

HLF/IFA Workplace Learning Bursary Training plan

IT Applications for Standing Buildings and Landscape Surveys With Archaeological Research Services Ltd 2010

Introduction

This document sets out the background to the bursary, its desired outcomes and the skills it offers set against the National Occupational Standards in Archaeological Practice.

The key skills provided by this work placement are intended to equip an enthusiastic early career individual with the necessary technical and IT skills to undertake standing building, earthwork and landscape surveys and reports to professional standards. The skills in which the individual will be given training include a variety of complex IT applications that will have specific use in producing the above mentioned surveys as well as being transferable skills that will assist with interfacing across the archaeology sector; for example supplying GIS-ready survey data to a local authority HERs so that they can install it directly on to their GIS. This training is considered innovative as it will combine a suite of IT skills spread across various personnel within ARS Ltd and channel this into an individual who will gain the skills necessary to transform a knowledge of standing buildings and landscapes into digital formats that can be easily distributed and used across the Historic Environment sector. These skills will meet the following IFA training priorities and address skills gaps identified in the Profiling the Profession Report 2008:

- Conducting and contributing to surveys of historic buildings (p 106 Profiling the Profession)
- Information technology (p107 Profiling the Profession)

and will help fill the skills gaps being lost due to the recession in the following areas:

- Contributing to survey and interpretation of historic buildings as team members
- Providing information and advice for the conservation and management of the historic environment

These skills are particularly important in light of the new Government policy in relation to Planning and the Historic Environment (Planning Policy Statement 5; DCMS, 2010) which sets out the requirement for an informed evidence base and expert advice to enable planning authorities to reach decisions about new developments that affect the historic environment. The importance of accurate building surveys of historic standing buildings and landscapes is fundamental to providing the evidence-base required under PPS5.

It is intended that the training will be progressive and follow a staged programme starting with data acquisition through data manipulation and output to advanced applications and publication-ready products. The key skills the placement will offer include the following:

- Survey training using a variety of methods and instruments including survey-grade GPS, total stations and a variety of camera formats, downloading and processing data and completing digital surveys in a variety of formats
- CAD training – how to utilise survey data in a CAD environment to produce high quality surveys of buildings, landscape morphology and so forth including digital and hard copy output.
- GIS training – how to input, manage, store, articulate and query data through to producing digital and hard-copy outputs for use by a variety of end-users. This could range from their use in the management and maintenance of historic buildings, devising local development frameworks through to Defra's Shoreline Management Plans and so forth.
- Illustration packages – this will include digital illustration applications, particularly Corel Draw, for turning building and/or landscape survey data in CAD or GIS format into publication standard drawings for use in formal publications, illustrative material for information panels, leaflets and web sites and other media.
- Report production, including the use of good English, accurate description, considered argument and justifiable interpretation and utilising professional terminology in a format suitable for both commercial clients and local authorities
- Enhanced knowledge of survey subjects including standing building architecture, earthwork monuments, geomorphological landforms and crop mark sites.

The bursary will be for a period of 12 months at PlfA level (£16,000), hosted by Archaeological Research Services Ltd. It aims to provide training in standing buildings and landscape survey and the necessary technical and IT skills to process, analyse and present the data to a professional standard. We are looking for an early career candidate who has experience of standing buildings, as well as general archaeological fieldskills, and who is looking to develop a career in archaeology. They will be required to have good literacy and numeracy skills as well as a University degree in archaeology or allied subject.

Economic climate permitting, we would hope that the bursary holder would be offered full-time employment within our organisation once they had completed the full training programme. Alternatively the trainee will have a highly prized skill set sought by many organisations in the historic environment sector and would be amply equipped

to find work in a range of organisations including commercial archaeological units and consultancies, local authorities and English Heritage.

Supporting staff

The trainee will work under the supervision and line management of James Brightman with the support from other specialist staff including ARS Ltd's standing buildings expert Alvaro Mora-Ottomano and Ben Johnson an expert surveyor and CAD, GIS and drawing package specialist. James Brightman will act as line manager, and Richard Chatterton as Mentor to provide additional support and encouragement throughout the placement. Andrew Burn, a previous placement holder, will act as the trainee's Bursary Buddy.

Outcomes

At the end of the 12 month bursary the trainee will:

- be able to undertake a variety of surveys independently, including those of standing buildings, earthworks and landscapes
- be able to use a variety of IT applications to process, analyse and present survey data – this will include the use of CAD, GIS and drawing packages such as Corel Draw
- be able to produce standing building and landscape surveys, including text reports and the surveys themselves, that meet professional standards in commercial archaeology
- have an enhanced knowledge of standing buildings, architectural detail, earthwork monuments, crop marks and natural landform features
- be able to maintain a continuing professional development log and take part in all ARS Ltd staff-training events
- be able to achieve IfA membership and be supported in seeking IHBC membership

Activities

Activities	National Occupational Standards (NOSs) to be met	Learning activities and tasks	Who will support the bursary holder with this goal?
1. Learn how to operate safely and follow Health and Safety and security procedures in the workplace; to be able to respond to emergencies and assist in the security of the workplace. Complete a risk assessment for working on different types of survey site	AJ10 10.1-3	Completion of Health and Safety Checklist, completion of risk assessments; receive training in organisation's Health and Safety procedures.	Andrew Burn (Company Health and Safety Officer)
2. Contribute to non-intrusive investigations: Learn how to carry out building surveys and landscape surveys using technical digital equipment	AC3 3.1-3 AC1 1.1-3 AJ10 10.1-3	Completion of field surveys on a wide variety of sites; to include a range of standing building types, landscapes (e.g. coasts, uplands, etc) and other types of archaeological sites that will need surveying over the course of the placement	Jim Brightman Andrew Burn Alvaro Mora-Ottomano
3. Conduct and Contribute to non-intrusive investigations: Learn how to produce accurate drawings and surveys to a professional standard using CAD	AC3 3.1-3 AF4 4.1-3	Learn how to input digital data into CAD, learn how to set up a drawing, how to create accurate drawings, how to analyse data (e.g. volumetric analyses etc), how to scale and orientate drawings, how to set up drawings for printing and to export to other programmes	Jim Brightman Andrew Burn
4. Conduct and Contribute to non-intrusive investigations: Learn how to import CAD and other digital data into a GIS environment which can be used to take the data a stage further in terms of allowing for the analysis of spatial data and its output in a format directly usable by HERs and other end users	AC3 3.1-3 AC1 1.1-3 AF3 3.1-3 AF4 4.1-3 AD1 1.1-3	Learn how to import data into a GIS, how to georeference data, how to set up themes, how to query data, how to turn selected data on and off, how to extract data and use other programmes to articulate it (e.g. Excel), how to set up and edit images for printing and exporting, how to produce data (e.g. .shp files) that can be exported for use by other users, how to import or set up tables and link them to spatial data	Jim Brightman and Ben Johnson
5. Conduct and Contribute to non-intrusive investigations:	AC3 3.1-3 AF3 3.1-3	Learn how to use Corel Draw to enhance and tidy up output from CAD and	Jim Brightman and Ben Johnson

<i>Learn how to produce outputs in CAD and GIS that can be incorporated into digital drawing packages that can be used to bring these technical surveys and illustrations in to a form where they can be formally published in a variety of media</i>		<i>GIS packages. Learn how to produce publication standard drawings which will get published as part of the Workplace Learning Bursary.</i>	
<i>6. Learn how to propose and agree project methods by liaising with a variety of end users so that surveys and illustrations can be tailored to their specific needs and produced in a format that will be usable in the future</i>	<i>AB2 2.1-2 AF4 4.1-3</i>	<i>Learn how to communicate effectively with a wide range of end users through telephone discussion, personal meetings, formal meetings and so forth. Learn how to ask the right questions and how to anticipate problems and avoid them by gaining clarification.</i>	<i>Jim Brightman</i>
<i>7. Learn how to propose and agree project methods by applying the IT skills to solving new problems and particularly to assist with providing the type of baseline data required to make informed conservation and management decisions for standing buildings and landscape impacts</i>	<i>AB2 2.1-2 AF4 4.1-3</i>	<i>Learn how to think widely about the needs of end users and how IT methods can be applied to solve problems and/or provide new solutions to existing areas. For example thinking about new ways in which accurate surveys can be used to monitor sites under threat – examples being eroding buildings, coastlines, and archaeological sites that are both upstanding and buried</i>	<i>Clive Waddington</i>
<i>8. Learn to manage one's own professional development, including managing time and resources to meet own and team objectives, team working and presentation/communication skills</i>	<i>AK3 3.1-3</i>	<i>Work within the team identifying role models and relevant professional working standards and practices to follow, consider future development and further training needs</i>	

Timing

The post will be one year in length, over a period of 222 working days made up as follows:

260 working days less
 20 days holidays
 8 bank holidays
 10 days other

Schedule

1. Staff Induction	2 days
2. Health and Safety Induction and risk assessments	2 days
3. IfA standards and guidance familiarisation	1 day
4. PPS5 and Practice Guide familiarisation	1 day
5. English Heritage guidance on standing building recording	3 days
6. CAD practical training	30 days
7. ArcGis (GIS) practical training	20 days
8. Corel Draw practical training	20 days
9. Standing Buildings Survey fieldwork training	30 days
10. General fieldwork utilising survey skills	10 days
11. Earthwork and landscape surveys fieldwork training	20 days
12. Report production training	35 days
13. Written Scheme of Investigation training	10 days
14. Training in surveys for DBAs and Environmental Statements	20 days
15. Site visits	10 days
16. Staff Training Days	4 days
17. Client and local authority liason, letter writing, etc	4 days

(Total 222 days)

Schedule details

1. Staff Induction

A full staff induction will take place on commencement of work by the successful candidate. This will include an introduction to the company's systems, administrative housekeeping, staff introductions, talks on company culture and expectations, the opportunity for the trainee to discuss ambitions etc and a detailed talking through of company policies and the staff handbook.

2. Health and Safety Induction and risk assessments

The trainee will receive one to one induction and tuition in preparing risk assessments for different types of activities by the company's trained Health and Safety Officer, Andrew Burn.

3. IfA standards and guidance familiarisation

A senior member of IFA affiliated staff will talk the trainee through the various IFA standards and guidance documents.

4. PPS5 and Practice Guide familiarisation

A senior member of staff will talk the trainee through the various national policy and guidance documents and ensure that the trainee fully understands the policy and guidance framework under which commercial historic environment work is undertaken.

5. English Heritage guidance on standing building recording

A senior member of staff will talk the trainee through the various English Heritage guidance documents with specific emphasis on those that deal with standing buildings..

6. CAD practical training

One to one training in CAD will be provided by the company experts using active project work as the learning environment. Once the basic skills have been mastered the trainee will be able to work on their own under regular monitoring by the company expert. The training will cover functionality, the variety of applications to which it can be put in both 2D and 3D environments, data import, file export, manipulation and analysis, presentation, layouts and printing.

7. ArcGis (GIS) practical training

ArcGis training will be provided in-house by Jim Brightman our corporate GIS officer. It will cover basic functionality, uses of GIS, data entry and manipulation, thematic mapping, layouts and printing.

8. Corel Draw practical training

Corel Draw training will be provided in-house by one of our illustrators under the guidance of Jim Brightman. It will cover basic freehand drawings, data input to Corel Draw, functionality, layouts and printing for publication standard illustrations and design work. In addition, the Corel Draw suite of applications will be used to train the bursary holder in digital photograph processing, manipulation, printing and archiving as part of their IT applications in survey work.

9. Standing Buildings Survey fieldwork training

The fieldwork training in standing buildings will be provided primarily by Alvaro Mora-Ottomano but will include other trained professionals as fieldwork opportunities allow. This will include training in recognising architectural styles, features and detailing, appropriate recording techniques, photography and the use of surveying instruments.

10. General fieldwork utilising survey skills

This will include other applications of survey training as field opportunities allow. This is likely to include the surveying of fieldwalking finds, tying in excavation trenches and grids, laying out trenches, recording small finds and so forth.

11. Earthwork and landscape surveys fieldwork training

This will include surveying and delimiting different types of earthworks and geomorphological landforms utilising ground survey coupled with data from aerial photographs and BGS digital mapping.

12. Report production training

This will commence with full coaching using the in-house ARS Ltd writing guides. Training will be given in relation to layouts, report organisation, content, accuracy of description, technical conventions, flow of text and relevance to the purpose of the survey.

13. Written Scheme of Investigation training

This will be provided by an ARS Ltd senior archaeologist and will include training in how to devise suitable methodology to record standing buildings and undertake a range of surveys. The trainee will be encouraged to think widely about the needs of end users and how IT methods can be applied to solve problems and/or provide new solutions to existing areas. For example thinking about new ways in which accurate surveys can be used to monitor sites under threat – examples being eroding buildings, coastlines, and archaeological sites that are both upstanding and buried.

14. Training in surveys for DBAs and Environmental Statements

Training will be provided in the production of a range of surveys for inclusion in desk-based assessments and Environmental Statement chapters. This will include a variety of survey and IT applications to real world projects which are likely to include standing building surveys, parkland surveys, earthwork surveys and landform surveys. This data may be applied further by transposing into a larger project GIS which will require the linking of skills across the different IT applications to arrive at defined end point.

15. Site visits

Site visits are a vital part of the placement, enabling the post holder to become familiar with understanding buildings, landscapes, identifying varieties of archaeological feature encountered, describing and recording them, noting their condition and communicating information about the historic environment to clients, landowners and the local authority.

16. Staff Training Days

In-house ARS Ltd training days are delivered on an annual basis and cover a wide range of topics affecting professional practice across the company. It also includes staff input into company strategy as well as Health and Safety reminders and updates. These are held at intervals throughout the year.

17. Client and local authority liason, letter writing, etc

Dealing professionally with colleagues, clients and partners is a key part of all ARS Ltd staff's professional responsibilities. Coaching will be provided in how to construct

polite and professional communications, whether as a letter or email. In addition verbal skills will also be coached including how to conduct different types of conversations and the importance of developing a good working rapport.

The trainee will be allocated time to maintain their CPD log and there will be a monthly monitoring meeting with the Managing Director.