installed in accordance with Safety Regulations and maintained throughout the occupancy of the area in question. Note that where mechanical or electric hoists are to be used, MoLAS H&S policy requires staff working in shored shafts of less than 4m x 4m to leave the shaft before hoisting of buckets takes place and not to re-enter until the bucket is lowered back into position. Time for such evacuation will not form part of excavation programme. Beyond a depth of 3m within such shafts gas monitoring equipment will be required to ensure appropriate air quality for those working there.
- Safety guard-rails and suitable access points into the site and areas of excavation, away from any site traffic and machinery.
- Ladders into all areas of excavation when the excavated depth requires such access.
- Duckboards/Youngmans for safe spoil removal and general site traffic.
- If ground-water is encountered in the trenches, adequate pumps with generating equipment if needed will be required to remove it in order to complete the excavations. These will be available at 48 hours notice.
- Effective channels of communication, including a designated supervising engineer and/or client's Project Manager to liaise with the Senior Archaeologist and Project

Manager from the Museum of London Archaeology Service. A designated contractor's agent will be necessary to implement agreed attendances.

- Plant operators and the following plant:
— A mechanical tracked excavator with a breaker, toothed bucket and a large toothless ditching bucket for site clearance.

4.3 Accommodation and facilities

The following to be supplied by the client or MoLAS, as appropriate:

- lockable mess area, with chairs, benches and tables.
- lockable office area, with chairs, tables (or desks), shelf units, lockable filing cabinet.
- male and female toilets.
- lockable tool store for holding large hand tools, sufficiently robust to store surveying and other equipment.
- a lockable store for finds and environmental samples.

4.4 Access

A safe access route will be erected and maintained throughout the course of the initial watching brief on enabling works and subsequent excavation. Safe access to the site will be granted to the representative/advisors of the Developer and the Local Planning Authority's designated representative/advisor, who may wish to be satisfied, through site inspections, that the archaeological works are being conducted to proper professional standards and in accordance with the agreements made.

All other archaeological site visits by non-MoLAS personnel will be notified to the client or Attendance Contractor in advance, or, if instigated by the client, main contractor or the client's archaeological consultant, to the MoLAS Project Manager, or their designated on-site representative.

4.5 MoLAS Health and Safety policy

The Museum of London Archaeology Service (MoLAS) recognises and accepts its responsibility as an employer for providing a safe and healthy work place and working environment for all staff. MoLAS believes that current Health and Safety Legislation and regulations represent the basic minimum standard it should achieve.

MoLAS recognises that many of the features of effective Health and Safety Management are indistinguishable from sound management practice based on quality and excellence. The general principles of good management are therefore a sound basis for achieving and maintaining Health and Safety Standards.

MoLAS will use the Health and Safety Executives publication HS(G)65 *Successful Health and Safety Management* as a guide to management of Health and Safety.

MoLAS provides Safety Training for its staff as follows:

- Induction Training (undertaken on joining MoLAS, and as appropriate on individual projects).
- General Health and Safety Training (a Health and Safety awareness course targeted at Field and Support Staff).
- Specialist Health and Safety Training (designed to cover specialist areas and to update professional knowledge, ie chain saw operators).
- Managers' Health and Safety Training (designed for members of staff with responsibility for others).

Some of MoLAS's archaeological work is carried out on land that has been in industrial use since the beginning of the Industrial Revolution. Much of this type of land is contaminated with heavy metals. The Museum of London Archaeology Service accepts the guidance contained in the HSE.'s publication *Protection of workers and the General Public during the Development of Contaminated Land*. The Service has experience in working on a varied range of sites with a history of contamination.

With the introduction of the Construction Design and Management Regulations (1994) MoLAS works with Clients, Main Contractors and/or Attendance Contractor and Planning Supervisors to create a Health and Safety Plan. Each project will have its own unique plan and MoLAS will also assume the role of a Designer for works associated with an archaeological interest.

4.6 Project Health and Safety considerations

All relevant health and safety legislation, regulations and codes of practice will be respected. This requirement constitutes one of the non-archaeological constraints on the excavation layout.

No personnel are to work in deep unsupported excavations. Where the installation of temporary support work and other attendances are required these will be provided by the developer as part of the archaeological agreement.

Note that where mechanical or electric hoists are to be used in shored shafts, MoLAS H&S policy requires staff working in shafts less than 4m x 4m to leave the shaft before hoisting of buckets takes place and not to re-enter until the bucket is lowered back into position. Time for such evacuation will not form part of excavation programme. MoLAS will not generally excavate shafts of less than 4m by 4m to depths of greater than 5m.

Where there is reason to believe from previous uses that the ground or adjacent buildings may be contaminated the client must have made arrangements for and undertaken pollution sampling and testing before archaeological work on sites takes place.

The developer must provide all information reasonably obtainable on contamination and the location of live services before site works commence.

The health and safety of the project team is considered to be of the utmost importance. A series of safety provisions are included in MoLAS's model legal agreement regulating the archaeological investigation. Health and safety provisions are also included in statements, or otherwise conveyed, to site contractors to ensure that all contractors working on the site are aware of the archaeological requirements.

MoLAS staff will at all times adhere to the MoLAS *Health & Safety Policy* (August 2001), and promptly carry out (or arrange for the site Attendance Contractors to carry out) any instructions issued by the MoLAS Health and Safety officer, who will normally visit the site weekly. The H&S officer will provide written reports after each site visit. These will be copied to the Site Supervisors, the MoLAS Project Manager and the H&S Officer of the main contractor and/or Attendance Contractor.

If at any time the site or part of the site is made unsafe or the safety of MoLAS staff is endangered then MoLAS will give notice of the unsafe conditions which will be confirmed in writing if a claim for compensation is to be made. If reasonable steps are not taken to abate the danger then MoLAS reserves the right to withdraw its staff and workforce from the site until it is declared safe, and the period of time of the withdrawal will be added to any agreed period of work. If MoLAS is unable to find suitable work to redeploy such staff financial compensation will also be sought.

Existing services, cables and drains: The location of existing services is to be ascertained and notified to MoLAS before the 'handover meeting' (see above) and disconnected, diverted or made safe as appropriate.

The MoLAS Health and Safety Officer will liaise regularly with his counterpart at the offices of the main contractor and/or Attendance Contractor throughout the periods of excavation.

While on site, MoLAS staff will at all times wear the appropriate protective clothing, with which they are issued. The site Supervisors will be under strict instruction not to allow onto site any member of staff who fails to comply with this requirement.

5 Site archive, assessment and reports

5.1 Archive, storage and processing facilities

In accordance with the guidelines issued by the Institute of Field Archaeologists site and research archives from excavations will be deposited with the Local Archive Deposit Museum. In the short term, the storage and processing facilities available to MoLAS can be summarised as follows:

- Both long- and short-term storage of excavated finds and samples takes place at the Museum of London's warehouse at 46 Eagle Wharf Road, London, N1. These premises meet the *Standards in the Museum Care of Archaeological Collections* (Museums and Galleries Commission, 1992).
- Paper and digital records are initially stored in appropriate environmental conditions at MoLAS's offices at Mortimer Wheeler House. The building has 24-hour security staffing.
- Following analysis and publication, the site and research archives, MoLAS will deposit the site and research archives with the Local Archive Deposit Museum, subject to arrangements for the transfer of finds ownership.
- Cold and wet storage are used as appropriate for organic finds and samples. MoLAS and MoLSS use several freezers and refrigerators for cold storage. Wet storage is provided by versatile, water-filled scaffold tanks, which are well-sealed to prevent contamination.
- Both dry and wet processing facilities are available at the MoLSS buildings at Eagle Wharf Road. Wet processing equipment includes power spraying units, sieving apparatus and five flotation tanks, as well as several sinks. A heated drying room and drying cupboards are available.

5.2 The project archive

The Museum of London Archaeology Service is obliged to prepare archaeological archives to a prescribed standard for deposition in an appropriate museum, in this case the Local Archive Deposit Museum. MoLAS will follow the United Kingdom Institute for Conservation's *Guidelines for the preparation of excavation archives for long term storage* (1990) and their *Conservation Guide-lines No. 2*; the Museums and Galleries Commission's *Standards in the Museum Care of Archaeological Collections*, (1992), and the Society of Museum Archaeologist's (draft) *Selection, retention and dispersal of archaeological collections*, (1992). MoLAS will also follow any guidelines for the preparation of archaeological archives issued by the Local Archive Deposit Museum, but in the absence of the latter will follow those of the Museum of London, *General Standards for the preparation of archaeological*

archives deposited with the Museum of London, (1998), and the Museum of London's *Standards for the Preparation of Finds to be permanently retained by the Museum of London*.

The integrity of the site archive will be maintained. All finds and records will be curated by MoLAS in the first instance awaiting transferral to the Local Archive Deposit Museum and will be available for public consultation.

Ownership of the finds rests in the first instance with the landowner who is requested to donate them to the Local Archive Deposit Museum. If required, subsequent arrangements may be made between the landowner and the Museum for the conservation, display or provision of access to or the loan of selected finds. If the finds are not to be donated to the Local Archive Deposit Museum arrangements will need to be made by the client for a comprehensive record of all relevant materials (including detailed drawings, photographs and descriptions of individual finds), which can instead constitute the archaeological archive.

The minimum acceptable standard for the site archive is defined in the *Management of Archaeological Projects* (English Heritage, 1991, para 7.4 and Appendix 3). It will include all materials recovered (or the comprehensive record of such materials as referred to above) and all written, drawn and photographic records relating directly to the investigations undertaken. It will be quantified, ordered, indexed and internally consistent before transfer to the Local Archive Deposit Museum. It will also contain a site matrix (where generated), a site summary and brief written observations on the artefactual and environmental data. Copyright of the written archive will be vested with MoLAS until it can be deposited with the Local Archive Deposit Museum

Local Archive Deposit Museum's guidance on the needs of digital storage and archival compatibility will be sought and followed.

Arrangements for the curation of the site archive will be agreed with the Local Archive Deposit Museum and details of such arrangements will be copied to the Local Planning Authority if required. The archive (or a file copy) will be deposited with Southend Museum within six months of the completion of the publication report.

Where the above mentioned 'phase 2 review' indicates the need for further assessment and analysis (leading to a *Post-excavation Assessment*) the recommendations set out in the Management of Archaeological Projects 1991 will be followed. However, no formal post-excavation assessment is likely to be required, given the scale of the works.

5.3 Reporting

A full excavation report will be produced, and will contain the following information:

- Summary – a concise, non-technical summary.
- Introduction – general introduction to the project, including reasons for work, planning background.

- Background – to include geology, topography, archaeological and historical background.
- Aims and objectives – summary of aims and objectives of the project.
- Methodology – methodology adopted to carry out the work.
- Fieldwork results – detailed description of results.
- Specialist reports.
- Discussion and conclusions – overview of the archaeological deposits and artefacts, including details of preservation and survival of the deposits across the site; discussion and interpretation of the results will include both the immediate archaeological context and in relation to other relevant evidence.
- Appendices – context descriptions, finds catalogues, content of archive, site matrix.
- Figures – location plan, section drawing showing present ground level and depth of deposits, including ordnance datum.

In addition to the technical reports, which MoLAS is obliged to prepare, an additional report giving an overall view of the project and its results in non-technical language may be prepared and issued to the client and other relevant parties on completion of the post-excavation assessment. This would normally be within 12 months of completing the on-site works. However, if the extent and importance of the results of the excavation warrant it, this time limit may require some adjustment with the agreement of all relevant parties.

5.4 Publication

Publication at least to summary level will take place within one year of the conclusion of the fieldwork. The summary will be published in Essex Archaeology and History.

If the results of the excavation warrant, more detailed publications may be produced, for example as part of the MoLAS Studies Series, or in one of the relevant national or period-based archaeological journals.

Agreement may be sought with the client to allow a contingency sum to cover the estimated cost of such a separate publication programme according to standard proportions recommended by English Heritage, in the event of such publication being merited. This would include the production of texts, illustrations, and documentary research, as well as specialist input as appropriate.

6 Bibliography

- ACAO, 1993 *Model briefs and specifications for archaeological assessments and field evaluations*, Association of County Archaeological Officers
- BADLG, 1986 *Code of Practice*, British Archaeologists and Developers Liaison Group
- Department of the Environment, 1990 *Planning Policy Guidance 16, Archaeology and Planning*
- English Heritage, 1991 *Exploring our Past. Strategies for the Archaeology of England*, English Heritage
- English Heritage, 1991 *Management of Archaeological Projects (MAP2)*
- English Heritage, 1997 *Sustaining the historic environment: new perspectives on the future*
- English Heritage, May 1998 *Capital Archaeology. Strategies for sustaining the historic legacy of a world city*
- English Heritage Greater London Archaeology Advisory Service, June 1998 *Archaeological Guidance Papers 1-5*
- English Heritage Greater London Archaeology Advisory Service, May 1999 *Archaeological Guidance Papers 6*
- English Heritage Ancient Monuments Laboratory, Conservation and Technology, 1998 *Guidelines on producing and interpreting dendrochronological dates*
- English Heritage Centre for Archaeology Guidelines, Feb. 2001 No. 1: *Archaeometallurgy*
- Institute of Field Archaeologists (IFA), 2001 *By-Laws, Standards and Policy Statements of the Institute of Field Archaeologists*, (rev. 2001), *Standard and guidance: Excavation*
- Institute of Field Archaeologists (IFA), supplement 2001, *By-Laws, Standards and Policy Statements of the Institute of Field Archaeologists: Standards and guidance – the collection, documentation conservation and research of archaeological materials*
- Museum of London, 1994 *Archaeological Site Manual 3rd edition*
- Museum of London, 2002 *A research framework for London archaeology*

Schofield, J, with Maloney, C, (eds), 1998 *Archaeology in the City of London 1907-1991: a guide to records of excavations by the Museum of London*, Archaeol Gazetteer Ser Vol 1, London

Thompson, A, Westman A, and Dyson, T (eds), 1998 *Archaeology in Greater London 1965-90: a guide to records of excavations by the Museum of London*, Archaeol Gazetteer Ser Vol 2, London

Standing Conference of Archaeological Unit Managers, (1991 rev. 1997) *Health and Safety in Field Archaeology, Manual*