

# Technical Advice Note

## Compiling a Written Scheme of Investigation for Archaeological Projects in South Gloucestershire

### About this Note

This leaflet is one of a series of non-statutory 'Standing Advice' statements produced by the council. They are not formally adopted as a Supplementary Planning Documents but are intended to provide advice to those applying for planning permission or listed building consent. They also aid the councils Development Management process by providing clear guidance on particular aspects of design, heritage conservation or archaeology and by ensuring applicants and agents are informed of the information that may be needed to support applications affecting heritage assets.

This guidance sets out the expectations for undertaking archaeological work as part of the planning process within South Gloucestershire that should be included in a Written Scheme of Investigation (WSI).

This note covers:

- Management of Archaeological Projects;
- Background to the Archaeology;
- Background to the Planning Context
- Standards
- Methodology
- Notice of Fieldwork
- Trial Trenching
- Geophysics
- Watching Briefs
- Full Excavation
- Building Recording
- Depositing data with the Historic Environment Record
- OASIS
- Physical Archive
- Reporting
- Publication

- Providing a quote to a client

This note should also be read alongside the council's Local Plan: Core Strategy (adopted Dec 2013).

## What is a Written Scheme of Investigation?

A WSI is a technical document that shows in detail how the Archaeologist will deal with all archaeological requirements for a site, including the planning context, the excavation and recording methodology, the post-excavation process through to publication (where this is required). It is required to ensure that the work undertaken is sufficient to either provide the necessary information to the Council to make a decision, or to discharge the relevant planning condition and ensure proper and professional recording of the historic environment.

A WSI is required for all fieldwork projects and is a binding requirement in all archaeological conditions from South Gloucestershire Council. Para 141 of NPPF states that:

*“Local planning authorities should make information about the significance of the historic environment gathered as part of plan-making or development management publicly accessible. They should also require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible.”*

Because there is only one opportunity to record an asset before it is irretrievably lost it is important that:

- Any investigation, including recording and sampling, is carried out to professional standards and to an appropriate level of detail proportionate to the asset's likely significance, by an organisation or individual with appropriate expertise;
- The resultant records, artefacts and samples are analysed and where necessary conserved;
- The understanding gained is made publicly available;
- An archive is created, and deposited for future research.

The steps to achieve these aims are secured through a written scheme of investigation

A WSI is also required for pre-determination projects and should be sufficiently detailed to ensure that the archaeological work will provide enough information to make an informed decision on the significance of the asset or potential asset to be affected by the development.

It has been compiled to ensure that archaeological contractors/units and agents (herein referred to as the Archaeologist) are aware of what will be expected of them during any form of archaeological work, as certain elements of this may differ from other local authorities. It will also prove a useful guide for developers who should also be aware of their responsibilities.

It should be used as a guide when compiling a Written Scheme of Investigation (WSI) and for the general management of archaeological projects.

Template and site specific briefs will continue to be produced, which will contain detailed technical information. However, the information contained within this document will be expected for all forms of archaeological work, unless clear reasons are given as to any deviation. Where a brief has not been issued this guidance will help to inform the content of a Written Scheme of Investigation.

All archaeological projects in South Gloucestershire should adhere to the following and these should be clearly defined in any WSI.

In the future the Council intends to charge for assessing and approving WSIs, as these form an integral part of the planning process. Please check the [South Gloucestershire Archaeology](#) web page or contact the HER and Archaeology Officer for more details.

## Management of Archaeological Projects

Archaeological Projects should be managed in accordance with [MoRPHE](#), Management of Research Projects in the Historic Environment.

## Background to the Archaeology

All WSIs should provide some background on the archaeology of Project Site and the surrounding area. However, for the purpose of a WSI there is no requirement for a Historic Environment Record (HER) trawl.

There should be consultation with the South West Archaeological Research Framework ([SWARF](#)). SWARF is a Regional Research Framework document, which helps us decide what questions we should ask when we undertake research. Research Frameworks help to co-ordinate research efforts and decide what it is we need to know more about. They help inform decisions about the significance of a site proposed for development and exist to ensure that the discipline acquires a proper means of selecting and targeting local and regional priorities in order to justify curatorial policies and decisions (English Heritage; SWARF). WSIs should refer to SWARF in order to determine which particular research questions are pertinent and how the project can assist in answering those questions.

Where other Research Frameworks exist that may be pertinent to the site, such as the recent Mesolithic Research and Conservation Framework 2013 (Blinkhorn and Milner 2013) these should also be included.

## Background to the Planning Context

All WSIs should explain the current planning context. They should make it clear whether the project forms part of pre-determination work or a condition of planning; where relevant, planning policy should be consulted and the planning reference should be cited.

There should be a brief commentary on the proposed development, outlining the type of activity that will be occurring (e.g. foundation trenches, utility routes, access roads etc). In this case a bulleted list will be sufficient.

## Standards

All archaeological work should adhere to the standards and guidance of the Institute for Archaeologists ([IFA](#)) and other relevant bodies such as Institute of Historic Building Conservation ([IHBC](#)), [English Heritage](#) etc.

## Methodology

Where the Archaeologist refers to their own recording manual a copy of this manual must be provided to the HER and Archaeology Officer.

Where necessary, projects should make reference and adhere to the guidance and methodology contained in various English Heritage and other organisational documents (e.g. Environmental Archaeology 2011). Appropriate references can be found at the end of this advice note.

## Notice of fieldwork

WSIs should be submitted for approval at least three weeks prior to work starting. Whilst it is possible to turn around a WSI in less time this cannot be guaranteed and work may not proceed until the local authority has approved the WSI.

- As all archaeological conditions from the Council require submission of a WSI, failure to do this will result in a breach of condition and may see enforcement action taken.

The Archaeologist should provide notification of the intended start date and should not undertake work without providing the HER and Archaeology Officer with the opportunity to undertake a monitoring visit.

The Archaeologist **MUST** advise the HER and Archaeology Officer of the start of field work at least three days prior to commencement unless there are mitigating circumstances (such as not being informed themselves about the start of works).

## Trial Trenching

When undertaking trial trenching at pre-determination stage or as part of a condition, there should be a well thought out distribution of trenches, which will provide appropriate coverage and sampling.

Trenches should be positioned to clearly target archaeology or potential archaeology and not try to avoid it.

Therefore trenches should target features such as earthworks or other visible features, anomalies identified through geophysics or other features identified in preliminary work such as the heritage statement.

It is unprofessional and unacceptable for the Archaeologist to try and avoid potential archaeology in order to reduce their client's obligations.

A trench plan should be submitted as part of any WSI. Thereafter that trench plan will be implemented unless there are clear reasons why not (e.g. location of gas pipe); If the Archaeologist has moved a trench without the agreement of the HER and Archaeology Officer they will be required to excavate the original trench unless there are mitigating reasons.

As a very general guide, South Gloucestershire Council will expect a minimum of 2.5-5% of a site area to be investigated. However, the area of investigation should reflect the archaeology rather than sticking rigidly to an agreed formula. As such greater or fewer trenches may be required to meet the desired outcomes of the project.

Where possible, the Archaeologist should establish trenches of less than 30m in length as long trenches do not provide a worthwhile sample. Instead the Archaeologist should seek to have a greater number of shorter trenches.

Trenches should be to the top of the archaeology or the natural geology, whichever comes first. The Archaeologist should ensure that trenches are excavated to the required depth to avoid having to repeat the process upon site inspection, which can be physically difficult in relocating the mechanical digger and costly.

GIS files of trench locations should be supplied to the HER and Archaeology Officer, where applicable.

Back filling of negative trenches should not take place until the archaeologist has received confirmation that this can occur from the Council's HER and Archaeology Officer.

Where practicable the Archaeologist should seek to take samples from a range of contexts. Although there will be an expectation that features will be sampled in a recognised manner (e.g. half sectioning discrete features) there needs to be flexibility to ensure that the sampling is undertaken to fully understand the results and the archaeology.

## Geophysics

Geophysical survey projects should include a description of the geology and soil composition of the site and the impacts this may have on the understanding of the survey results.

The instrumentation to be used, including the field instrument and the software used for processing should be listed.

South Gloucestershire Council now expects geophysical surveys to follow the Characterisation sampling strategy as defined by English Heritage (2008: 8) rather than the Evaluation strategy, when dealing with sites with Prehistoric, Roman, Early Medieval or Medieval potential. This requires a traverse interval of 0.5m and a sample interval of 0.25m.

This is to ensure that smaller discrete features, such as postholes, which may be the main form of evidence for survival of elements of a site, can be identified (English Heritage 2008: 20). A 0.5m traverse interval is becoming more common in the UK and is already used more widely in Europe. However, there is flexibility in this and it will depend upon the nature of the archaeology. For example, if the soil and geology of the site is such that a

0.5m resolution will not produce notably improved results then consideration will be given to 1m traverses. However, any rationale behind this must be clearly explained with technical detail.

Processing techniques and what they will achieve should be explained.

Raw geophysical survey data and in particular GIS data showing the precise location of grids should be deposited with the HER, although copyright is retained by the original contractors.

## Watching briefs

All watching briefs will be comprehensive as defined by the IFA unless there is a clear reason why this should not be so (e.g. there may be no need to monitor the demolition of a modern building). This means that an archaeologist will be present during all ground disturbance, including the initial ground reduction/topsoil strip. Failure to do this may result in a breach of condition and enforcement action.

A watching brief will monitor all forms of construction activity including all ancillary works such as access roads, utilities, site levelling etc and will not be confined just to the main focus of construction.

Where archaeology is encountered that cannot be recorded swiftly, and where the work will result in excavation, then the scope of this work will need to be agreed with the HER and Archaeology Officer.

**All WSIs must include provision for full excavation (including methodology, post-excavation, publication etc). This should be sufficiently detailed to ensure that provision for any subsequent work, such as large scale excavation, is recognised within the original WSI as it is that WSI which is bound to the condition.**

## Full Excavation

Whilst it would be expected that contractors provide a statement in the WSI of the sampling that will be undertaken during an excavation, this needs to be reflexive rather than fixed and must relate to the questions being asked of the archaeology. For example, discreet features, such as pits or post-holes may have to be fully excavated, whilst less than 20% of a linear, such as a ditch, may not need to be sampled in order to gain the necessary information.

A sufficient amount of a feature should be sampled to determine its function, date, character, form and relationship to other features.

Sampling strategies should attempt to answer research questions defined in the WSI, which in turn come from research frameworks. As such any sampling should adapt to these questions. For example, if the aim is to obtain radiocarbon dateable samples then a feature should be sampled enough to obtain this information.

## Building Recording

Where a building is to be demolished or altered to such an extent that this will affect the historic fabric that gives the building significance and where that historic fabric is concealed by later/modern additions, a condition may be applied to the consent for a soft strip of this fabric prior to full demolition occurring. There is little point in recording a historic building where that activity does not record what is important about that building, and instead just records modern decoration.

Primarily all building recording activities will take place in accordance with the English Heritage (2006) document 'Understanding Historic Buildings: A guide to good recording practice'. This document defines the various levels of building recording.

However, at times South Gloucestershire Council will require different levels within that document to be applied to different parts of a building recording. For example, whilst the photographic and drawn records might be requested at Level 2, the written record may be expected at Level 3. This will be dependent upon the building, its significance and the extent of the existing archive.

## Photographs

South Gloucestershire Council will accept digital photographs, provided these are high resolution uncompressed TIFF with a minimum of 8mp, for inclusion in reports.

However, this does not prevent the Archaeologist from using film cameras if they choose to do so.

## Post-Excavation

Where archaeological material has been recovered from any programme of archaeological work, this should go through post-excavation assessment in accordance with industry standards and the results of the assessment presented to the council BEFORE any further analysis takes place (unless an agreement to the contrary has been made).

Specialists who have been involved in the post-excavation process will make recommendations for further analysis as part of their report. Where no further analysis is recommended they should clearly state this.

Where the results of the post-excavation assessment identify the capacity for further analysis, a project design for this analysis should be presented to the council for approval.

This should involve consultation with the Regional Scientific Advisor for English Heritage in the Southwest

The council will expect samples to have been collected for radiocarbon dating. When assessing the requirement for taking samples for radiocarbon dating, specialists should state clearly the reasons why a sample should or should not be submitted for dating. For example, a reason for a sample not to be submitted might be that the likely date range that would be forthcoming from the samples would be so broad as to not provide any information that has not already been obtained from the material assemblage (as in the case of a plateau in the radiocarbon calibration curve).

Samples will have been collected for other forms of scientific assessment/analysis such as environmental deposits.

Specialists should also be thinking about innovative methods of dating and scientific processing, such as Bayesian statistics or lipid analysis.

## Depositing data with the Historic Environment Record

Digital spatial data (where it exists) such as GIS must be submitted to the HER, preferably in MapInfo Tab or ESRI shapefile.

Whilst it is recognised that not all archaeologists make use of GIS, where spatial information is digitally generated (e.g. through TST, DGPS or GIS) this should be submitted to the HER. This ensures it can be brought directly into the HER and therefore makes it more accurate.

Where digital data has not been generated then excavation coordinates (e.g. trench corners, geophysics grids) etc should be listed in the report, so that this information can be transferred to the HER, and any error in accuracy noted.

Other digital data, such as photographs, CAD files etc may also be required for submission.

However, please note that the HER is not a digital archive like the Archaeological Data Service and where possible deposition with the ADS should also occur. In the future, South Gloucestershire Council may make it a requirement for contractors to submit data to the ADS as a matter of course.

## OASIS

All Archaeologists will be expected to upload their reports to OASIS (Online AccesS to the Index of archaeological investigationS). Archaeologists should start an OASIS form for a project prior to submitting a WSI for approval.

Conditions will not be discharged until the report has been uploaded to OASIS and sent for validation.

## Physical Archive

Any archive generated through archaeological investigation should be deposited with [Bristol Museum and Art Gallery](#) in accordance with their [conditions of acceptance](#). In accordance with NPPF (para 141 footnote 30): *"copies of evidence should be deposited with the relevant Historic Environment Records, and any archives with a local museum or other public depository."*

If a developer wishes to keep finds and not deposit them with the museum they can do so as legally the items belong to them. However, all *significant* finds will be required to be fully recorded through drawn and photographic means. This means that all diagnostic finds such as pottery rims and base sherds, identifiable metal work and other items will be



drawn to scale and photographed to accepted professional standards. Without this record, the condition of planning will not be discharged. This is in accordance with para 141 of NPPF.

At present there is a charge for the deposition of archive material and contractors are urged to speak with Bristol Museum & Art Gallery before providing a quotation to a client to obtain estimates for deposition.

## Reporting

South Gloucestershire Council prefer the deposition of reports in digital format (e.g. PDF) rather than in paper format.

It is recommended that the Archaeologist should submit a report directly to the HER and Archaeology Officer for comment prior to submitting a final report. Finished reports will then need to be formally submitted to discharge the relevant condition.

A copy of the finished report should also be submitted to Bristol Museum and the English Heritage Archive.

## Publication

All projects will result in some form of publication. Some may be nothing more than a brief statement in the annual fieldwork roundup of a local archaeological journal.

However on occasion it will be necessary for more detailed publications, as articles in regional or international journals, or monographs produced to full academic standard.

## Providing a quote to a client

When compiling a quote for a client it is prudent for the archaeological contractor to speak with the HER and Archaeology Officer beforehand so that the contractor is completely aware of any issues and can provide a realistic quote. For example it is not uncommon to request a desk-based assessment/heritage statement to accompany the results of an archaeological field evaluation rather than treating them as separate activities.

In addition contractors should be clear to clients of the potential need for further work that may come from a watching brief, such as full excavation and from post-excavation.

## References

Blinkhorn, E. and Milner, N. 2013. Mesolithic Research and Conservation Framework 2013. English Heritage, University of York, Council of British Archaeology.

Grove, J. and Croft, B. 2012. The Archaeology of South West England: South West Archaeological Research Framework Research Strategy 2012-2017. Somerset: Somerset County Council.

English Heritage. 2006. MoRPHE: Management of Research Projects in the Historic Environment. Swindon: English Heritage.

English Heritage. 2007. Geoarchaeology; Using earth sciences to understand the archaeological record. Swindon: English Heritage.

English Heritage. 2010. Waterlogged wood. Guidelines on the recording, sampling, conservation and curation of waterlogged wood. Swindon: English Heritage.

English Heritage. 2011. Environmental Archaeology: A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation (second edition). Swindon: English Heritage.

English Heritage. 2012. Waterlogged Organic Artefacts: Guidelines on their Recovery, Analysis and Conservation. Swindon: English Heritage.

Webster, C.J. 2008. The Archaeology of South West England: South West Archaeological Research Framework Resource Assessment and Research Agenda. Somerset: Somerset County Council.

**Contact:**

Paul Driscoll

Historic Environment Record and Archaeology Officer

☎ 01454 862175

✉ [paul.driscoll@southglos.gov.uk](mailto:paul.driscoll@southglos.gov.uk)

## Selected Glossary

### ADS

Archaeological Data Service: Repository for digital archaeological archives

### Archaeologist

Professional organisation or individual with an established track record in undertaking archaeological projects in the planning sector.

### The Archaeology

Generic description of any find, features, sample etc that is uncovered through investigative work

## **Archive**

The physical and paper record of an archaeological project. This can include reports, finds, recording sheets, photographs and samples. Ordinarily an archive will be deposited with the museum.

## **Brief**

A document prepared by the council providing detailed information on the requirements of a WSI and the archaeological project. Briefs are not produced for every project but where they are they should be used as the basis for formulating a WSI.

## **CAD**

Computer Aided Design.

## **Condition**

Archaeological condition (requirement of planning consent) requiring the developer to undertake some form of programme of archaeological work in order to mitigate the loss of archaeology through development. The nature of this work will vary, but in every case a WSI will need to be submitted and approved before any work can commence and before the condition can be discharged. In some cases the condition cannot be discharged until all the work has been completed.

## **DGPS (Differential Geographical Positioning System)**

Survey instrument utilising satellites to accurately establish its position on the ground, normally to within a cm.

## **GIS (Geographical Information System)**

Computer software for controlling, manipulating spatial data. The council uses a range of GIS software including MapInfo and InkGIS to deliver its Historic Environment Record. Activity in the field (such as Total Station Theodolite surveys) can result in the generation of spatial data that can be incorporated into a GIS, or spatial data can be generated in GIS first and then exported to the field (for example, by drawing the location of trenches and then establishing them in the field).

## **Heritage Asset**

A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. Heritage asset includes designated heritage assets and assets identified by the local planning authority (including local listing).

## **Historic Environment Record**

The Historic Environment Records for South Gloucestershire is a computerised database of over 20,000 entries, aiming to provide comprehensive information and evidence about the historic environment for the district.

### **Historic fabric**

The physical fabric of a building (e.g. wall, roof, plaster, mortar etc) that contributes to its significance.

### **IFA**

Institute for Archaeologists, the governing body for professional archaeologists. The IFA publishes standards and guidance on archaeological practice.

### **Lipid analysis**

Analysis of fats and other residues that may survive within archaeological objects, such as pottery vessels.

### **The Natural**

Natural geology, usually representing the earliest point before which human activity would have occurred. However, there are occasions in South Gloucestershire where past activity has cut into the natural and where what may appear to be natural geology has been redeposited.

### **NPPF**

National Planning Policy Framework.

### **Post-excavation**

Process of assessment and analysis that may follow a fieldwork project. This normally takes place away from the development site and will first involve an assessment of the physical archive (all the finds etc) and may be followed by detailed analysis (e.g. scientific dating).

### **Pre-determination**

Archaeological work that is required to be undertaken before a decision is reached. Pre-determination work will provide information against which the council can judge the development and the impact to the significance of the archaeology.

### **Research Frameworks**

An agreed set of research topics developed through the collaboration of experts in the field. Research Frameworks help to co-ordinate research efforts and decide what it is we need to know more about. They also help inform decisions about the significance of a site proposed for development.

## **Sample**

Environmental or other material from an archaeological context that can be processed to provide information about past environments or to achieve scientific dating such as radiocarbon dating.

## **Sample interval**

In geophysics this is the points/distance along a traverse at which readings are taken. For example, a 0.25m sample interval means readings are taken every 25cm along a line until that line is complete.

## **Scientific dating**

Scientific dating techniques such as radiocarbon dating, undertaken by specialists in laboratory conditions.

## **Spatial data/information**

Information about the geographical location and attributes of a place or activity, such as grid references, heights etc

## **Traverse interval**

In geophysics this is the width of a line along which an operator will travel in a particular direction taking readings. For example, a 1m traverse means two lines separated by a metre along which an operator/machine will move

## **TST (Total Station Theodolite)**

Survey instrument used in the field to record archaeological features and set out sites

## **Written Scheme of Investigation**

Technical document outlining the approach an archaeologist will take to a particular site as expected in professional archaeology.