DESK-BASED ASSESSMENT

1 NON-TECHNICAL SUMMARY

1.1 AOC Archaeology Group was commissioned by Coltart Earley on behalf of their client to undertake a programme of archaeological works in advance of a proposed residential development at David Street, Gallowgate.

1.2 Cartographic and bibliographic sources indicate the study area has been the site of substantial past human activity and numerous phases of urban development. The proposed development area is known to have been the site of several, now demolished, post-medieval and modern buildings including the sites of two post-medieval potteries.

1.3 In compliance with national and local planning policies, it is likely that the West of Scotland Archaeology Service (WoSAS) will require an archaeological evaluation to be undertaken prior to development. The aim of this evaluation should be to assess the potential for any industrial remains related to Campbellfield Pottery and Elgin Pottery which previously existed on site as well as the potential for survival of medieval and earlier remains associated with the post-medieval residence at Campbellfield. This evaluation should concentrate on those areas of the development site not previously disturbed by recent building or maintenance work and should focus on the survival, extent and significance of any potential buried archaeological remains on the site.

2 INTRODUCTION

2.1 Development site

2.1.1 Location and extent

The proposed development site is located within the City of Glasgow (centred on NGR: NS 6127 6448). The site is bound by David Street to the east, by Crowpoint Road to the south, by Rochester Street to the west and by Gallowgate to the north. The north of the proposed development area is currently in use as a car park. The surface of the site is covered with a demolition/made ground layer.

2.1.2 Geology topography and drainage

Glasgow lies on part of the downfaulted rift which forms the Midland Valley of Scotland. This has left the solid geology of Carboniferous Limestone Coal formation. The drift geology overlying the Limestone consists mostly of Devonian glacial till (Hall et al 1998). The proposed development is in a built up urban area with the River Clyde to the south-east. The topography is generally flat.

2.2 Development proposal

2.2.1 Developer

Coltart Earley, on behalf of their client commissioned AOC Archaeology Group to undertake a desk-based assessment prior to proposed residential development, David Street, Gallowgate, Glasgow.

2.3 Government and local planning procedures

2.3.1 National Planning Policy Guidelines

The statutory framework for heritage in Scotland is outlined in the Town and Country Planning (Scotland) Act 1997, as amended in the Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997.

The implications of the Ancient Monuments and Archaeological Areas Act 1979 with regard to local government planning policy are described within the National Planning Policy Guidelines (NPPG) and Planning Advice Notes (PAN) for Scotland. *NPPG5 'Archaeology and Planning'* (SOEnD 1994), NPPG18 '*Planning and the Historic Environment'* (SODD 1999) and PAN42 *'Archaeology-the Planning Process and Scheduled Ancient Monument Procedures'* (SOEnD 1994a) deal specifically with planning policy in relation to heritage. The planning guidance expresses a general presumption in favour of preserving heritage remains in situ. Their 'preservation by record' (ie excavation and

recording, followed by analysis and publication, by qualified archaeologists) is a less desirable alternative.

2.3.2 Local Planning policies

Structure Plans are strategic land-use policy documents designed to cover a period of several years, and which set down policies with regard to various land-use types across a broad region. Policies set out in the Glasgow and Clyde Valley Structure Plan emulate national policies and seek to preserve cultural heritage.

The *Glasgow and Clyde Valley Joint Structure Plan* (2000) covers the council areas of North Lanarkshire, South Lanarkshire, Renfrewshire, Inverclyde, East Dunbartonshire, West Dunbartonshire and the City of Glasgow. The cultural heritage policies in the Structure plan closely reflect those in National Planning policies. The policies in the Structure Plan relevant to the proposed development are present below:

> *"The protection and enhancement of natural and built resources is prerequisite of the Development Strategy. The Guiding principles of the plan therefore explicitly recognise the importance of Environmental Resources, particularly in terms of a general presumption in safeguarding the quality and extent of identified environmental resources.* (Section 2.4)

The policies in the *Glasgow City Council Local Plan* reiterate the national policies with regard to heritage:

> '*There will be a presumption in favour of retaining, protecting, preserving and enhancing the ancient monuments and their setting. Developments that have an adverse impact on scheduled ancient monuments and their setting will be strongly resisted.'* (Policy HER 4, *City Plan* 2003)
>
> *'The preservation of sites of archaeological significance and their setting is a material consideration in determining planning applications, whether a monument is scheduled or not.'*
>
> *1) There will be a presumption in favour of retaining, protecting, preserving and enhancing the existing archaeological heritage and any future discoveries found in the City.*
>
> *2) When a development is proposed that would affect a site of archaeological significance, the following will*

apply:

a) the prospective developer will notify the West of Scotland Archaeology Service and the Council at the earliest possible stage in the conception of the proposal; and

b) an assessment of the importance of the site will be provided by the prospective developer as part of the application for planning permission or (preferably) as part of the pre-submission discussions.

3) When development that will affect a site of archaeological significance is to be carried out, the following will apply:

a) provisions will be made by the developer for the protection and preservation of the archaeological remains;

b) where excavation is not possible or desirable, the developer will design foundations that minimise the impact of the development on the remains; and

c) the Council shall satisfy itself that the developer has made appropriate and satisfactory provision for excavation, recording, analysis and publication of the remains.

4) Where archaeological remains are discovered after a development has commenced, the following will apply:

a) the developer will notify the West of Scotland Archaeology Service and the Council immediately to enable an assessment of the importance of the remains to be made; and

b) developers should make appropriate and satisfactory provision for the excavation, recording, analysis and publication of the remains. (Developers may see fit to insure against the unexpected discovery of archaeological remains during work).

(Policy HER 5, Sites of Archaeological Importance, Glasgow City Council City Plan 2003)

The policies included in the *City Plan (2003), HER 2 Listed Buildings (Buildings of Architectural and Historic Importance)*, that address the 'built heritage' conservation are concerned with identifying areas of special architectural or historic interest, the character of which it is desirable to preserve and enhance.

Where buildings have been listed as being of special architectural or historic interest :

- *there will be a presumption in favour of the retention of listed buildings;*
- *there will be a requirement for owners to maintain listed buildings in a good state of repair;*
- *repairs, alterations and extensions will be carried out in accordance with the design standards in policy HER 3;*
- *proposals for demolition will be subject to rigorous scrutiny in respect of importance, condition and alternative uses; and*
- *the best viable use will be sought where re-use and disposal is being considered.*

The following policy guidance is stipulated by Glasgow City Council:

Assessment of Development Proposals Affecting the Character and Setting of Listed Buildings

Given the importance of listed buildings to the historic and architectural heritage and image of the City, it is essential that a rigorous set of procedures are followed that provide adequate safeguards and that place a strong emphasis on the re-use of listed buildings.

Development proposals affecting the character and setting of listed buildings will be assessed against the following criteria and other relevant policies of the Plan:
(i) facade retention may be considered but will not be regarded as an automatic option (see also policy RES 6: Retention of Traditional Sandstone Dwellings);

2.3.3 Planning considerations pertaining to the site

The Local Planning Authority in City of Glasgow is advised on all archaeological matters by West of Scotland Archaeological Service (WoSAS).

2.4 Limitations of scope

2.4.1 This assessment has been based upon data obtained from publicly accessible archives as described in the *Data Sources* in Section 4.2.

3 AIMS AND OBJECTIVES

3.1 The aim of this study is to identify elements of archaeological and architectural heritage value that may be impacted upon by the proposed development at David Street, Gallowgate, Glasgow. The evidence presented and the conclusions offered will provide a comprehensive basis for further discussion and decisions regarding the future of this site and for the formulation of a mitigation strategy, should this be required.

3.2 The objectives to be undertaken in pursuing this study will be focused on assessing the cultural significance of the area to be affected by the development at David Street, by examining a variety of evidence for upstanding and buried remains within 50 metres of the proposed footprint. Based upon the heritage value thus identified, and the nature and scale of the proposed redevelopment, a mitigation strategy will be proposed.

4 METHODOLOGY

4.1 Standards

4.1.1 The scope of each desk-based assessment meets the requirements of current planning regulations set out in NPPG5 and PAN42.

4.1.2 AOC Archaeology Group conforms to the standards of professional conduct outlined in the Institute of Field Archaeologists' Code of Conduct, the IFA Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology, the IFA Standards and Guidance for Desk Based Assessments, Field Evaluations etc., and the British Archaeologists and Developers Liaison Group Code of Practice.

4.1.3 AOC Archaeology Group is a *Registered Archaeological Organisation* of the Institute of Field Archaeologists. This status ensures that there is regular monitoring and approval by external peers of our internal systems, standards and skills development.

4.2 Data sources

4.2.1 The following data sources were consulted during this assessment:

National Monuments Record for Scotland (RCAHMS, Bernard Terrace, Edinburgh):
For NMRS data, archaeological and architectural photographs, NMRS maps and unpublished archaeological reports;

National Map Library (National Library of Scotland, Causewayside, Edinburgh):
For old Ordnance Survey maps (1st & 2nd Edition, small- and large-scale) and pre-Ordnance Survey historical maps;

Historic Scotland (Longmore House, Salisbury Place, Edinburgh):
For Scheduled Ancient Monument data and Listed Buildings data.

West of Scotland Archaeology Service (WoSAS):
For up-to-date Sites and Monuments Record information

Mitchell Library (Glasgow):
For historical and archival records.

4.3 Report structure

4.3.1 Each archaeological or historical site, monument or building referred to in the text is listed in the Gazetteer in Appendix A. Each has been assigned a 'Site No.' unique to this assessment, and the Gazetteer includes information regarding the type, period, grid reference, NMRS number, statutory protective designation, and other descriptive information, as derived from the consulted sources, for each Site No.

4.3.2 Each archaeological or historical site, monument or building referred to in the text is plotted on Figure 1 at the end of this report, using the assigned Site No.'s. The area proposed for development is shown outlined on Figure 1.

4.3.3 Features of potential archaeological or historical significance located within 50 metres of the proposed development footprint have also been assessed. The aim of this is to predict whether any similar but currently unknown types of archaeological remains survive on the development site.

4.3.4 All sources consulted during the desk-based assessment, including publications, archived records, photographic and cartographic evidence, are listed in the *References* in Section 8.

4.4 Copyright and confidentiality

4.4.1 AOC Archaeology Group 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, but provides an exclusive licence to the Client in all matters directly relating

to the project.

4.4.2 AOC Archaeology Group will assign copyright to the client upon written request but retains the right to be identified as the author of all project documentation and reports as defined in the Copyright, Designs and Patents Act 1988. AOC Archaeology Group will advise the Client of any materials supplied in the course of projects which are not AOC Archaeology Group's copyright.

4.4.3 AOC Archaeology Group undertakes to respect all requirements for confidentiality about the Client's proposals provided that these are clearly stated. In addition, and where commercial factors require it, AOC Archaeology Group further undertakes to keep confidential for the time being any conclusions about the likely implications of such proposals for the historic environment. It is expected that Clients respect AOC Archaeology Group's and the Institute of Field Archaeologists' ethical obligations not to suppress significant archaeological data for an unreasonable period.

5 ARCHAEOLOGICAL AND HISTORICAL EVIDENCE

5.1 Prehistoric and Roman (8000 BC – AD 600)

5.1.1 There is no evidence of Prehistoric or Roman activity on the proposed development area or in the wider study area.

5.2 Medieval (AD 600-1600)

5.2.1 The assessment area lies east of the area that was covered by the medieval burgh of Glasgow. The medieval burgh developed from two separate communities that were located in what is now the city centre. One was established around the monastic church and shrine of St Kentigern from the 6th century AD, and a second settlement was established by the River Clyde, in the area of Bridgegate and Saltmarket. The first historical references to Glasgow were made in the 12th century when a cathedral was dedicated to St Kentigern and a charter was issued by William the Lyon to Bishop Jocelyn by 1178 allowing the expansion of the existing settlement. The 13th and 14th centuries saw Glasgow continue to expand and emerge as a powerful trading burgh.

5.2.2 The earliest available map evidence for the proposed development area during the medieval period is Pont's map of 1580 (Figure 2), which shows Glasgow north of the Clyde. It is probable that the proposed development area lay outwith the burgh of Glasgow at this time, but still

within the immediate hinterland of the city.

5.3 Post-medieval (1600-1900)

5.3.1 Glasgow became the fourth largest trading centre in Scotland in the post-medieval period and by 1650 it was trading with Ireland, France, Norway and the Highlands. There are few documentary records relating to the land east of the City prior to 1700 and as such little is known about the proposed development area at this time although it can be assumed that it was rural in nature.

5.3.2 In the early 1700s the proposed development area belonged to John Chapman, writer and commissary depute, a contemporary of McUre who makes reference to him in his history of the City (McUre 1736). The proposed development area did not have a distinctive name at this time but is described as lying in Nether Gallowmuir, and marching on the south with the Barrowfield estate, and on the east with the lands of Wester Calmachie. At this time the lands of Campbellfield are described as a 'beautiful place' commanding an extensive prospect of the Vale of Clyde (Burns 1794).

5.3.3 Roy's map of 1747-1755 (Figure 3) marks a farm or settlement at Campbellfield south of a road leading east form the city. Campbellfield is shown to be wholly rural in nature, located at some distance from the city boundary. Charles' map of 1773 (not shown) shows the eastern periphery of Glasgow located at the Molendinar Burn and the proposed development area was evidently located east of the urban centre.

5.3.4 The pottery industry became established in Glasgow around the mid-1700s. At this time the potteries were concentrated in the industrial centre of the City and any potteries that had been established in the Gallowgate area may have been a relatively small concern, as they not cited amongst the better-known, early potteries in the *Statistical Account* (Cunnison & Gilfillan 1958).

5.3.5 The land on which development is proposed belonged to the Chapman family until 1762 when the property was acquired by William Auchinloss, a Glasgow merchant. He built the house in 1765 and named it Campbellfield in compliment to his wife. William Auchinloss died at Campbellfield in 1797 and the property was acquired by John McAdam of Easterhouse.

5.3.6 Taylor and Skinner's map of 1776 (Figure 4) shows a large manor house at 'Campblefield' belonging to Auchinlosse Esquire on the west bank of the Camlachie Burn (**Site 5**). The settlement of Camlachie is shown east of the proposed development area and in the late 18th century, was a small weaving village to the east of Glasgow with a small mansion house, which then served as a woollen factory. Camlachie is said to mean "muddy bend of the burn", referring to the attractive tree-lined stream which ran along the west side of the village and east of the lands at Campbellfield.

5.3.7 Richardson's map of 1795 (Figure 5) similarly depicts a large house within the proposed development area. As one of the few residences annotated on this map, Campbellfield was evidently a relatively important settlement at this time.

5.3.8 It is thus evident that prior to the 19th century, Glasgow's population was densely packed into a relatively compact area at what is now the city centre, and there were few suburbs. The proposed development area, east of Victorian Glasgow, was mostly agricultural fields and it was not until the 19th century, helped by the railways as well as the canal network, that this land came to be occupied increasingly by industrial and residential areas. In 1815, William Wilson is recorded to have bought the land at Campbellfields and made major alterations to the house (Smith & Mitchell 1878).

5.3.9 The early 19th century expansion of the east end of Glasgow is notable on Forrest's map of 1818 (Figure 6) which shows the formerly rural setting of Campbellfield house to be surrounded by new buildings and industries. The industries in the immediate vicinity include a pottery at Gallowgate, west of the proposed development area, belonging to a Mr Cubie and a foundry east of the proposed development area belonging to a Mr Napier. Thomson's map of 1820 (Figure 7) similarly shows a foundry, mill and pottery in the vicinity of the Campbellfield area. Despite the expansion of industry in the surrounding area the proposed development site remained essentially rural in the first two decades of the 19th century as demonstrated by Wood's map of 1822 (Figure 8) which shows the proposed development area to be part of wooded grounds surrounding Campbellfield House, east of the Camlachie Burn.

5.3.10 Between 1750 and 1850 an important pottery industry developed in Glasgow, supplying both local and export markets. New establishments were erected, and the productions attained an efficiency which enabled them to compete successfully in both the home and foreign markets, with the well-known Staffordshire ware (Renwick & Lindsay 1921). In 1882 there were about twenty potteries recorded within the city, the largest being at Garngad Hill, where about 1000 workers were employed. The manufactures included every kind of product from coarse earthenware to

fine porcelain, and the exports, both coastal and foreign, amounted to over 12,000 tons a year.

5.3.11 Campbellfield pottery was established within the proposed development area in 1827 to exploit the clayfields surrounding Campbellfield house. The earliest detailed impression of the pottery is provided by First Edition Ordnance Survey (OS) maps dating from 1867 (Figure 9). This map shows the east of the proposed development area to be occupied by a Brick, Tile & Pottery Works. The pottery is shown to be an extensive complex with five structures lining David Street (**Site 1**) and a reverse h-shaped building which presumably made up the main factory complex. A small circular structure marked west of the main complex possibly represents a kiln. A further structure associated with the pottery is shown lining David Street with a wing protruding north-west into the proposed development area.

5.3.12 The First Edition OS survey (Figure 9) also show a large residential property annotated as Campbellfield (**Site 5**) west of the proposed development area. The house is shown to consist of a central rectangular block with an additional wing to the north-east. The house is approached by a tree-lined drive leading from Gallowgate in the north-west. A small entrance lodge or building is marked on the west side of the drive at Gallowgate (**Site 6**). At the time of the publishing of the First Edition OS map the house at Campbellfield was to be short lived and was later demolished in 1868 (Smith & Mitchell 1878). The Camlachie Burn is not shown on first edition Ordnance Survey maps and had presumably been culverted by this time.

5.3.13 Between the publication of the First and Second Edition maps, a second pottery known as the Elgin Pottery (**Site 3**) is recorded within the proposed development area. The life of this pottery was evidently short-lived and it operated from 1859-1875. As the construction and later demolition of this pottery falls between the publishing of the two map editions, little is known about its extent, configuration, or the types of wares that it produced. Fleming's book on Scottish Pottery which provides a description of the potteries of Glasgow lists an Elgin pottery at 30-32 Davidson Street south of the proposed development area in operation from 1855-1893. According to Fleming (1923, 143) the factory was erected by James Johnstone in 1855 and sold a few years later to Charles Purves, who had been a potter in the nearby Verreville Pottery. The Elgin Pottery devoted itself to the manufacture of white earthenware and closed in 1893. The Scottish Pottery Society conversely list Elgin and Mile End potteries operating in the vicinity of the proposed development area from 1855-1877. It is evident therefore that there is some confusion in existing records about the exact location and duration of the Elgin pottery works but it is probable that it was located on or in very close

proximity to the proposed development area in the latter half of the 19th century.

5.3.14 The pottery industry in Glasgow that was so quick to expand was equally quick to decline. The local clays were coarse and the clay beds were increasingly covered by an advancing urban sprawl. In total almost 30 pottery, clay pipe and fireclay production sites have been identified as being in operation in and around Gallowgate area in the 18th and 19th centuries. However, most of the Gallowgate potteries were too small to resist English competition and the high demand for land on which they were situated and many went out of business.

5.3.15 In its formative years the Campbellfield (**Site 2**) pottery focused on the production of Rockingham ware but later added white earthenware to its products. Campbellfield pottery expanded rapidly soon after its establishment and discovered that the David Street site was too small for the volume of trade to which it aspired. The owners of the pottery subsequently looked for an alternative site outside of the rapidly encroaching city. They eventually settled on a site in Flemington Street in 1870 and moved the Campbellfield pottery there where it became known as Springburn Pottery. An advertisement for the Campbellfield Pottery Co. dating to the late 19th century lists the Springburn Pottery as '*manufacturers of general earthenware, sponged, printed and gilt for the home and foreign markets and fancy ware for preserve makers'* The Springburn pottery went on to be relatively successful until its closure in 1901 and several examples of pottery from Campbellfield Co bearing the 'CP Co' stamp are held by Glasgow museum services. Therefore although the production of pottery within the proposed development area was short-lived, the reason for its removal from site was not one of decline, as was so often the case in this area of Glasgow, but was one of increasing prosperity and expansion.

5.3.16 The first street tramways in Glasgow were authorised by an act of 1870 and built by the corporation under lease by Glasgow Tramway company. The first route opened in 1872 and thereafter rapidly expanded. In 1877 the Glasgow Tramway company had depots in Whiteinch, North Street, Cambridge Street and David Street (**Site 4**) within the proposed development area. Most tramway buildings were of brick construction and the company depots such as the one at David Street were constructed of red and white brick (Hume 1974).

5.3.17 OS maps dating from 1896 (Figure 10) demonstrate the scale of urbanisation in late 19th century Glasgow with the majority of large rural residences shown to have been replaced by smaller tenement buildings. Within the proposed development area, the brick tile & pottery works is no longer annotated and has been replaced by residential properties lining

David Street (**Site 1**) and Gallowgate (**Site 6**). The southern part of the proposed development area is shown on this edition to be occupied by the Tramway Depot (**Site 4**) and numerous tramlines are shown running into the tramway depot from David Street in the east. South of the site Whitevale Foundry (**Site 11**) is marked.

5.4 Modern (post-1900)

5.4.1 OS maps dating from 1913 still show the proposed development area to be occupied by the tramway depot (**Site 4**), but the building is shown to have expanded and eight tram lines are now shown to enter the site from Rowchester Street, west of the site. The tram lines in David Street had been removed by the publication of this edition. The structures that line Gallowgate are shown to include a post office and public house. South of the proposed development area, the Whitevale Foundry (**Site** is marked. The Whitevale foundry was extended in 1914 (Hume 1974).

5.4.2 OS maps from 1935 show the buildings lining David Street to the south of the proposed development area to have been removed and replaced by a large warehouse style structure. The Tramway Depot (**Site 4**) is no longer annotated on this edition but possibly still functioned at a reduced capacity as indicated by a single tramline entering the structure from Rowchester Street. OS maps dating from 1953 show no changes in the configuration of the buildings within the proposed development site but this edition annotates an electricity substation as part of the former tram depot.

5.4.3 In the latter part of the 20th the proposed development area underwent substantial change. The residential and commercial structures lining Rowchester Street (Nos 5-35) and David Street (Nos 4-18) were demolished between 1953 and 1973 when they are no longer marked on modern maps. Between 1973 and 1990 the properties along Gallowgate (Nos 710-744) were also removed from the proposed development area, along with the eastern part of the electricity sub-station (formerly the tram depot). The site of these former structures was then used for car parking and the area landscaped to accommodate entrances from David Street and paths in the south of the site. Ordnance Survey maps from 1990 show the proposed development area in use as a car park with the electricity sub-station occupying the west of the site.

6 DEVELOPMENT IMPACT AND MITIGATION

6.1 Direct impacts

6.1.1 Potential impacts on known or unknown buried archaeological remains in the case of this development proposal relate to the possibility of disturbing, removing or destroying *in situ* remains and artefacts during groundbreaking works (including excavation, construction and other works associated with the development) on the site.

6.1.2 Three sites have been identified within the direct footprint of the redevelopment works. These include the site of two potteries and a former tram depot. Whilst the short-lived history of the Elgin pottery remains elusive, the Campbellfield pottery is significant as an early example of a 19th century pottery in the Gallowgate area of Glasgow and one of the few that remained successful into the later 19th century. Furthermore, the proposed development lies within the former land of Campbellfield on which a residence has been demonstrated from at least the mid-18th century. There is therefore a possibility that remains associated to the post-medieval or earlier settlement of the Campbellfield area may exist within the footprint of the proposed development.

6.1.3 Cartographic analysis has showed that the proposed development has been occupied by numerous structures from the mid 19th century onwards and it is probable that some sub-burface deposits have been disturbed. While the upstanding portions of buildings relating to the potteries have been removed to allow for the construction of the tram depot, it is possible that below ground evidence of them survive. Kiln bases, for example, tend to be of very heavy construction and were commonly left in place, while waster sherds were commonly dumped back into the clay extraction pits. This suggests that potentially informative features relating to the operation and production of the potteries may survive *in situ* in the form of buried sub-surface features.

6.2 Indirect impacts

6.2.1 Indirect impacts include potential visual effects on the settings of protected buildings and monuments. The development has the potential to indirectly impact on one Listed Building identified in this desk-based assessment.

6.2.2 The Listed Building in the study area is located on Gallowgate in an area that has been subject to much modern development including the construction of 20th century buildings and it is therefore unlikely that the proposed development will have an adverse visual impact on this

building.

6.2.3 Only visual effects upon the settings of Scheduled Ancient Monuments, Listed Buildings and Designed Landscapes are highlighted in this assessment, since their curtilage and amenity (in addition to their physical remains) are protected by legislation.

6.3 Mitigation of significant impacts

6.3.1 National planning policies and planning guidance, NPPG5 (SOEnD 1994) and PAN42 (SOEnD 1994a), as well as the local plan policies (Local Plan 2000 Structure Plan 2000), outlined in Section 2.3 of this report, require a mitigation response that is designed to investigate the potential for archaeological sites within the development area and thence allow the preservation or recording of any significant remains.

6.3.2 There are three known sites of potential archaeological interest within the direct proposed footprint of the redevelopment site including the site of two former potteries works and a tram depot. Whilst the site has seen substantial development in the period since 1875, it nevertheless remains possible that features relating to its industrial use as a pottery may survive intact. In accordance with national and local planning policies on heritage, it is advised that an archaeological evaluation may be required to be undertaken on the proposed development site, prior to the commencement of groundbreaking works involved in the development. Such an evaluation should focus on the survival, extent and significance of any potential buried archaeological remains on the site. As much of the proposed development site has been disturbed by twentieth century building works, it is recommended that evaluation is focused on those areas previously occupied by the potteries and that have not been subject to modern development. The specific evaluation strategy would require to be agreed with WoSAS in the form of a *Written Scheme of Investigation* prepared by the archaeological contractor.

6.3.3 Potential visual impacts on the setting of one Listed Building, by the proposed development were identified in this assessment and are considered to be of negligible significance.

WRITTEN SCHEME OF INVESTIGATION

7 PROJECT BACKGROUND

7.1 An archaeological evaluation is required by Coltart Earley on behalf of their client to undertake a programme of archaeological works in advance of a proposed residential development at David Street, Gallowgate.

7.2 The archaeological works will be conducted in accordance with the principles set out in NPPG 5 (SOEnD 1994), NPPG 18 (SODD 1999) and PAN 42 (SOEnD 1994a) and protocols set out in the West of Scotland Archaeology Service's 'Standard Conditions for archaeological fieldwork' (Appendix 28).

7.3 The objective of the archaeological works is to determine the existence of any buried archaeological remains with the David Street development area by means of a programme of trial trenching (Stage 1). Stage 2 will involve the implementation of appropriate archaeological mitigation measures, which may of consist of further fieldwork (formal, excavation, watching brief). Stage 3 will include suitable post-excavation analysis and publication of discovered archaeological remains, if appropriate. All such further works will be undertaken to the satisfaction of Glasgow City Council. All archaeological works associated with this development, as required by the planning authority, will be funded by the developer.

8. CURATORIAL CONTROL

8.1 The site is located within the Local Authority administrative area of Glasgow City Council. The Council is advised on archaeological matters by the West of Scotland Archaeology Service (WoSAS). A programme of works that fully satisfies and meets the requirements of the Council, as advised by WoSAS, will be undertaken as per the terms of the condition to be attached to the planning consent which requires such a programme of works to be implemented. This *Written Scheme of Investigation* sets out the generality of the programme of work which may be required to meet the terms of the planning condition, recognising that further details of the programme cannot be developed until such time as the results of the Stage 1 are known.

8.2 This *Written Scheme of Investigation* outlines the entirety of the archaeological programme of work which may be needed to mitigate the effects of the proposed development. It details principally the methodology to be employed in implementing the Stage 1 evaluation works. Any requirements for further detailed methodology will be specified in *addenda* to this document, to be called *project designs* for

any proposed excavations at Stage 2, and *post-excavation research designs* for work required at Stage 3.

8.3 Any *addenda* documents, which may be required, will be submitted for the agreement of WoSAS on behalf of Glasgow City Council, prior to the commencement of any archaeological work, which may be specified in the *addenda* documents. In the case of *addenda* relating to Stage 2 works (*project designs*), these will be implemented in full before any development work proceeds in any relevant development phase. WoSAS has advised that they will not advise Glasgow City Council to discharge the planning condition which requires the programme of archaeological work, until such time as it is satisfied that all stages of archaeological fieldwork have been completed (in the cases of Stages 1 and 2), or secured by contract (in the case of Stage 3). WoSAS, on behalf of Glasgow City Council, has indicated that it will be the judge of the need for implementation of further stages of the proposed archaeological programme, as set out in this *Written Scheme of Investigation*.

8.4 The body of this *Written Scheme of Investigation* is site specific while the Appendices detail the standard conditions of WoSAS for fieldwork in its area, and AOC Archaeology Group's operating procedures and standards.

9 OBJECTIVES

9.1 The objectives of the archaeological works are:

i) to determine and assess the character, extent, condition, quality, date and significance of any buried archaeological remains within the proposed development area;

ii) to advise and implement an appropriate form of mitigation, such as evaluation, excavation, post-excavation analyses and publication, given the infeasibility of preserving the archaeological material *in situ*, should significant archaeological remains be encountered.

10 PROGRAMME OF ARCHAEOLOGICAL WORKS

10.1 Stage 1: Evaluation

10.1.1 The evaluation will comprise machine trenching of a 5% sample of the 8,720 m² ha development area. This will amount to a minimum of 436 m². Trenches will be 2 m wide and a maximum of 30 m long (Figure 13).

10.1.2 The trial trenching will aim to establish the extent, condition, character, quality and date of any archaeological features present. Trenches will be excavated by machine down to the first significant archaeological horizon or to natural subsoil. All machine excavation will be supervised by an experienced field archaeologist. Deep trenches will be laterally stepped or subject to gradual batter where access for archaeological inspection is required. Trenches will be extended, or ancillary trenches excavated, in areas of archaeological discovery in establishing the full lateral extent of any significant archaeological material.

10.1.3 All trial trenching will be undertaken according to AOC Archaeology Group's standard operating procedures (Appendix 7). The palaeoenvironmental sampling strategy is also detailed in Appendix 7.

10.1.4 All significant archaeological features will be cleaned and fully defined. A sufficient number of any features present will be investigated to determine the character, function, condition, nature and date of the full suite(s) of features present.

10.1.5 An adequate proportion of each feature selected for investigation will be excavated, sampled and recorded to determine the character, function, nature, date and significance of the features sampled.

10.1.6 No specialised re-instatement will be undertaken. Trenches and will be backfilled with spoil and then compacted by driving over using the mechanical excavator. Trial trenches will not be backfilled under archaeological supervision, other than in areas of significant archaeological findings.

10.1.7 Following the evaluation, WoSAS, on behalf of the local authority, will judge whether the significance of any material encountered is sufficient to require further works. If significant archaeology is encountered, further excavation would be subject to submission of a *project design* to be submitted as an addendum to this *Written Scheme of Investigation* and agreed by WoSAS on behalf of Glasgow City Council.

10.2 Reporting

10.1 Within four weeks of the completion of the evaluation the results will be presented to the client in the form of a written report for distribution to the relevant bodies.

10.2.2 The report will synthesize the results of the evaluation and advise on the significance and extent of any archaeological features identified.

10.2.3 The report will take the form of a Data Structure Report (4 copies), prepared in accordance with current standard Historic Scotland procedural requirements and AOC Archaeology standard procedures (Appendix 8). Specifically the Data Structure Report will contain the following:

i) a full descriptive text detailing the features identified and an interpretation of their date and purpose;
ii) a location map plan of the site within its landscape at a scale of at least 1:10 000;
iii) plans and elevations at an appropriate scale showing evaluation areas and features located;
iv) appropriate lists and diagrams summarising the contexts and artefacts recovered and the records made of them;
v) analysis of the results of the works, including appropriate post-excavation appraisals;
vi) a strategy to mitigate the impact of the development on any archaeological deposits revealed by the evaluation.

10.2.4 The results of the evaluation will also be reported using the OASIS and ASPIRE digital reporting protocols. In addition a Summary Report on the works and its findings will be submitted to *Discovery and Excavation in Scotland*.

10.3 Stage 3: Post-Excavation Analysis, Publication and Public Dissemination

10.3.1 Should Stage 2 excavation works be necessary, these may raise a requirement for a post-excavation analysis phase (Stage 3).

10.3.2 WoSAS, on behalf of Glasgow City Council, will be the judge of the need for the preparation and submission of any *Post-excavation Research Design*.

10.3.3 A *Post-excavation Research Design(s)*, if required, will be submitted for the agreement of WoSAS, on behalf of Glasgow City Council, within three months of the completion of the archaeological fieldwork to which the *Post-excavation Research Design(s)* relates. WoSAS has stated that it will expect to see a commitment to implementation of a *Post-excavation Research Design(s)* by way of a binding contract between developer and archaeological contractor, before it will advise Glasgow City Council that the programme of archaeological work has been fully secured and that the planning condition requiring the programme of work can therefore be discharged. Such a contract(s) will include a commitment to publish the results in a suitable professional archaeological journal, should this be

warranted. WoSAS, on behalf of the Council, will be the judge of the need for publication.

10.3.4 Where any *Post-excavation Research Design*(s) has(have) been agreed by WoSAS on behalf of Glasgow City Council, post-excavation analysis will commence immediately upon written confirmation by WoSAS, on behalf of Glasgow City Council, of its agreement to the *Post-excavation Research Design(s)* and the work shall be completed to a final report(s), fit in every way for publication or archiving, within 1 year of that written agreement. WoSAS has indicated that it may consider requests for variations of this timescale, if third party considerations (eg availability of specialists) make it impossible to meet the deadline.

10.4 Archive Deposition

10.4.1 The archive from these works will be prepared for deposition in the National Monuments Record of Scotland within 6 months of the completion of all archaeological works.

10.4.2 The disposal of small finds will be conducted according to the standard procedure, Appendix 7.26-7.29.

10.5 Timetable

10.5.1 The evaluation has been scheduled to commence in mid July 2007 subject to the agreement of WoSAS and Glasgow City Council to this *Written Scheme of Investigation*. It is anticipated that the evaluation will take approximately five days to complete.

11 OPERATIONAL FACTORS

11.1 Monitoring

11.1.1 AOC Archaeology Group will liaise with WoSAS at all times to ensure they are aware of fieldwork dates and can schedule monitoring visits. At least 14 days notice will be given prior to the initiation of the fieldwork. A mobile phone will be present on site at all times.

11.2 Health & Safety

11.2.1 AOC Archaeology has always maintained high standards on-site and a copy of our Health & Safety policy can be supplied on request. The

Project Officer will prepare appropriate documentation, including a Risk Assessment, for inclusion in the site's Health & Safety Plan.

11.2.2 Where contaminated ground has been identified, AOC Archaeology Group must be notified of the nature and extent of the contamination and be given guidance to the appropriate Health & Safety precautions.

11.3 Project Team and facilities

11.3.1 Mr. John Gooder, Senior Project Officer, will manage the project. We would provisionally identify Mr. Lindsay Dunbar, Project Officer, to direct the evaluation in the field.

11.3.2 Any resultant post-excavation analyses or conservation would be conducted by AOC Archaeology's in-house specialists and supervised by Dr Ciara Clarke who specialises in palaeoenvironmental issues (Appendices 23 & 24) and/or Mr. Fred Van de Walle, Conservation Sector Manager (Appendix 25).

11.3.3 AOC Archaeology has all the facilities necessary to undertake all resultant works, including fully equipped conservation and palaeoenvironmental laboratories, secure storage and walk-in refrigeration units.

12 WOSAS STANDARD CONDITIONS FOR FIELDWORK

12.1.1 The WoSAS Standard conditions for fieldwork in its area will be followed at all times (see Appendix 28).

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APPENDIX A: SITE GAZETTEER

Site No: **1**
Site Name: Glasgow, David Street, General
Type of Site: Transport and Communications
NMRS Number: NS66SW 254
Map reference: NS 6132 6453
Parish: Glasgow (City Of Glasgow)
Description: David Street runs north-south connecting Gallowgate in the north with Crown Point Road in the south. David Street is not shown on Cleland & Smith's map of 1832 but is marked on first edition Ordnance Survey maps from 1856 suggesting that it was constructed between these times to service Campbellfield pottery in the east and St John's School in the west.

Site No: **2**
Site Name: Campbellfield Pottery
Alternative Names: Campbellfield Brick, Tile And Pottery Works
Type of Site: Industrial/ Ceramics; Potteries/ Pottery Works
NMRS Number: NS66SE 82
WoSAS Pin: 22894
Map reference: NS 612 645
Parish: Glasgow (City Of Glasgow)
Description: Campbellfield Pottery opened in 1827 and specialised in the production of Rockingham Ware. In the mid 19th century it expanded its production to cover white earthen ware. The pottery is shown on first edition maps of 1856 as a Brick Tile & Pottery Works. Not many years after its establishment, it was discovered that the David Street site was too small for its current trade and relocated to Flemington Street where it became known as the Springburn Pottery.

Site No: **3**
Site Name: Elgin Pottery
Type of Site: Pottery
WoSAS Pin: 22895
Map reference: NS 612 646
Parish: Glasgow (City Of Glasgow)
Description: Elgin Pottery is reported to have operated on a site west of David Street between 1859 and 1875. A Pottery known as Elgin Pottery was listed by Fleming (1923) south of this area at 30-32 Davidson Street, owned by James Johnstone. This pottery opened in 1855 and operated until 1893.

Site No:	**4**
Name:	Glasgow, 25-39 Rowchester Street, Whitevale Tram Depot
Alternative Names:	David Street
Type of Site:	Tramway Depot
NMRS Number:	NS66SW 580
WoSAS PIN:	47764
Map reference:	NS 6127 6448
Parish:	Glasgow (City Of Glasgow)
Description:	The first street tramways in Glasgow were authorised by an act of 1870 and built by the corporation under lease by Glasgow Tramway company. The first route opened in 1872 and thereafter rapidly expanded. In 1877 the Glasgow Tramway company had depots in Whiteinch, North Street, Cambridge Street and David Street (**Site 4**) within the proposed development area. Most tramway buildings were of brick construction and the company depots such as the one at David Street were constructed of red and white brick

Site No:	**5**
Name:	Glasgow, Camlachie House
Type of Site:	Residential
NMRS Number:	NS66SW 291
Map reference:	NS 6124 6452
Parish:	Glasgow (City Of Glasgow)
Description:	This is noted by the RCAHMS as the location of Calmachie House, This site is also the location of Campbellfield House. The house is shown on Ordnance survey maps of 1857 to consist of a central rectangular block with an additional wing to the north east. The house is approached by a tree-lined drive leading from Gallowgate in the north-west. A small entrance lodge or building is marked on the west side of the drive at Gallowgate. At the time of the publishing of the first edition map the house at Campbellfield was to be short lived and was later demolished in 1868.

Site No:	**6**
Name:	Glasgow, Gallowgate, General
Alternative Names:	Gallowgate Street
Type of Site:	Transport and Communications
NMRS Number:	NS66SW 251
Map reference:	NS 6126 6458
Parish:	Glasgow (City Of Glasgow)
Description:	Glasgow, 69-99 Gallowgate which was Category B Listed

	was demolished between 1965 and 1974. Information from Demolitions catalogue held in RCAHMS library. Glasgow, Gallowgate Street. Once the site of the Wellington Pottery. Exact site uncertain at time of upgrade, 3.5.2000. Glasgow, 138 Gallowgate, Old Sugar House. Now demolished. Glasgow, 324 Gallowgate - for Mrs McGuire. ARCHITECT: John Honeyman & Keppie, 1899. Glasgow, 600 Gallowgate, St Thomas's Church. ARCHITECT: John Baird (Primus), 1823. Glasgow, Gallowgate, St Thomas Wesleyan Church. ARCHITECT: Honeyman & Keppie, 1893 (alterations). Precise location uncertain at time of upgrade 21.6.2000.
Site No:	**7**
Name:	Glasgow, 75-89 Whitevale Street, Public Baths And Washhouse
Alternative Names:	Hall; Warehouse
Type of Site:	Commercial; Public Services; Recreation/ Hall; Public Bath-House; Warehouse
NMRS Number:	NS66SW 414
Map reference:	NS 6136 6463
Status:	Listed Building Category B
Parish:	Glasgow (City Of Glasgow)
Description:	Presumably by City Architect's office under A B MacDonald. Opened 1902. Big symmetrical front with arched wide openings at 1st floor, pilasters to bays, 2-storey wings, 3-storey centre with 2 doors, gabled centre, shallow advanced ends; red brick; most glazing original; parapetted wall-heads; modern tile roofs. Ranges to rear, top-lit swimming baths. Range to Millerston Street tall and gabled with brick chimney stalk. Public baths built by the Glasgow Corporation in 1901. A preliminary photographic survey was completed in March 2001 during the survey of a neighbouring industrial building. At the time, the baths were disused, and the future of the buildings uncertain.
Site No:	**8**
Name:	Glasgow, 760 Gallowgate, St Thomas's Church
Alternative Names:	Gallowgate Free Church; St. Thomas's Methodist Church
Type of Site:	Religion/ Church
NMRS Number:	NS66SW 308]
Map reference:	NS 6137 6452
Parish:	Glasgow (City Of Glasgow)
Description:	Glasgow, Gallowgate, St Thomas's Church is depicted on GIS Epoch 4 map sheet, dating from 1922-1969. It has

since been demolished.

Site No:	**9**
Name;	Glasgow, David Street, St. Anne's Primary Roman Catholic School
Alternative Names:	St. Anne's Mission
Type of Site:	Education; Religion/ School
NMRS Number:	NS66SW 255
Map reference:	NS 6136 6443
Parish:	Glasgow (City Of Glasgow)
Description:	No description available

Site No:	**10**
Name:	Glasgow, David Street, St Nicholas Roman Catholic Church
Type of Site:	Religion/ Church
NMRS Number:	NS66SW 581
Map reference:	NS 6128 6444
Parish:	Glasgow (City Of Glasgow
Description:	No description available

Site No:	**11**
Name:	Glasgow, 65-91 Rowchester Street, Whitevale Foundry
Alternative Names:	David Street; Crownpoint Road
Type of Site:	Industrial/ Metal Industries; Iron Smelting And Founding/ Foundry
NMRS Number:	NS66SW 740
Map reference:	NS 6127 6442
Parish:	Glasgow (City Of Glasgow)
Description:	The Whitevale Foundry is first shown on maps dating from 1896. The Whitevale foundry was extended in 1914 (Hume 1974).

Site No:	**12**
Name:	Glasgow, Crownpoint Road, Express Oil Works
Alternative Names:	Rowchester Street
Type of Site:	Industrial/ Chemicals/ Works
NMRS Number:	NS66SW 583
Map reference:	NS 6120 6442
Parish:	Glasgow (City Of Glasgow)
Description:	No description available

Site No:	**13**
Name:	Glasgow, 57-79 Campbellfield Street, Campbellfield Bedstead Works

Alternative Names:	Elgin Street; Rowchester Street
Type of Site:	Industrial/ Metal Industries; Iron Smelting And Founding/ Works
NMRS Number:	NS66SW 579
Map reference:	NS 6119 6445
Parish:	Glasgow (City Of Glasgow)
Description	No description available

APPENDICES 1 – 27

AOC Archaeology Group Standard Operating Procedures

Appendix 1
Desk-top assessment

The sources consulted as part of the desk-top study will depend on the type and level of data required and the material that is available to provide that information. Sources used may include, where available, all or some of the following listed below:

i) Walkover survey (Appendix 5).
ii) The relevant Local Sites and Monuments Record(s) and the National Monuments Record.
iii) British Geological Survey maps.
iv) Ordnance Survey maps of the site and its locality.
v) Tithe, Apportionment and Parish maps.
vi) Historic (pre-Ordnance Survey) and Estate maps of the area.
vii) Appropriate archaeological and historical journals and books.
viii) Historical documents held in local museums, libraries, record offices and other archives. This may be a selective survey given the scope of potential historic documentation for some sites.
ix) Unpublished material held by local professional and amateur archaeological organisations and museums.
x) Aerial photographs held by local authorities, Sites and Monuments Record, the National Library of Aerial Photographs, Cambridge University Collection of Aerial Photographs and other local parties.
xi) Scheduled Ancient Monuments Lists; listed building lists; registers of parks and gardens and battlefields; any local authority constraint designations (eg conservation Areas).
xii) All available borehole, trial pit and geotechnical data from the site and its immediate environs.
xiii) Plans of services locations held by statutory undertakers.
xiv) Fire insurance maps.
xv) Old and New Statistical Accounts (in Scotland).
xvi) Building Control Records.
xvii) Standing Building Assessment (Appendix 10).

APPENDIX 2
Geophysical survey

2.1 All geophysical survey work will be sub-contracted to an appropriate professional organisation but directly managed by AOC Archaeology.

2.2 Selection of techniques will be made in consultation with the survey organisation taking into account land use, geology, complicating factors (eg metal pipes and fences), known and/or suspected archaeology.

2.3 The report will contain background information on the site (as above) and a description of any anomalies located. An interpretation of the anomalies will also be given.

2.4 At least one plot of the data will be included, normally of dot density or grey scale type. Any enhancement of the image will be explicitly stated and the likely affect of the processing described.

2.5 Clear interpretative plans will be provided in a form that a non-technical reader can understand.

2.6 Plots and interpretative diagrams will be reproduced at a scale from which exact measurements can be taken. These will normally be 1:1000 for detailed survey and 1:2500 for other plans.

2.7 The basic computerised data will form part of the site archive.

APPENDIX 3
Surface collection survey (fieldwalking)

3.1 This type of survey will only be carried out in suitable ground visibility conditions. This effectively restricts the technique to arable land which has been ploughed, harrowed and left to weather for several weeks in autumn to early spring.

3.2 The collection grid will align with the Ordnance Survey grid unless surveying for a linear scheme when the transects will be parallel to the centre of the scheme. The grid will be established using measured survey techniques.

3.3 The spacing of transects and length of collection units will be as specified in the main part of the Written Scheme of Investigation. Each transect will be 2m wide. Collection units will be logged using a numeric 12 figure National Grid Reference which will identify the southern end of the unit.

3.4 Transects will be measured cumulatively on the ground using fixed-length strings to avoid variation in individual pace. Sighting poles will be placed at opposite ends of the land parcel to mark transects.

3.5 All material considered to be man-made or not local to the area will be collected and recorded by the individual collection unit. The exception to this is where dense concentrations of building material are present when a representative sample is retained per collection unit.

3.6 Stone scatters, areas of soil discolouration and outcrops of natural substrata will be recorded and plotted by stint.

3.7 Pro-forma sheets will be used to record details of walker, soil/crop conditions, slope/topography, and lighting/weather conditions for each transect and presence/absence of finds for each collection unit.

3.8 Finds will be washed and sorted into groups in order to facilitate identification. Finds will be bagged according to artefact class within each collection unit.

3.9 Finds will be identified, quantified and recorded directly on to computer. The results will be plotted using a CAD graphics programme.

3.10 All significant artefact distributions will be plotted by field, group of fields or appropriate length for a linear scheme, at 1:2500, with separate plans for each period or relevant subdivision, indicating the numbers of artefacts per stint.

3.11 The pottery and other relevant artefacts will be scanned to assess the date range of the assemblage.

3.12 All finds and samples will be treated in a proper manner and to standards agreed in advance with the recipient museum or other body. These will be cleaned, conserved, bagged and boxed in accordance with the guidelines set out in UKIC's "*Conservation Guidelines No 2*".

APPENDIX 4
Earthwork surveys

4.1 Base points will be established using a Total Station.
4.2 Hachured plans will normally be prepared at 1:1250 or 1:2500 for most classes of earthwork. In certain cases more detailed survey by contouring will be carried out.
4.3 Appropriately experienced personnel will undertake the survey work.
4.4 All prepared plans will be presented with an accompanying descriptive text.

APPENDIX 5
Walkover Survey

5.1 The proposed study area will be walked over in a systematic manner. Approximately 30m wide transects wiil be used, although this can be reduced where conditions demand.
5.2 All features identified (including modern features) will be given a unique number. The location of each feature will be marked on a 1:10,000 map. A photographic and written record will be compiled.

APPENDIX 6
Test pits

6.1 Spacing and size of test pits will vary according to local topography, geology, and known or potential archaeology. Spacing and size will be as specified in the Written Scheme of Investigation.
6.2 Test pits will be laid out in relation to the Ordnance Survey national grid.
6.3 The most appropriate tools will be used taking into account the prevailing conditions at the time of the work.
6.4 A specified volume of topsoil from each test pit will be sieved through a 10mm mesh.
6.5 Conditions, contexts and artefact totals will be recorded on pro-forma sheets.
6.6 Subdivisions within the excavated material will be based on soil stratigraphy and spits of 100mm within each stratigraphical unit.
6.7 All artefact totals will be recorded by class.
6.8 Finds will be washed and sorted into groups in order to facilitate identification. Finds will be bagged according to artefact class within each collection unit.
6.9 Finds will be identified, quantified and recorded directly onto computer where appropriate. The results will be plotted using a CAD graphics programme when appropriate.
6.10 All significant artefact distributions will be plotted by field, group of fields or appropriate length for a linear scheme at 1:2500, with separate plans for each period or relevant subdivision, indicating the numbers of artefacts per test pit.
6.11 The pottery and other relevant artefacts will be scanned to assess the date range of the assemblage.
6.12 All finds and samples will be treated in a proper manner and to standards agreed in advance with the recipient museum or other body. These will be cleaned, conserved, bagged and boxed in accordance with the guidelines set out in UKIC's "*Conservation Guidelines No 2*".

APPENDIX 7
Machine excavated trenches

Excavation

7.1 The entire site will be visually inspected before the commencement of any machine excavation. This will include the examination of any available exposures (eg recently cut ditches and geo-technical test pits).

7.2 Normally trench positions will be accurately surveyed prior to excavation and related to the National Grid. It may be necessary to survey the positions after excavation in some instances.

7.3 All machining will be carried out by plant of an appropriate size. Normally, this will be a JCB 3CX (or similar) or 360^{o} tracked excavator with a 1.4 or 1.8m wide toothless bucket. Where access or working space is restricted a mini excavator such as a Kubota KH 90 will be used.

7.4 All machining will be carried out under direct control of an experienced archaeologist.

7.5 Undifferentiated topsoil or overburden of recent origin will be removed in successive level spits (approximately <0.5m) down to the first significant archaeological horizon.

7.6 Excavated material will be examined in order to retrieve artefacts to assist in the analysis of the spatial distribution of artefacts.

7.7 On completion of machine excavation, all faces of the trench that require examination or recording will be cleaned using appropriate hand tools.

7.8 All investigation of archaeological horizons will be by hand, with cleaning, inspection, and recording both in plan and section.

7.9 Within each significant archaeological horizon a minimum number of features required to meet the aims of the project will be hand excavated. Pits and postholes normally will be sampled by half-sectioning although some features may require complete excavation. Linear features will be sectioned as appropriate. Features not suited to excavation within the confines of narrow trenches will not be sampled. No deposits will be entirely removed unless this is unavoidable. As the objective is to define remains it will not necessarily be the intention to fully excavated all trenches to natural stratigraphy. However, the full depth of archaeological deposits across the entire site will be assessed. Even in the case where no remains have been located the stratigraphy of all evaluation trenches will be recorded.

7.10 Any excavation, whether by machine or by hand, will be undertaken with a view to avoiding damage to any archaeological features or deposits which appear to be demonstrably worthy of preservation *in situ*.

7.11 For palaeoenvironmental research different sampling strategies will be employed according to established research targets and the perceived importance of the strata under investigation. AOC Archaeology conventionally recovers three main categories of sample;

i) Routine Soil Samples; a representative 500g sample from every excavated soil context on site. This sample is used in the characterisation of the sediment, potentially through pollen analysis, particle size analysis, pH analysis, phosphate analysis and loss-on-ignition;

ii) Standard Bulk Samples; a representative 10 litre sample from every excavated soil context on site. This sample is used, through floatation sieving, to recover a sub-sample of charred macroplant material, faunal remains and artefacts;

iii) Purposive or Special Samples; a sample from a sediment which is determined, in field, to either have the potential for dating (wood charcoal for radiocarbon dating or *in situ* hearths for magnetic susceptibility dating)

or for the recovery of enhanced palaeoenvironmental information (waterlogged sediments, peat columns, etc).

7.12 Any finds of human remains will be left *in situ*, covered and protected. In Scotland the local police will be informed. If removal is essential this will only take place with police approval, and in compliance with Historic Scotland's Operational Policy Paper '*The Treatment of Human Remains in Archaeology*'. In England and Wales the coroner's office will be informed. If removal is essential it will only take place under the relevant Home Office licence and local authority environmental health regulations.

7.13 All finds of gold and silver will be moved to a safe place. Where removal cannot be effected on the same working day as the discovery, suitable security measures will be taken to protect the artefacts from theft or damage. In Scotland the recovery of such material, along with all other finds, will be reported to the Queen's and Lord Treasurer's Remembrancer. In England and Wales the recovery of such material will be reported to the coroner's office according to the procedures relating to Treasure Trove.

7.14 After recording, the trenches will be backfilled with excavated material.

Recording

7.15 For each trench, a block of numbers in a continuous sequence will be allocated.

7.16 Written descriptions, comprising both factual data and interpretative elements, will be recorded on standardised sheets.

7.17 Where stratified deposits are encountered a 'Harris'-type matrix will be compiled during the course of the excavation.

7.18 The site grid will be accurately tied into the National Grid and located on the 1:2500 or 1:1250 map of the area.

7.19 Plans will normally be drawn at a scale of 1:100, but on urban or deeply stratified sites a scale of 1:50 or 1:20 will be used. Burials will be drawn at 1:10. Other detailed plans will be drawn at an appropriate scale.

7.20 Long sections of trenches showing layers and any cut features will be drawn at 1:50. Sections of features or short lengths of trenches will be drawn at 1:20.

7.21 Generally all sections will be accurately related to Ordnance Datum. There may, occasionally, be instances where this is unnecessary when it will be agreed with the local authority's archaeological representative in advance.

7.22 Registers of sections and plans will be kept.

7.23 A full colour print and colour transparency photographic record will be maintained. This will illustrate the principal features and finds both in detail and in a general context. The photographic record will also include working shots to represent more generally the nature of the fieldwork.

7.24 A register of all photographs taken will be kept on standardised forms.

7.25 All recording will be in accordance with the standards and requirements of the *Archaeological Field Manual* (Museum of London Archaeology Service 3rd edition 1994).

Finds

7.26 All identified finds and artefacts will be collected and retained. Certain classes of material, ie post-medieval pottery and building material, may on occasion be discarded after recording if a representative sample is kept. No finds will be discarded without the prior approval of the archaeological representative of the local authority and the receiving museum.

7.27 Finds will be scanned to assess the date range of the assemblage with particular reference to pottery. In addition the artefacts will be used to characterise the site, and to establish the potential for all categories of finds should further archaeological work be necessary.

7.28 All finds and samples will be treated in a proper manner and to standards agreed in

advance with the recipient museum. Finds will be exposed, lifted, cleaned, conserved, marked, bagged and boxed in accordance with the guidelines set out in United Kingdom Institute for Conservation's *Conservation Guidelines No. 2*.

7.29 In England and Wales, at the beginning of the project (prior to commencement of fieldwork) the landowner and the relevant museum will be contacted regarding the preparation, ownership and deposition of the archive and finds. In Scotland all archaeological material recovered belongs to the Crown and its disposal is administered by the Queen's and Lord Treasurer's Remembrancer.

APPENDIX 8
Evaluation reports

8.1 The style and format of the evaluation report will be determined by AOC Archaeology, but will be compliant with Historic Scotland's issued guidance on Data Structure Reports. The report will include as a minimum the following;

i) A location plan of the site.
ii) A location plan of the trenches and/or other type of fieldwork strategy employed.
iii) Plans and sections of features and/or extent of archaeology located. These will be at an appropriate scale.
iv) A summary statement of the results.
v) A table summarising per trench the deposits, features, classes and numbers of artefacts encountered and spot dating of significant finds.
vi) Consideration to the methodology will be given along with a confidence rating for the results.

8.2 When an evaluation is followed by an excavation the procedures defined in English Heritage's *Management of Archaeological Projects* 2nd edition 1991 will be followed for immediate post-field archive preparation and initial assessment. It will then be agreed with the local authority's archaeological advisor which aspects will need to be taken forward to the report stage.

APPENDIX 9
Area excavation

9.1 Prior to the stripping of any area excavation, all appropriate surveys (eg geophysical, earthwork, contour) or sampling strategies (eg for topsoil artefact densities, metal detecting, phosphate analysis) will be undertaken.

9.2 In most cases sites will be mechanically stripped of topsoil and other overburden. An appropriate machine will always be used. This will normally be a 360^{o} tracked excavator with a between 1.4 and 2.4 m wide toothless bucket. In other cases a JCB 3CX (or similar), or for work with restricted access or working room a mini-excavator such as a Kubota KH 90 will be used. Suitably sized dumpers or lorries will be employed to remove spoil. No plant will be allowed to cross stripped areas.

9.3 All machining will be undertaken under the direct control of experienced archaeologists.

9.4 All undifferentiated topsoil or overburden will be removed down to the first significant archaeological horizon in level spits. The archaeological horizon to which the material will be cleared will have first been established by an evaluation or by the digging of test pits.

9.5 Depending on the aims of the project, the excavated spoil may be monitored in order to recover artefacts. Where their findspots are plotted this will usually be on a 2m grid.

9.6 The surface exposed by the stripping will be cleaned using appropriate hand tools.

9.7 Should the site grid not have already been established it will be done at the cleaning stage. The grid will normally be based on a 10m spacing and related to the National Grid. A temporary bench mark related to Ordnance Datum will be founded

9.8 After the cleaning and planning of the excavation area the sampling strategy will be finalised. This will take into account the project aims (which may need modifying at this stage) and the type, quality and quantity of remains revealed. The sampling strategy will normally seek to maintain at least the following levels;

i) all structures and all zones of specialised activity (eg funerary, ceremonial, industrial, agricultural processing) will be fully excavated and all relationships recorded;

ii) ditches and gullies will have all relationships defined, investigated and recorded. All terminals will be excavated. Sufficient lengths of the feature will be excavated to determine the character of the feature over its entire course; the possibility of re-cuts of parts of the feature, and not the whole, will be considered. This will be achieved by a minimum 10% sample of each feature (usually a 1m section every 10m).

iii) Sufficient artefact assemblages will be recovered (where possible) to assist in dating the stratigraphic sequence and for obtaining ample ceramic groups for comparison with other sites;

iv) all pits, as a minimum, will be half-sectioned. Usually at least 50% (by number) of the pits will be fully excavated. Decisions as to which pits will be fully excavated will be taken in the light of information gained in the half-sectioning taking into consideration, amongst other things; pit function, artefact content and location;

v) for post and stake holes where they are clearly not forming part of a structure (see above) 100% (by number) will be half-sectioned ensuring that all relationships are investigated. Where deemed necessary, by artefact content, a number may demand full excavation;

vi) for other types of feature such as working hollows, quarry pits, etc the basic requirement will be that all relationships are ascertained. Further investigation will be a matter of on-site judgement, but will seek to establish as a minimum their extent, date and function;

vii) for layers, an on-site decision will be made as to the limits of their excavation. The factors governing the judgement will include the possibility that they mask earlier remains, the need to understand function and depositional processes, and the necessity to recover sufficient artefacts to date the deposit and to meet the project aims.

9.9 For palaeoenvironmental research different sampling strategies will be employed according to established research targets and the perceived importance of the strata under investigation. AOC Archaeology conventionally recovers three main categories of sample;

i) Routine Soil Samples; a representative 500g sample from every excavated soil context on site. This sample is used in the characterisation of the sediment, potentially through pollen analysis, particle size analysis, pH analysis, phosphate analysis and loss-on-ignition;

ii) Standard Bulk Samples; a representative 10 litre sample from every excavated soil context on site. This sample is used, through floatation sieving, to recover a sub-sample of charred macroplant material, faunal remains and artefacts;

iii) Purposive or Special Samples; a sample from a sediment which is determined, in field, to either have the potential for dating (wood charcoal for radiocarbon dating or *in situ* hearths for magnetic susceptibility dating)

or for the recovery of enhanced palaeoenvironmental information (waterlogged sediments, peat columns, etc).

9.10 Any finds of human remains will be left *in situ*, covered and protected. In Scotland the local police will be informed. If removal is essential this will only take place with police approval, and in compliance with Historic Scotland's Operational Policy Paper '*The Treatment of Human Remains in Archaeology*'. In England and Wales the coroner's office will be informed. If removal is essential it will only take place under the relevant Home Office licence and local authority environmental health regulations.

9.11 All finds of gold and silver will be moved to a safe place. Where removal cannot be effected on the same working day as the discovery, suitable security measures will be taken to protect the artefacts from theft or damage. In Scotland the recovery of such material, along with all other finds, will be reported to the Queen's and Lord Treasurer's Remembrancer. In England and Wales the recovery of such material will be reported to the coroner's office according to the procedures relating to Treasure Trove.

Recording

9.12 All on-site recording will be undertaken in accordance with the standards and requirements of the *Archaeological Site Manual* (Museum of London 1994).

9.13 A continuous unique numbering system will be employed.

9.14 Written descriptions, comprising both factual data and interpretative elements, will be recorded on standardised sheets.

9.15 Where stratified deposits are encountered a 'Harris'-type matrix will be compiled during the course of the excavation.

9.16 The site grid will be accurately tied into the National Grid and located on the 1:2500 or 1:1250 map of the area.

9.17 Plans will normally be drawn at a scale of 1:100, but on urban or deeply stratified sites a scale of 1:50 or 1:20 will be used. Burials will be drawn at 1:10. Other detailed plans will be drawn at an appropriate scale.

9.18 Long sections of trench edges or internal baulks showing layers and any cut features will be drawn at 1:50 or 1:20 depending on amount of detail contained. Sections of features will be drawn at 1:20.

9.19 All sections will be accurately related to Ordnance Datum.

9.20 Registers of sections and plans will be kept.

9.21 A full colour print and colour transparency photographic record will be maintained. This will illustrate the principal features and finds both in detail and in a general context. The photographic record will also include working shots to represent more generally the nature of the fieldwork.

9.22 A register of all photographs taken will be kept on standardised forms.

Finds

9.23 All identified finds and artefacts will be collected and retained. Certain classes of material, ie post-medieval pottery and building material may on occasion be discarded after recording if a representative sample is kept. No finds will be discarded without the prior approval of the archaeological representative of the local authority and the receiving museum.

9.24 All finds and samples will be treated in a proper manner and to standards agreed in advance with the recipient museum. Finds will be exposed, lifted, cleaned, conserved, marked, bagged and boxed in accordance with the guidelines set out in United Kingdom Institute for Conservation's *Conservation Guidelines No. 2*.

9.25 In England and Wales, at the beginning of the project (prior to commencement of fieldwork) the landowner and the relevant museum will be contacted regarding the preparation, ownership and deposition of the archive and finds. In Scotland all archaeological material recovered belongs to the Crown and its disposal is

administered by the Queen's and Lord Treasurer's Remembrancer.

Archiving, post-excavation and publication

9.26 Following completion of each stage or the full extent of the fieldwork (as appropriate) the site archive will be prepared in the format agreed with the receiving institution.

9.27 On completion of the archive a summary report will be prepared. This will include;

i) an illustrated summary of the results to-date indicating to what extent the project aims were fulfilled;
ii) a summary of the quantities and potential for analysis of the information recovered for each category of site, artefact, dating and palaeoenvironmental data;
iv) proposals for analysis and publication.

9.28 The proposals for analysis and publication will include;

i) a list of the revised project aims arising from the fieldwork and post-excavation assessment;
ii) a method statement which will make clear how the methods advocated are those best suited to ensuring that the data-collection will fulfil the stated aims of the project;
iii) a list of all tasks involved in meeting the stated methods to achieve the aims and produce a report and research archive in the stated format;
iv) details of the research team and their projected work programmes in relation to the tasks. Allowance will be made for general project-related tasks such as project meetings, management, editorial and revision time;
v) a publication synopsis indicating publisher, report format and content shown by chapters, section and subheadings with the anticipated length of text sections and proposed number of illustrations.

9.29 The summary report embracing the analysis and publication proposals will be submitted to the client and the local authority's archaeological representative for approval.

9.30 Any significant variation in the project design, including timetables, proposed after the agreement of the proposals must be acceptable to the local authority's archaeological representative.

9.31 The results of the project will be published in an appropriate archaeological journal or monograph. The suitable level of publication will be dependent on the significance of the project results, but as a minimum the basic requirements of Appendix 7.1 of *Management of Archaeological Projects* (English Heritage 1991) will be met.

APPENDIX 10
Standing Building Assessment

10.1 A standing building assessment will normally take place in concordance with a Conservation Plan, but may also form part of a Desk-Based Assessment if required.

10.2 A visual inspection will be made of both the interior and exterior of the building(s) with a view to establishing the extent of the architecturally important elements that should be included in a later phase of historic building recording work.

10.3 A brief written record will be made in addition to digital photography of areas of interest to support recommendations and outline architectural features within the building(s).

APPENDIX 11
Historic Building Recording: The Written Record (Levels 0-6)

11.1 Pro forma building recording sheets will be used for the basic written record of the building(s) including comments on the condition, construction techniques, materials, fixtures and fittings and interpretation of function. A competent analysis will be made of all building phases and any relationship between buildings. Day Book records will also be kept for any levels of recording above Level 1.

11.2 At Level 4, the written record will encompass a thorough context description of each broad phase of construction and alteration with a view to formulating a stratigraphic matrix of the site.

APPENDIX 12
Historic Building Recording: Photography (Levels 1-5)

12.1 Photography will take place at all levels of building recording, and will be undertaken with a single lens reflex camera with through-the-lens (TTL) light metering. A standard 28-90mm lens will be used at all times except where wider or shorter angle lenses are required for longer elevation photography and detailed photography.

12.2 The camera will be placed at mid-height to the subject with due care and attention to lighting situations. Two shots will be taken of each feature, undertaken by a light-meter reading of a two-step change in aperture. This change up or down will depend on light conditions.

12.3 Interior photography will be undertaken with appropriate lighting conditions and the use of a tripod. Where light access is still quite minimal, an automatic flash will be used.

12.4 All photography will be taken on colour slide and black & white negative film, such as Kodak PLUS-X or Ilford FP4, or approved equivalent. It should be exposed and processed to an archival standard, i.e., fix and wash in accordance with the manufacturers specifications.

12.5 The use of a digital camera may be used as a reference to survey and drawn elevations and ground plans on-site.

APPENDIX 13
Historic Building Recording: Rectified Photography and Photogrammetry (Level 3)

13.1 An external contractor will carry out rectified photography and photogrammetry in compliance with the following guidelines:

i) All photography will be carried out with an approved type of camera. Details of the camera used may be supplied on completion of the project.

ii) The smallest permissible photographic negative scale will normally be defined as follows: for 1:50 scale plotting, negative scale should be no more than 1:200 and for 1:20 scale plotting, negative scale should be no more than 1:200.

iii) All rectified photography will be taken on black & white negative film, such as Kodak PLUS-X or Ilford FP4, or approved equivalent. It should be exposed and processed to an archival standard, i.e., fix and wash in accordance with the manufacturers specifications.

APPENDIX 14
Historic Building Recording: Elevation Recording (Level 2)

14.1 All elevations drawn or surveyed will be a 'preservation by record' of the current state of the building. The following categories will be recorded:

i) All architectural features with associated decorative detail including windows, doors, quoin stones, string courses, roof lines and other structural stonework and jointing.
ii) Fixtures and fittings such as drainpipes and guttering, signs, brackets and vents.
iii) Later modifications and/or damage to the building such as structural cracks, areas of erosion, patches of rendering, blocked doorways, windows and other openings.

14.2 Large or small repetitive features such as windows, capitals, mouldings, etc. sampling will be undertaken as appropriate.

14.3 Where the façade is of stone construction each individual stone may be recorded. However, in most instances, a representative area, usually 1m², will be sufficient, although windows, corner stones and other architectural details will always be fully recorded. The degree of recording for ashlar will be depend upon the scale with which the elevation is to be produced and will be determined in advance of the start of works. When drawings are carried out at 1:50, a single line between the joints of the stone will normally be considered satisfactory. However, if there is a considerable gap between the stones, both sides of the stone will be shown. At a scale of 1:20 or larger, then all joints will normally be shown except where the stone is very fine ashlar.

14.4 Elevation recording by hand will normally take place if it is inappropriate to do so by survey. The size and complexity of an elevation will determine what on-site scale will be required. In general, a scale of 1:50 will be deemed appropriate with a larger scale adopted if portions of this elevation are more complex. For highly detailed architectural detail a scale of 1:1 may be appropriate.

14.5 All hand-drawn measured elevations and detail will be drawn using water-resistant paper with a hard 4H – 6H pencil. A levelled datum line will be taken through the centre of the elevation with offset measurements. All datum points will be accurately positioned within the site either by hand or by survey.

APPENDIX 15
Historic Building Recording: Elevation Recording – By Survey (Levels 2-4)

15.1 Where appropriate, elevations may be recorded by radiation survey using a reflectorless EDM (REDM) Leica TCR 705. This method of survey allows the accurate capture of data of upper floor levels. If more than one elevation is to be recorded, then a traverse will be created around each building or group of buildings. Extra stations may be set up in places where there is limited access. Values in the traverse will be adjusted by Bowditch adjustment to compensate for any errors in measurement. The adjusted values will then be calculated using LisCAD Plus v5.0 (Surveying and Engineering Module). Co-ordinates will be located by resection from existing traverse points. The survey data will be downloaded to a laptop computer on-site via Leica Office software. All measurements taken by survey will consist of three-dimensional co-ordinates relating to the Ordnance Survey National Grid.

15.2 The recording of an elevation will not be carried out by survey equipment if:
i) There are too many obstructions;
ii) The surface of the building is too dark or mossy;
iii) There is too much curved architectural detail;

iv) The distance required to set up the survey equipment in front of the elevation is too large (i.e., more than 25m) or too short to capture data from the upper levels of the elevation.

15.3 Where appropriate, elevations carried out by survey will be supplemented by detail measured by hand.

APPENDIX 16
Historic Building Recording: Interior Recording (Levels 2-4)

16.1 The recording of the interior(s) of the building(s) will consist of a written record and, where appropriate, measured sketch plans of the ground plan and the roof elevations based on the following guidelines:

i) Critical analysis of the interior condition, construction, materials, fixtures and fittings will be made using *pro forma* recording sheets.

ii) Measured interior ground plans of each room of the interior will be carried out using tapes and a Leica Disto™ Classic electronic distance measurer.

iii) All measured plans will contain: notes on the size of structural members, and finishes; floor levels, change in levels, and ceiling heights; direction of stair rises in plan with each riser numbered; the positions of service entry points, plant and machinery and sanitary fittings; below-ground drainage; soil and vent stacks and rainwater pipes where appropriate.

APPENDIX 17
Historic Building Recording: Standard Report Illustrations (Level 6)

17.1 All final illustrations for archive will be produced digitally on the Computer-Aided Drawing package, AutoCAD 2000i/2000LT and/or Adobe Illustrator v9/v10. A standard methodology will be used with all drawings adhering to the following guidelines:

17.2 Line Weight. The appropriate line weight will depend on anticipated plot scale and may need editing if the output scale is to change. The degree of detail used will affect the line weight utilised in the finished drawing. All fine architectural detail (stonework, moulded stonework, brickwork, etc.) will be produced at a line weight of 0.05mm. More general architectural features (outlines of doors and windows, etc.) will be produced at a line weight of 0.09mm. A much heavier line will indicate the changing of plane in complex elevations.

17.3 Text. Text will be made clear and informative, with orientation, position, size and letter spacing remaining appropriate to the layout of the plotted sheets.

17.4 Scale. No archaeological or historic building survey will be carried out without a particular scale or range of scales in mind.

17.5 Layers. The layering system in Computer Aided Drawing packages allow the separation of data into specified criteria. To achieve this, there is an AOC standard layering system. This system is largely based on the coding system inherent in the use of the reflectorless EDM Leica TCR705.

17.6 Digital Archiving. All drawings are produced at a 1:1 scale for easy scaling in .dxf or .dwg format. At the end of a project, all data is stored on CD-ROM.

APPENDIX 18
Historic Building Recording: Dendrochronological Analysis (Level 3)

18.1 Dendrochronological analysis of timbers from standing building is primarily undertaken to provide accurate dates for its construction. Where appropriate, samples

may be taken for analysis to provide information on the source and quality of the timber, thus informing on the social and economic context of the building.

18.2 Samples for analysis will take place under the following conditions:

i) That the timber sample taken is from a species where date chronologies already exist, namely oak and pine.
ii) A minimum of eight timbers per phase or building are required to cross-match results.
iii) The ring patterns inherent in a timber sample must be over a certain length, usually seventy rings.

18.3 The method of the removal of samples of timber will be to use a corer attached to a power-driven drill, removing a core leaving a hole in the timber 10mm in diameter. The core will be taken so that a maximum radius from pith to bark is taken, thus ensuring the maximum numbers of growth rings for analysis. Timbers will be selected which have retained a full ring sequence as possible (i.e., those where the outermost rings have not been trimmed off or destroyed by woodworm).

18.4 Where it is impossible to use this intrusive method of sample, for example, in the case of painted ceilings and carved panels, the ring sequence can be measured *in situ* using a hand lens. Silicone rubber casts can also be taken where the end grain is exposed.

APPENDIX 19
Historic Building Recording: Paint and Wallpaper Analysis (Level 3)

19.1 Paint and/or wallpaper analysis will usually only take place where layers that have been applied over the years have not been removed. Where appropriate, paint analysis can take place by methods of scraped samples or thin section analysis. Cross-sections may also be obtained from samples of paint to reveal a stratigraphy of paint layers.

APPENDIX 20
Historic Building Recording: Reporting (Levels 0-6)

20.1 The style and format of the final report on historic building recording works will be determined by AOC Archaeology, but will be compliant with Historic Scotland's issued guidance on Data Structure Reports. The content of this report will depend greatly in the level of works that have taken place but at minimum will include:

i) A location plan of the site showing the areas under investigation numbered and cross-referenced in the text;
ii) A summary statement of the results;
iii) An introduction, methodology and results of the works;
iv) Photographic plates to illustrate the text.

20.2 Where a programme of historic building recording has taken place at Level 2 or above, the Data Structure Report will contain a number of illustrations, the format of which is outlined in more detail in Appendix 17.

APPENDIX 21
Watching Briefs

Where the archaeologist (Watching Brief Officer) has no remit over the working methodology of the site (specification of machine or depth of excavation). The Watching Brief Officer will simply observe the works and record their nature and form.

21.1 Where the Watching Brief Officer specifies the site methodology, ie type of machine and depth of excavation. AOC Archaeology's preferred approach is to consider the Watching Brief Area as a large evaluation trench and follows in general, Appendix 7.

21.2 It is important to stress that the client determines the area affected and unless instructed by a curator the Watching Brief Officer has no power to extend the area unless it is to fully excavate a human body that otherwise would have been truncated by the works.

21.3 In addition to the general principles outlines in Appendix 7 the following approaches will be undertaken:

i) a record will be made of all site attendances;

ii) in general a written and photographic record will be kept of the excavated sediments;

iii) where archaeological features are identified and they can be dealt with in less than two hours this work will be undertaken by the Watching Brief Officer. Recording and excavation protocols will follow Appendices 7.9 –7.11;

iv) where archaeological remains requiring more than two hours of excavation and recording, the Watching Brief Officer will stop the works and both the curator and the client will be contacted to devise a mitigation strategy. All delays will be kept to a minimum. Any resultant excavation and recording work will be in keeping with the methods outlined in Appendix 9;

v) the extent of the watching brief area will not be recorded unless specifically required by either the client or the curator. Where such recording is required the area will be accurately recorded by total station and linked into the Ordnance Datum;

vi) Reporting of Watching Briefs will follow methods specified in Appendix 8.

APPENDIX 22
General

22.1 The requirements of the Brief will be met in full where reasonably practicable .

22.2 Any significant variations to the proposed methodology will be discussed and agreed with the local authority's archaeological representative in advance of implementation.

22.3 The scope of fieldwork detailed in the main part of the Written Scheme of Investigation is aimed at meeting the aims of the project in a cost-effective manner. AOC Archaeology Group attempts to foresee all possible site-specific problems and make allowances for these. However there may on occasions be unusual circumstances which have not been included in the programme and costing. These can include;

i) unavoidable delays due to extreme weather, vandalism, etc;

ii) trenches requiring shoring or stepping, ground contamination, unknown services, poor ground conditions;

iii) extensions to specified trenches or feature excavation sample sizes requested by the local authority's archaeological advisor;

iv) complex structures or objects, including those in waterlogged conditions, requiring specialist removal.

Health and Safety

22.4 All relevant health and safety legislation, regulations and codes of practice will be respected.

22.5 With the introduction of the Construction, Design and Management Regulations 1994, AOC Archaeology works with Clients, Main Contractors, and Planning Supervisors to create a Health and Safety Plan. Where CDM regulations apply, each project will have its own unique plan.

Insurances

22.6 AOC Archaeology holds Employers Liability Insurance, Public Liability Insurance and Professional Indemnity Insurance. Details can be supplied on request.

22.7 AOC Archaeology will not be liable to indemnify the client against any compensation or damages for or with respect to;

i) damage to crops being on the Area or Areas of Work (save in so far as possession has not been given to the Archaeological Contractor);
ii) the use or occupation of land (which has been provided by the Client) by the Project or for the purposes of completing the Project (including consequent loss of crops) or interference whether temporary or permanent with any right of way light air or other easement or quasi easement which are the unavoidable result of the Project in accordance with the Agreement;
iii) any other damage which is the unavoidable result of the Project in accordance with the Agreement;
iv) injuries or damage to persons or property resulting from any act or neglect or breach of statutory duty done or committed by the client or his agents servants or their contractors (not being employed by AOC Archaeology) or for or in respect of any claims demands proceedings damages costs charges and expenses in respect thereof or in relation thereto.

22.8 Where excavation has taken place evaluation trenches will be backfilled with excavated material but will otherwise not be reinstated unless other arrangements have previously been agreed. Open area excavations normally will not be backfilled but left in a secure manner unless otherwise agreed.

Copyright and confidentiality

22.9 AOC 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 an exclusive licence to the Client in all matters directly relating to the project as described in the Written Scheme of Investigation.

22.10 AOC Archaeology will assign copyright to the client upon written request but retains the right to be identified as the author of all project documentation and reports as defined in the Copyright, Designs and Patents Act 1988.

22.11 AOC Archaeology will advise the Client of any such materials supplied in the course of projects which are not AOC Archaeology's copyright.

22.12 AOC Archaeology undertake to respect all requirements for confidentiality about the Client's proposals provided that these are clearly stated. In addition AOC Archaeology further undertakes to keep confidential any conclusions about the likely implications of such proposals for the historic environment. It is expected that Clients respect AOC Archaeology's and the Institute of Field Archaeologists' general ethical obligations not to suppress significant archaeological data for an unreasonable period.

Standards

22.13 AOC Archaeology conforms to the standards of professional conduct outlined in the Institute of Field Archaeologists' Code of Conduct, the IFA Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology, the IFA Standards and Guidance for Desk Based Assessments, Field Evaluations etc., and the British Archaeologists and Developers Liaison Group Code of Practice.

22.14 Where practicable AOC Archaeology will liaise with local archaeological bodies (both professional and amateur) in order that information about particular sites is disseminated both ways (subject to client confidentiality).

APPENDIX 23
Specialist staff

The following specialist staff may be used on this project depending on the type of artefacts and soil samples recovered during the course of the fieldwork.

AOC Archaeology Staff:

Dr. Anne Crone	Dendrochronology, charcoal and timber analysis
Dr. Coralie Mills	Pollen analysis, dendrochronology
Dr. Ciara Clarke	Pollen analysis
Mr. Rob Engl	Lithics & coarse stone
Mr. Murray Cook	Mammal bone
Dr. Lindsey Thompson	Stone condition survey
Ms. Melissa Melikian	Human bone
Ms Alys Vaughan-Williams	Macroplant specialist
Mr Robin Ingles	Soil analysis
Mr Alan Duffy	Charcoal identification
Ms.Amanda Clydesdale	Artefact conservation; plaster, paint and wallpaper analysis

Sub-contractors

Dr. Clare Ellis	Soils and sediments analysis
Mr. Bob Clark	Industrial archaeology & coal-mining
Ms Marta McGlynn	Historic designed landscapes
Dr. Ruby Ceron-Carasco	Marine shell and fish bone
Dr. Ann MacSween	Prehistoric pottery
Ms. Naomi Crowley	Building material, medieval and post-medieval pottery

APPENDIX 24
Post-excavation

24.1 *Sample Flotation*

Sample flotation is a water recovery technique designed to separate organic remains from the soil matrix. A Siraf style system of flotation and wet-sieving will be operated by the archaeological contractor. This system comprises an enclosed area of water into which the soil samples are deposited and agitated. Due to the difference in densities of organic and inorganic remains the light fractions will float, the heavy fractions will sink and the silt fraction will be washed away. The resulting floating material (flot) is collected in sieves of 0.3 mm and 1 mm, the non-floating residue (retent) is wet-sieved through a 1 mm mesh.

All flots and retents are air dried, bagged and labelled accordingly. Throughout this process all equipment is kept clean to prevent contamination of the samples. For each sample, a Sieving Assessment sheet is completed. This gives basic information about

the sample, retent and flot. Prior to flotation and wet-sieving, the volume of each sample is measured by means of a graduated bucket.

If in a sample a high concentration of clay can be observed and therefore separation of the different fractions of the soil is difficult, an aqueous solution of defloculant 'Calgon' is added and the sample is left to soak overnight, before processing by flotation and wet-sieving.

Sample flotation will be carried out on site and/or at the premises of the archaeological contractor.

24.2 *Sample Wet sieving*
Sample wet sieving, also a water recovery technique, is carried out in laboratory conditions and is designed to recover waterlogged material. For the recovery of waterlogged botanical material, small soil samples (0.5 to 1.0 litre) are processed through a 0.3 mm sieve. The sediment is placed in a bucket with water and agitated before being washed through the 0.3 mm sieve. This process is repeated until the sample is totally disaggregated. The resulting material is stored in water or ethanol depending on the length of the storage period. Sample wet sieving can also be used to recover larger waterlogged material such as leather and wood in which case larger volumes of soil are processed.

24.3 *Sample Dry sieving*
Sample dry sieving is carried out to retrieve smaller artefacts that might be missed during normal excavation procedure, eg. small sherds of pottery and bone . Done in laboratory conditions, all samples are air dried in the first instance. Done in the field, the samples are processed with the sample in a field-moist state. In both cases the sample is passed through a 4 mm mesh and any items of interest are recovered and recorded.

24.4 *Residue sorting*
All residue (retent) sorting is carried out in laboratory conditions, and is designed to recover not only material that might be missed during normal excavation procedure (see dry sample sieving), but also material that would be impossible to recover during normal excavation procedure eg. charred and uncharred plant remains, insect remains and small fragments of charcoal.

The volume of the residue is recorded and then passed through a set of sieves (mesh sizes 8 mm, 4 mm, 2 mm and 1 mm). Each fraction is spread out onto a separate tray, is scanned with the naked eye and all items of interest are recovered. Under normal circumstances all identifiable material from all fractions is recovered. The only exception to this is burnt wood (charcoal) which is only retrieved from the > 4 mm fractions. All material recovered is bagged individually by material type and the material types and weights recorded on the Retent Sorting Sheet. Also recorded on this sheet are the project number, context number, area, sample number, the sorters initials, date, sample volume, retent volume and percent of the retent sorted. Under normal circumstances 100 % of all fractions are sorted. In those instances where this is not the case, this will be recorded. Where no material is recovered from a retent, the Retent Sorting Sheet will be filled out as usual, with the word sterile written across it.

24.5 *Flot sorting*
All flot sorting is carried out in laboratory conditions. The volume of each flot is measured. The flots are sorted by means of a low powered binocular microscope. The macro plant remains and other archaeological or ecological material are extracted from the flots and put into gelatine capsules or glass tubes. An estimate of the number of items recovered and the species represented are recorded. The charcoal larger than

4mm is extracted from the flots and weighed. All extracted items are bagged and labelled accordingly.

24.6 *Routine Soils Analysis*

All the samples taken on-site will have a routine partner. Four standard routine soil tests will be carried out by the archaeological contractor. These are pH analysis, Loss on Ignition, Calcium Carbonate content and Easily available phosphate content.

The pH value is the measure of the acidity (H+) or alkalinity (OH+) of the sample. Dissolving a portion of the soil in distilled water, then measuring the sample using pH meter carries this out. This is to allow us to estimate the potential for preservation within the sediment.

Loss on Ignition is the measure organic content of the sample. This is measured by burning a small amount of the sediment in a furnace at 400^0C for four hours. By measuring the weight before and after burning the organic content can be calculated. The organic content allows us to examine whether manuring or treatment of the natural soil has taken place.

Calcium Carbonate content can be measured by dissolving a few grains of the sample using Hydrochloric acid. If calcium carbonate is present then a small amount of Carbon Dioxide is given off, the greater the amount of CO_2 released the greater the amount of $CaCO_2$. The Calcium Carbonate content shows us if there is any natural calcium carbonate within the sediment, or if not, any mortar or shell has been included artificially.

The amount of phosphate within a sample is examined at the same time as $CaCO_2$. After the CO_2 has been released Ascorbic acid is applied, if Phosphate is present a colour change will occur. The phosphate content may show the presence of animals or to a lesser degree indicate where animals were kept.

24.7 *Soil Micromorphological Analysis*

Micromorphology is the study of undisturbed soils and loose sediments and other materials at a microscopic scale. A 25-30 micron thick slice of soil or sediment is mounted on glass and studied using a petrographic microscope. The samples are prepared for thin section analyses at the Department of Environmental Science, University of Stirling using the methods outlined by Murphy (1986). The samples are analysed using the descriptive terminology of Bullock *et al* (1985) and FitzPatrick (1993).

Bullock, P., Fedoroff , N., Jongerius, A., Stoops, G., Tursina, T. & Babel, U.1985 *Handbook for soil thin section description*. Wolverhampton: Waine research Publications.

FitzPatrick, E.A.1993. *Soil microscopy and micromorphology.* Chichester: John Wiley & Sons.

Murphy, C. P. 1986. *Thin section preparation of soils and sediments*. Berkhamsted: AB Academic Press.

24.8 *Charcoal ID*

Only charcoal retrieved from the 4mm sieve (see Sieving and Sorting procedures) is used for species identification, mainly because fragments below that threshold are too small to identify. If there is no charcoal larger than 4mm present then attempts will be made to identify the largest fragments present for the purpose of C14 samples.

Surfaces are prepared for identification by using a surgical blade to prise off flakes of charcoal revealing fresh surfaces on which diagnostic features can be identified. The charcoal fragment is bedded in sand for examination under a reflected-light microscope.

On average, up to 10 fragments of charcoal are identified per bulk sample. If a single species is present then identification can stop at 5 fragments. However, if a great variety of species is present, ie more than four, then identification should continue until the analyst is happy that a representative sample has been examined. Unusual or exotic species should be bagged and labelled separately within the bulk sample.
Other variables, such as whether the fragment is young roundwood, with sub-bark surfaces intact, whether it has come from a large piece of wood and whether it is fast or slow grown, should be noted.

Species identification is undertaken with reference to Schweingruber's (1982)

24.9 *Wood ID*

Waterlogged wood; Surfaces on waterlogged wood are prepared for identification by using a cut-throat razor or a double-sided razor blade to pare off thin-sections which are cell-thick and transparent so that diagnostic features can be identified. It is consequently difficult to identify fragments of waterlogged wood smaller than 10 mm^2. The thin-sections are temporarily mounted in water on slides for examination under a transmitted-light microscope.

Sampling for identification is carried out on the same basis as that for charcoal. Species identification is undertaken with reference to Schweingruber's (1982) *Microscopic Wood Anatomy* and the in-house reference collection of the archaeological contractor.

24.10 *Non-charcoal charred plant macrofossil analysis and Waterlogged plant analysis*

Analysis of the charred plant macrofossils and waterlogged plants involves identification, quantification and interpretation. Identification of the macro plant remains is done using a low power binocular microscope with x10 and x40 magnifications. The modern reference collection of the archaeological contractor and various seed atlases (Beijerinck 1947, Berggren 1969 & 1981 and Anderberg 1994) will be used to ease identification. The botanical nomenclature follows Flora Europaea (Tutin *et al* 1964-1981). A standardised counting method is used for quantification. Habitat information for the plant species will be taken from Hanf (1983).

24.11 *Dendrochronological analysis*

*Sample size and species type;*Three conditions are necessary to ensure the successful dating of a building or archaeological site. The timber must be a species for which there are already dated chronologies which in the UK usually means oak. Cross-matching is a statistical process, and therefore a number of timbers are required, usually at least 8 per building or phase. Finally, and for the same reasons the ring-patterns must be over a certain length, usually 70 rings. With these conditions observed it can be relatively straightforward to obtain a date for a building.

On-site sampling; In situ timbers in a standing building are usually sampled using a corer, which is attached to a power-driven drill and removes a core leaving a hole in the timber 10 mm in diameter. The core must be taken so that the maximum radius from pith to bark is sampled, thus ensuring the maximum number of growth-rings for analysis. It is also important to select those timbers which have retained as full a ring sequence as possible, ie those where the outermost rings have not been trimmed off or destroyed by woodworm.

Coring is an intrusive method of sampling and it is occasionally impossible to use this

method, as in the case of painting ceilings and carved panels. If the end-grain is exposed the ring sequence can be measured *in situ* using a hand lens. Silicone rubber casts can also be taken.

If structural timbers have been removed during the renovation of a building then slices, approximately 50 mm thick can be sampled by saw, usually a chainsaw, from a point along the timber where the maximum radius survives.

Timbers only survive below ground in waterlogged conditions. Waterlogged timbers are sampled as above, by the removal of a 50 mm slice by sawing.

Sample preparation;
Cores are mounted in angle moulding and then the surface is prepared by paring with a Stanley knife followed by fine sanding with Wet&Dry sandpaper until the ring-pattern is clear and measurable.
Slices (dry); The surface of the slice is sanded, usually with a power sander, using progressively finer sandpaper until the ring-pattern is clear and measurable. It is often necessary to finish off the surface with W&D sandpaper.
Slices (wet); The slice is usually frozen for 24 hours and then the surface is planed flat using a Surform plane. This often achieves the necessary clarity of ring-pattern but where the wood is particularly hard it will be necessary to use a razor blade to pare the surface to achieve a clear ring-pattern.
Silicone rubber casts; These are fixed to battens of wood using silicone rubber, for ease of measurement.

*Measurement and analysis;*The samples are measured on a custom-made measuring table and the data logged onto the computer using DENDRO (Tyers 2000). Data graphing and statistical analysis are also carried out using the same package.

APPENDIX 25
Conservation

25.1 *Conservation principles*
The principles, ethical codes and techniques of conservation are under constant review by both practitioners and professional bodies. The archaeological contractor's approach to conservation will reflect current theory and practice, as recommended by the United Kingdom Institute for Conservation, the Scottish Museums Council, Resources for Museums and Galleries, the International Council on Museums and the International Institute for Conservation.

25.2 *Security*
The archaeological contractor will take all reasonable precautions to ensure the security of items brought in for conservation. The building will be protected by intruder detector systems; all conservation items will be kept in a secure locked store when not being worked on, and will not be left unattended. Particularly valuable items will be stored in a safe where required. A heat and smoke detection system will also be in operation 24 hours a day.

25.3 *Insurance*
Artefacts for conservation will not covered by the contents insurance of the archaeological contractor. Insurance cover can be arranged for individual items and collections, but this is expensive. Clients are normally advised that the cheapest option is to extend their own insurance for these items for a fixed period. If required, the archaeological contractor could arrange additional insurance, and these costs would be passed on.

The archaeological contractor will have full professional indemnity cover for all its staff.

25.4 *Health and safety*
All relevant Health and Safety legislation, Regulations, Guidelines and Codes of Practice will be respected; Health and Safety plans will be compiled where Construction, Design and Management Regulations 1994 apply.

25.5 *Conservators and allied specialist services*
Professionalism: The conservators of the archaeological contractor will be graduates of approved conservation courses, and will have a thorough knowledge of current conservation practices in their particular specialist fields. The conservators will have been actively encouraged to broaden their skills and experience, and to obtain professional accreditation through the United Kingdom Institute for Conservation or PACR.

25.6 *Specialist post-excavation analyses*
Other services which the archaeological contractor will be able to offer are:

wood identification and woodworking analysis
tree ring dating
pollen analysis
building materials analysis
metal artefacts
metalworking and glass working debris
materials analysis
textile analysis
insects
fish and shells
bird bones
plant remains
bone identification
soils specialist/geologist
artefact specialist
fibre identification
leather identification

25.7 *Documentation*
Conservation complements the work of other professionals by preventing the deterioration of the artefact, and by ensuring that the wider community benefits from the additional information recovered about an artefact in the course of conservation work.

Conservation reports are normally supplied as a hard copy, but can also be supplied on disc in a variety of formats, according to the client's requirements. Reports are normally printed on paper with a guaranteed life expectancy of 150 years; photographic materials are processed to professional industry standards such as Q-Lab.

25.8 *Archival considerations*
The archaeological contractor will endeavour to ensure that the materials used to document artefacts undergoing treatment have a reasonable life span. Paper used will have an estimated lifetime of 150 years (HMSO specification), and all photographic films will be processed to industry standards by a processing company that specialises in high quality work for professional photographers. Radiography films and chemicals will be fresh and well within their expiry dates. All labelling of boxes etc. will be

carried out with archival quality inks; labels will generally be duplicated for safety's sake.

Wherever possible, the archaeological contractor will consider the archiving requirements for the site, and may consult the receiving museum or archive about their requirements; the archaeological contractor will follow guidelines proposed by the Association of Museum Archaeologists.

The archaeological contractor will abide by current guidelines on the care and disposal of artefacts and human remains, as set out in:

The Disposal and Allocation of Finds
Publication and Archiving of Archaeological Projects
Treatment of Human Remains in Archaeology
Archaeological Project Design, Implementation and Archiving

25.9 *Museum of London Guidelines*
Museum of London requirements for conservation, recording, documentation, packing and archiving will be applied where these are a pre-condition.

25.10 *Assessment and estimating*
The assessment determines the condition of the artefact and the best means to ensure its survival. Radiography (x-raying) of the object is normally carried out at an early stage, and is compulsory for iron objects, which have poor survival prospects, and for some copper alloy artefacts.

The estimate for the work normally applies for six months; it may be necessary to review it thereafter. Conservation rates are agreed by negotiation.

25.11 *Recording*
Text and image records (paper, digital and/or film as appropriate) will be made of all artefacts before conservation commences. Any information recovered during cleaning and conservation (eg associated material, residues, corrosion products, manufacturing techniques) will be carefully recorded, with samples taken where necessary. Soil removed from an artefact during the process will normally be retained and returned with the object, unless the excavator and/or client decides that it is not required. Where necessary, experts will be consulted on the nature of any material discovered during cleaning or conservation of artefacts. All samples and slides will become part of the site archive and remain with the artefact.

The conservation report will also include recommendations for the care and curation of the assemblage; special finds with particular packing requirements will have clear handling and lifting instructions on the outside of any packaging.

25.12 *Conservation Record*
The conservation assessment sets out the proposed treatments for each type of artefact or material: these treatments can be discussed with the client, and with the museum, to take into account any priorities and display requirements. (See Section 9, Assessment)

25.13 *Radiography*
The archaeological contractor will x-ray all excavated iron objects, as well as some of the copper alloy, and any other items as requested by the excavator: information from the x-rays are incorporated into the conservation report. All metal artefacts can be x-rayed if required; only film and chemicals within their expiry date are used, washing periods are the optimum to maximise film preservation.

X-rays normally become part of the archive, and are returned to the client, with full details of exposure time and voltages used.

25.14 *Record photography*
All artefacts selected for conservation will be photographed (on colour slide film) at least once; usually before and after conservation, with a label and scale in the frame. Unusual artefacts, noteworthy features or modified conservation treatments will be photographed whenever appropriate.

All images will be recorded in the conservation report, and each slide labelled with the context and find number. The archaeological contractor will use Professional grade film, and a professional developing service to ensure maximum film stability. The slides form part of the conservation archive, and will remain with the artefact.

25.15 *On-site conservation and conservation on call*
A conservator can be available on site if required, and the conservators of the archaeological contractor can provide immediate advice over the phone at any time (specific arrangements must be made for out of hours working).

Advice on packing, lifting and transporting artefacts may be given in the early stages of a project.

25.16 *Conservation treatments*
The requirements of each artefact will be considered individually, and any remedial treatments carried out will use only recognised conservation treatments and approved materials. The archaeological contractor will be committed to CPD, which ensures that its conservation staff are fully cognisant with new developments in the field.

25.17 *Post-excavation storage*
It is recognised that budgetary arrangements may mean considerable time can elapse between excavation and conservation or Finds Disposal. All finds will be examined by a conservator on receipt; packing and storage materials will be renewed as necessary, and the archaeological contractor will ensure that all finds will be kept in a secure, stable environment until conservation treatments begin. Any finds that require immediate treatment will undergo conservation as soon as the conservators have consulted the Project Field Officer. Large volume storage at 1^{o} C and -20^{o} C; and storage for waterlogged material will be available in-house.

25.18 *Packing*
All artefacts will be packed in suitable inert materials, with silica gel if required. Fragile objects will be supported by Ethafoam, or similar, and lifting and handling instructions on the container. Especial care will be taken for artefacts, which will be going into long term storage. All containers will be carefully labelled, and box lists supplied.

APPENDIX 26
Archiving and finds disposal

26.1 *Finds disposal*
All artefacts and ecofacts recovered during an excavation sponsored by Historic Scotland (HS) are reported directly to HS via their own collections registrar. If all material has been fully analysed at this point, it is in most cases, transferred to an HS store. HS's Finds Disposal Panel (FDP) with permission of the Queen and Lord Treasurers Remembrencer (Q&LTR) then allocates the material to the appropriate museum for long term storage and possible display.

Artefacts and ecofacts recovered from excavations sponsored by other funding bodies are reported to the Crown via the Treasure Trove Advisory Panel (TTAP). The TTAP with permission of the Q&LTR then allocates the material to the appropriate museum for long term storage and possible display. Once the material has been allocated, it is then the museum's responsibility to arrange collection from the archaeological contractor.

26.2 *Archiving*
All archiving will be undertaken according to standards and guidelines set out by the National Monuments Record of Scotland (NMRS), located at the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS). The archives of all archaeological works will be deposited to the NMRS.

APPENDIX 27
Publications

27.1 *General*
All publications by the archaeological contractor will be clear, correct and concise accounts of what was done and will reach standards acceptable to the archaeological profession. Final reports will be published within five years of the end of fieldwork. Publications should be published in popular archaeological, general and specialist formats to inform a wide readership of what work was done and must be made available to both lay and professional audiences for the foreseeable future. Publications must also provide good value for money in terms of the content and style of the publications. In DES entries and journal publications the role of the client will be fully acknowledged. In the popular publications and monographs suggested below the role of the client will be more fully promoted, with the display of the client's logo on the cover and a foreword by their representative. The over-riding aim of the procedures outlined in this section is to ensure that, during the duration of the project, a continuous stream of information about the archaeological works is made available for peer review and public consumption. The following stages and publication vehicles are envisaged;

27.2 *DES entries*
After the completion of each piece of on-site work, whether it be a watching brief, evaluation, set-piece excavation or building recording exercise a Data Structure Report (DSR) will be produced (see Fieldwork procedures). These are not reports intended for publication but they usually include a short summary which will be submitted for publication in *Discovery and Excavation Scotland* (DES), an annual summary of fieldwork published by the Council for Scottish Archaeology. It is proposed that an individual entry for each piece of on-site work will not be submitted; rather a single entry summarising all the works carried out in any one year will be compiled by the Project Manager. The DES summary is a standard requirement of planning authority archaeologists and ensures that notice of ground-breaking works is disseminated throughout the archaeological community.

27.3 *Journal publications*
Reports on the results of excavations are normally published either as an article in an academic journal or as a monograph in an appropriate series, depending on the scale of the results. The results of the set-piece excavations will be published as journal articles with reference to other on-site works such as watching briefs and building recording, where appropriate. The publication of these articles will follow on timeously from the completion of post-excavation works.

27.4 *Monograph publications*
The results of all the on-site works will be drawn together in a single volume, a monograph designed primarily for academic consumption. This will be published within 5 years of the completion of on-site works.

27.5 *Popular publications*
The results of all the on-site works will also be drawn together in 'popular' publications that augment the academic publications in making the results available to a wider public. This is a method of providing 'community gain' to the local and national community in return for its consent, through the planning process, to alter or demolish elements of the archaeological heritage. Popular publications may include, as deemed appropriate by the client, Internet reports within the web site of the archaeological contractor, printed colour booklets, leaflets, on-site interpretative panels and exhibitions.

27.6 *Editorial procedures*
The archaeological contractor will apply their in-house editorial policy and procedures, through which any projects nominated for publication are normally submitted.

APPENDIX 28

West of Scotland Archaeology Service Standard Conditions for archaeological fieldwork

To avoid confusion as to the status of project documentation, it is preferred that the use of the term "Written Scheme of Investigation" for a project design for archaeological fieldwork should be limited to those instances where the archaeological contractor is acting on behalf of a client to implement the requirements of an archaeological planning condition which specifically requires that such a document be produced in advance of development. In other circumstances, such as proposals for evaluation of a site prior to determination of a planning application, or proposals for the implementation of another form of archaeological condition, other terms such as "Project Design" or "Method Statement" are to be preferred.

The West of Scotland Archaeology Service will monitor the progress of archaeological work on behalf of its relevant funding partner. The contractor must provide sufficient notice of fieldwork to the Service so that monitoring arrangements can be put in place, and provide updated timescales for all post-excavation work so that its progress can be monitored as required.

The supervising archaeologist(s) executing the archaeological works must have professional experience commensurate with the tasks in hand. If requested, the name(s) and CV(s) of the archaeologist(s) must be forwarded to the West of Scotland Archaeology Service for approval prior to commencement of the archaeological works.

The text of all reports related to the project is to be supplied in digital form to the West of Scotland Archaeology Service for comment. This may be in any of the following formats: Adobe PDF (preferred), Microsoft Word or Rich Text Format each with embedded illustrations. The archaeological contractor is to provide details of the file format used and the compression method if any.

Gazetteers of sites and references to sites in all reports must include the WoSASPIN identifier.

Original survey or mapping data should also be supplied digitally, geo-referenced and in ESRI (preferred) or AutoDesk compliant formats. Where appropriate a digital polygon

boundary geo-referenced to the British National Grid representing the fullest extent of the archaeological intervention (e.g. extent of area surveyed, extent of evaluation area) should be supplied.

Final versions of all reports should be rendered uneditable prior to their re-submission. As well as a digital copy, two hard copies of the final report should also be supplied (drafts for comment will be accepted in digital format). If a temporary public access embargo is required this should be clearly stated in the associated copyright information supplied with each report. Should digital reports or associated documents be of an appropriate size for delivery by e-mail they may be sent directly to enquiries@wosas.glasgow.gov.uk with an appropriate project identifier in the subject line.

A brief summary of the results of the archaeological work must be prepared and submitted for publication in the Council for Scottish Archaeology's annual journal 'Discovery and Excavation in Scotland' at the appropriate time. A draft of this text must be forwarded to the West of Scotland Archaeology Service for comment prior to submission.

If the archaeological contractor mounts information relating to the archaeological work on the World Wide Web for public access WoSAS are assumed to have permission to create a hyperlink to those documents relating to the work from WoSAS's web site. Where the contractor cannot or does not intend to mount information relating to the work on the World Wide Web for public access, WoSAS may ask for at least one image (preferably digital, e.g. TIFF) and an accessibly worded summary of the work and its archaeological context of around 250 words to be supplied for that purpose. If a temporary public access embargo is required this should be clearly stated in the associated copyright information supplied with each summary.

A summary report of the results of the archaeological work should be prepared and submitted for publication in the gazetteer or "list of work done" section of an appropriate period journal, where such entries are sought by the editors. A draft of the text must be forwarded to the West of Scotland Archaeology Service for comment prior to submission.

Any report for formal publication in an appropriate archaeological journal or other medium should be submitted in draft form to the West of Scotland Archaeology Service for comment prior to submission.

A copy of all reports should be deposited in the National Monuments Record for Scotland, along with the project archive, on the completion of all relevant work. The project archive should contain all relevant details in connection with the planning and execution of the project, including any terms of reference received by the archaeological contractor.

The archaeological contractor may be invited to present the results of this project at the annual West of Scotland Archaeology Forum.

In all publicity, reports and summaries connected with the archaeological works, both published and archived, due acknowledgement must be given to the curatorial role of the West of Scotland Archaeology Service in facilitating the archaeological investigation.

All work on site shall be carried out in compliance with current Health and Safety at Work legislation. In particular, the archaeological contractor must ascertain from the client whether the archaeological work forms part of a programme of work to which the Construction (Design and Management) Regulations 1994 are applicable, and if so, the archaeological contractor must prepare and disseminate the relevant safety plan documentation and information.

Any human remains encountered must be left *in situ,* and notification immediately made to the local police and to the West of Scotland Archaeology Service.

The arrangements for the final disposal of any finds (artefacts) made in connection with the archaeological work are to be in keeping with Scottish legal requirements, as set out in "Treasure Trove. Guidelines for Field Workers" issued by the Scottish Executive Education Department in August 1999.

The archaeological contractor must have the necessary technical resources for satisfactory completion of the archaeological work in place before the project commences.

The archaeological contractor must have appropriate employer's and public liability insurance cover.

The relevant local museum service should be adequately informed of the start of on-site investigations.