

**Altogether Archaeology**  
**Theme 8 ‘*North of the Wall*’**  
**Fieldwork module 8e**  
**Landscape Survey at Davy’s Lee**  
**Project Design**



## Document Control Grid

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## Contents

1. General Introduction
2. Summary Description
3. Site Description & Previous Work
4. Research Aims and Objectives
5. Business Case
6. Project Scope
7. Interfaces
8. Project Team Structure
9. Communications
10. Methods Statement
11. Publication, Publicity and Outreach
12. Stages, Tasks and Timetable
13. Project Review
14. Ownership
15. Health & Safety and Insurance
16. Risk Log
17. Main References

Appendices (bound as separate documents)

Appendix 1. Altogether Archaeology Generic Risk Assessment

Appendix 2. Module 8b Project Specific Risk Assessment

Appendix 3. Risk Log

Appendix 4. Oxford Archaeology Company Information

**Cover Illustration:** *Volunteers on March 2015 Survey of Davy's Lee. Photograph taken by Anne Tate 19th March 2015.*

## 1. General Introduction

- 1.1 Altogether Archaeology, largely funded by the Heritage Lottery Fund, is the North Pennines AONB Partnership's community archaeology project. Some project work, including this module, is being delivered in partnership with the Northumberland National Park Authority. The project enables volunteers to undertake practical archaeological projects with appropriate professional supervision and training. As well as raising the capacity of local groups to undertake research, the project makes a genuine contribution to our understanding of the local historic environment, thus contributing to future landscape management.
- 1.2 Over an initial 18 month period ending in December 2011, the project attracted 400 volunteers and completed a range of fieldwork modules including survey and excavation of prehistoric, Roman, mediaeval and post-medieval sites, and the survey of complex multi-period archaeological landscapes. Details of work completed during the pilot phase can be found on the North Pennines AONB website.
- 1.3 The current Altogether Archaeology programme runs from September 2012 – September 2015. It involves a range of professional and academic partners, and participation is open to all. Work is arranged according to ten themes, ranging from Early Farming to 20th-Century Industrial Archaeology. Further information, including details of how to register as a volunteer, are available on the AONB website.
- 1.4 As part of the Altogether Archaeology project, Northumberland National Park Authority has provided funding to enable volunteers to undertake practical archaeological projects within the National Park. The aim is to provide appropriate professional supervision and training in order to build the capacity of local groups to actively research little studied or poorly understood elements of the archaeology of the National Park.
- 1.5 The programme of field survey proposed in this project design is being delivered as part of Altogether Archaeology, Module 8 "North of the Wall", which includes all of the fieldwork within the National Park.
- 1.6 In June and September 2013 Level 3 surveys were carried out by volunteers participating in Altogether Archaeology modules at Ravensheugh Crag and at Standingstone Rigg, Simonburn. These surveys built upon preliminary survey work carried out in 2012 by Phil and Anne Bowyer, using skills they had learned through participation in earlier Altogether Archaeology fieldwork, to create a series of detailed plans of key features.
- 1.7 Arising from this the community archaeology group *Tynedale North of the Wall Archaeology Group* has been established with the support of Northumberland National Park Authority. In March 2014 members of the group conducted a 5 day Level 1 survey north of Sewingshields Crag.

- 1.8 In June 2014 Altogether Archaeology volunteers completed a Level 3 survey of sites of interest identified during Tynedale North of the Wall Archaeology Group's survey of March 2014.
- 1.9 In March 2015 archaeology group members conducted a 4 day Level 1 survey in the vicinity of Davy's Lee, immediately north of the 2014 survey areas.
- 1.10 The fieldwork module detailed here focuses upon completing a Level 3 survey of sites of interest identified during Tynedale North of the Wall Archaeology Group's survey of March 2015.

## **2. Summary Description**

- 2.1 The area in the vicinity of Davy's Lee has a number of known archaeological features listed on the Historic Environment Record (HER).
  - 7839 Romano-British Farmstead NY8008/7118
  - Two areas of Cord Rig. HER 12463, 12464
  - 7857 Circular Enclosure NY8052/7134, described as possible remains of a robbed-out-barrow
  - 7835 Stone Circle NY8021/7120
  - Two cup-marked stones HER 7856, 22632
  - Two stone-settings thought to be burial cists HER 6960, 22623
  - 22628 Possible Barrow remains NY8040/7129
  - Some 7 post-medieval stack stands, 2 of which are alternatively described as possible shielings.
- 2.2 The survey area is characterised by low limestone scarps rising to the west to King's Crag. The terrain includes unimproved and improved land. Within Davy's Lee Enclosure the 10m wide ridge and furrow may be of medieval date. Current land-use is as grazing for sheep and cattle.
- 2.3 The Project Director will be Phil Bowyer, Tynedale North of the Wall Archaeology Group, with fieldwork training and technical assistance provided by Peter Schofield (Oxford Archaeology North). The survey will produce an accurate measured survey of the project areas at 1:10,000, with more detailed plans of identified features at 1:2500 or greater.

- 2.4 The results of the survey will be presented in an illustrated report, which will include any recommendations for management of the archaeological features and further investigations, if appropriate.
- 2.5 The results will be presented in due course to the local community at a public meeting/workshop. A summary of the results along with the full project report will be available on the Northumberland National Park Authority, North Pennines AONB Partnership and Tynedale North of the Wall Archaeology Group websites.
- 2.6 In addition to providing the necessary Project Design for the work, this document is also intended to function as an introduction to the site and the project for all participants.

### 3. Site Description & Previous Work

- 3.1 The project area is situated north of Sewingshields Crag, in the vicinity of Davy's Lee and the western end of King's Crag. The area comprises portions of both unimproved and improved land. The land is presently used for grazing by sheep and cattle and is owned by Messrs Straker.

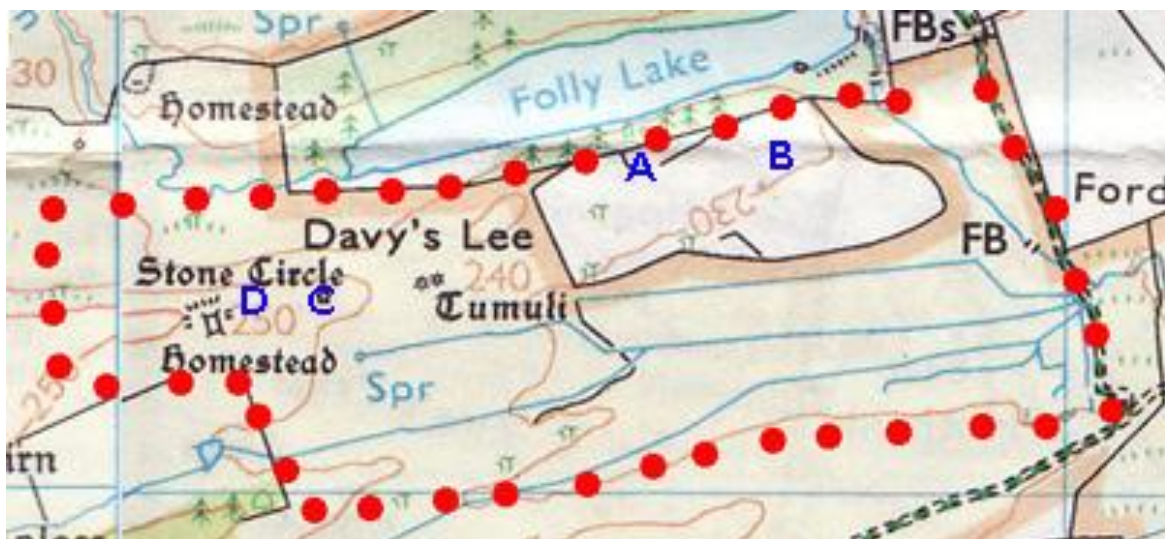


Figure 3-1: Davy's Lee location map. The area outlined in red was subjected to Level 1 Survey in March 2015. The four areas identified for Level 3 survey are labelled Areas A, B, C and D.

- 3.2 Prior to this year there had been little previous work carried out in this area. There was a Farm Environment Plan for Sewingshields Farm in the 1990's during which various sites of archaeological interest were visited and general information provided to HER. Tim Gates' aerial survey (The Hadrian's Wall Landscape from Chesters to Greenhead: An air photographic survey. NNPA 2004) included this area and contributed data on new sites to the HER. HER sites recorded comprise a stone circle, a circular enclosure, possible barrow remains, 5 small cairns, 2 areas of cord rig, 1 Romano-British Farmstead, and 7 post-medieval stack stands.



- 3.3 In March 2015 13 local volunteers participated in the Tynedale North of the Wall Archaeology Group four-day Level 1 survey. This survey forms the basis for the investigations to be conducted during the current module. Four locations have been identified as of particular interest. Areas A, B and C are first priorities, with area D being subject to time required for completion of work on areas A, B, and C.

**3.4 Area A. Davy's Lee Circular Enclosure HER 7857 at NY8052/7134 plus earthworks immediately south within Davy's Lee Enclosure.**

Although the HER entry refers to the circular enclosure as the possible remains of a robbed-out barrow this interpretation was queried by group members during the Level 1 survey. Tim Gates's aerial photograph shows clearly a distinct continuous circular



Figure 3-2: Aerial view of circular enclosure HER 7857 and earthworks (Tim Gates)

bank plus a central mounded feature which extends eastwards to the circular bank. The sod- cast perimeter bank of Davy's Lee Enclosure, which bends sharply around HER7857, appears to incorporate the southern arc of the circular enclosure before resuming its sod-cast structure immediately south-east of HER 7857. Immediately to the south lie a number of earthwork banks. The summary report of the March 2015 Level 1 survey notes as follows: "These consist of two parallel lengths (the longest 18m by 0.2m high) of banked platform with a possible arced connecting bank and a short (2m) low (0.2m) bank located perpendicularly between the two linear features, but not joined to either. Just to the west of these earthworks are two further roughly semi-circular low (0.1m to 0.2m) arcing banks each of about 10m diameter. It would be premature to attempt interpretation of this cluster of features. We have noted above the possible coincidence of the linear platforms with the features visible on the Lidar images (See Fig 3.3). Given the proximity of the large circular enclosure HER 7857 to these earthworks it may be appropriate to investigate further any potential relationship between these features during the Level 3 survey."



Figure 3-3: Lidar image of Davy's Lee Enclosure

### 3.4 **Area B. Possible ploughed-out cairn with cup-marked stone and adjacent banked platform at NY80731/71351.**

The Level 1 survey report notes "At NY 80731 71351 we discovered a previously unrecorded low turf-covered mound 14m N/S by 11m E/W. The low mound, with some sub-surface stoniness, has been overlain by broad 10m ridge and furrow. There are two exposed larger stones in the apparent perimeter, one of which is cup-marked. This stone probably corresponds to that recorded as HER 22632, described as being different to the Davy's Lee cup-marked boulder (HER 7856). Extending 5m south of the perimeter of the mound we found a banked platform (15m long, 0.4m high), arcing at its western end. Interestingly this coincided with the roughly E-W linear feature shown running across the whole enclosure on Lidar images (Fig 3.3). Despite our efforts we were unable to locate the rest of this feature on the ground, except possibly as a further length of banked platform at NY 80579 71322 just to the south of the circular enclosure HER 7857. Given what has been found elsewhere concerning



relationships between cairns and prehistoric boundary features, and between burial cairns and cup-marked stones, we feel that this conjunction of features warrants closer examination during our Level 3 survey.”



Fig 3.4. Possible cairn with cup-marked stone



Fig 3.5. Banked platform south of possible cairn

### 3.5 Area C. Stone Circle HER 7835 at NY80216/71203.

The Level 1 survey reports notes “At NY 80216 71203 there is a scheduled monument ‘stone circle’ (HER 7835, SM 20976). There are aspects of this monument that posed questions for us. Although three of the 11 recorded stones stand to a reasonable height, two at 0.6m and one at 1.0m, the remaining stones are barely above surface level (0.1m). On a previous visit during 2012 a total of 13, possibly 14, stones were counted and distances between them measured, raising additional questions. The low-lying stones, which do not look like mere packing stones, are quite evenly spaced and on the northern side of the circle seem set into the rising slope (Figs 3.6 & 3.7). The fairly even spacing suggests that it is unlikely that larger stones have been robbed out. We considered whether the subsequent peat growth had led to a significant rise in surface level, but the two largest stones are in the wettest part of the site and the proximity of the ridge to the low-lying stones suggested that this is an unlikely explanation. The circle is located on sloping ground (Fig 3.6).



Fig. 3.6 HER 7835 Stone Circle from north-west.



Fig.3.7 Low-lying stones in slope looking north.





Fig 3.8. Stone circle looking north-east up the slope.

### 3.6 Area D. Linear banks and small cairns east of Romano-British Farmstead HER 7839.

The level 1 report notes “West of the stone circle and east of the Romano-British Enclosed Settlement (HER 7839) we identified previously unrecorded linear features that by their location could be remains of field boundaries associated with the settlement.

D 1. A linear earthen bank (2.5m wide, 0.25m high) with a few large stones runs down the slope for 65m from near the ridge at NY 80190 71209 to the boggy area at 80205 71143 (Fig 3.9). There is a slight ditch on its western side, but this does not appear to be a modern drainage feature.



Fig 3.9 Low earthen bank east of Romano-British settlement.

D 2. Just west of the northern end of this bank is a small roughly rectangular cairn (Fig 3.10), 2.3m by 1.3m, 0.5m high. The team recording this feature commented that it appears to be kerbed. Its long axis is aligned E-W, as are the exposed cists (HER 22623 and 22624) to the west of the Romano-British settlement. The team were struck also by the similarity of dimensions between the cists and this cairn.



Fig 3.10 Rectangular cairn

D 3. Close to the northern end of the N-S linear bank at NY 80183 71207 there is a short (3.5m) linear grouping of stones (Fig 3.11) suggestive of wall remains. Intermittent stones are visible aligned along the ridge towards the northern edge of the Romano-British settlement to the west.



Fig 3.11 Possible remains of boundary wall

D 4. Immediately east of the north-east corner of the enclosed settlement at NY 80110 71194 there is a stony mound (HER 22624 'Cairn'). Given the other indications of a wall along the ridge it is arguable that this stony mound could be further remains of the northern boundary wall (Fig 3.12).





Fig 3.12 Stony mound HER 22624 and Romano- British settlement.

D 5. The Romano-British settlement is partly overlain by a modern walled plantation and there is a strong likelihood that it has been partially robbed-out when the subsequent walling was built. However there are interesting features still visible on the surface, particularly the double bank still extant on its western side (Fig 3.13).



Fig 3.13 Romano-British settlement, looking N-W from western section of southern enclosure bank towards double bank.



## 4. Research Aims and Objectives

- 4.1 The primary aim of the project is to carry out analytical field survey of the project area. This will be achieved through training local volunteers. Participants will learn the techniques of archaeological field survey and recording that will in turn equip them to carry out further work beyond the life of the project. Through undertaking detailed analytical field survey the aim is to raise awareness and appreciation of the rich cultural heritage in local landscapes. It is intended to use the present project as a means of training volunteers with the techniques of archaeological field survey. By focusing on these skills the project will result in a legacy of skilled field surveyors enabled to carry out further archaeological and historical research in the area.
- 4.2 This project in the vicinity of Davy's Lee will contribute directly or indirectly to the following objectives within The Northumberland National Park Archaeological Research Framework 2005 .

### ***Research Theme 3. Farming through the Ages.***

*One area of emphasis will be on the enhancement of our understanding of field systems from the Bronze Age to the post-medieval period and with this a deeper insight into the chronological, functional and morphological variation of related settlement structures.*

### ***Research Theme 7. Boundaries in the Landscape.***

*To enhance our understanding of a range of boundary types from Neolithic stone rows through cross-ridge dykes to sod-cast field banks and dry stone walls.*

### ***The Romans beyond the Wall... 'Native'/Civilian Archaeology***

*Settlement Sites ... facilitate an analytical rather than descriptive approach to the study of settlement patterns, field systems and the utilisation of the landscape in general.*

### ***Neolithic. Henges and Stone Circles.***

*There have been no modern investigations of stone circles and standing stones in the Park.*

### ***Neolithic, Outcome 4. Rock Art in context.***

*Prehistoric rock art, most notably cup and ring marked outcrops and stones, represent some of the earliest confirmed evidence for artistic impression in England. Recent research has not only highlighted the importance and vulnerability of this resource, but it has also demonstrated the existence of gaps in our understanding of fundamental issues, such as dating of rock art panels, and the relationship of rock art to society, economy, land use and ritual. Attempts should also be made to relate the art to its landscape context.*

- 4.3 General questions which the project may help to address include the following:

- Is the current land management regime resulting in serious damage to the site (for example, from sheep trampling). If so, can any realistic suggestions be made to improve site management? If any risks are identified mitigation measures would be to stop the sheep poaching the monument - i.e. make sure their paths are away from it by moving gateways or feed troughs so they are not encouraged near it. If damage is severe may want to reinstate ground and add a mesh for the grass to grow through to prevent further damage.
- Is there potential for low key public interpretation of the site, either direct access or from a viewing point on an adjacent public right of way?
- Are there any other previously unrecorded archaeological sites or features, of any date, surviving on the vicinity of Davy's Lee?

## 5. Business Case

- 5.1 The project has been developed as a practical partnership between the Northumberland National Park Authority and North Pennines AONB Partnership to deliver elements of the Altogether Archaeology project in the National Park.
- 5.2 As well as contributing to Altogether Archaeology theme 8, 'North of the Wall' (which includes fieldwork at a range of sites in the National Park), this work also relates to Altogether Archaeology themes 1 ('Early Farmers') and 2 ('Round Cairns and Round Houses – the Bronze Age').
- 5.3 The project will also contribute towards achieving the following objectives within the Northumberland National Park Authority Management Plan 2009-2014:
  - Objective 3.1, Outcome 1.3 A more diverse range of learning opportunities will be available to help understand, value and contribute to conserving, enhancing and enjoying the National Park's distinctive natural and cultural qualities.
  - Objective 3.2, Outcome 2.3 The rich historic environment and archaeological heritage will be understood, valued and cared for. Specifically: 3.2.1 To protect the historic environment and archaeological sites within the National Park and 3.2.2 To develop further understanding of the cultural heritage of the National Park.
- 5.4 The project will deliver the National Park Business Plan (2013-16) to "Deliver a 'Community Archaeology' project to engage communities with their local heritage."

## 6. Project Scope

- 6.1 This module focuses on a core area of about 1 km x 0.4 km around Davy's Lee. Within this area, four locations – Areas A, B C and D – have been identified as being of especial interest. Time and resources permitting, after Area A has been surveyed, work shall proceed to Area B, then Area C, and then Area D. If volunteer numbers are sufficient, two areas may be subjected to Level 3 survey simultaneously.
- 6.2 This module aims to build on survey work carried out by the Tynedale North of the Wall

Archaeology Group at Sewingshields in March 2015. It also aims to further explore the archaeology north of the wall, following on from the 2013 work at Ravensheugh Crag and the 2014 work north of Sewingshields Crag. The detailed plans of the key features which will be produced in this work may be used to target further investigation of particular sites to better understand their character and chronology.

- 6.3 The results of this field survey may be used to inform the subsequent management of the site, leading to the formulation of a set of management proposals.

## **7. Interfaces**

- 7.1 This project links to the wider work of the wider Northumberland National Park Authority community archaeology programme aimed at improving understanding of and promoting public engagement with the archaeology and heritage within the National Park. Links between the Davy's Lee module and the wider *Altogether Archaeology* project will be maintained through the project web pages.
- 7.2 This project may also link with the recently-formed North Pennines and Northumberland Uplands Young Archaeologists' Club and/or education outreach initiatives aiming to bring urban students in to participate in archaeological surveys within the Northumberland National Park.

## **8. Project Team Structure**

- 8.1 This is a small scale project and has a simple management structure, with a small project team. The Project Core Team will consist of:
- Phil Bowyer, Tynedale North of the Wall Archaeology Group, Chairman.
  - Chris Jones, Northumberland National Park Authority, Historic Environment Officer.
  - Paul Frodsham, North Pennines AONB Partnership, Historic Environment Officer and *Altogether Archaeology* Project Manager.
  - Peter Schofield, Oxford Archaeology North, Project Officer
  - Paget Lazzari, Northumberland National Park Authority, Senior Ranger.
- 8.2 In addition, rock art expert Stan Beckensall will provide advice and expertise. Although not officially part of the Project Team, his involvement is most welcome and potentially very important. His opinions will be taken fully on board and reflected in the project report.
- 8.3 Overall Project Management will be by Chris Jones and Paul Frodsham and co-ordinated by Phil Bowyer. Phil Bowyer and Paul Frodsham will be responsible for co-ordinating volunteer involvement in the project, and preparatory work including liaison with tenant farmers and the provision of site facilities. Direction of fieldwork on site will be the responsibility of the appointed contractor (Oxford Archaeology North). Oxford Archaeology North will supervise all fieldwork on site, including training of volunteers and will also be responsible for on-site health and safety. Oxford Archaeology North will also be responsible for the writing up of the project report.
- 8.4 Fieldwork will be done by *Altogether Archaeology* volunteers. The project has a pool of some 500 volunteers, of whom up to 30 are expected to participate in this module. Although there must be some flexibility with regard to volunteer involvement, up to a

dozen volunteers are expected on site each day. Phil Bowyer and Paul Frodsham will draw up a rota showing which volunteers should attend each day and fieldwork will be planned accordingly. Some volunteers are more able and experienced than others, while some have particular interests in certain aspects of the work, but where possible all volunteers will be given a varied workload, receiving training and experience in all aspects of fieldwork.

- 8.5 Although the proposed work requires no official consent, this project design will be submitted to English Heritage for approval in accordance with standard Altogether Archaeology project procedure.

## **9. Communications**

- 9.1 Paul Frodsham maintains a volunteer database of all Altogether Archaeology volunteers, and information about the project will generally be disseminated by email using contact details contained within this database. For ease of communication, any local people wishing to take part in the project who have not registered with the Altogether Archaeology project will be asked to do so, at least temporarily. All communication with volunteers will then be via the Altogether Archaeology volunteer database. Additional promotion and dissemination of results will be provided by the Northumberland National Park Community Archaeology blog and the Facebook page and website of Tynedale North of the Wall Archaeology Group
- 9.2 Phil Bowyer, Paul Frodsham and Peter Schofield will be in daily contact during the fieldwork phase and will communicate as necessary by e mail, telephone and face to face meetings as necessary during project planning and post excavation phases.
- 9.3 The North Pennines AONB HEWG (the project advisory group) meets quarterly. A draft report on the results of this project will be presented by Paul Frodsham for discussion at the first meeting following completion of the project.

## **10. Methods Statement**

### **10.1 General**

- All work will be completed according to relevant professional standards and guidelines. Fieldwork will be undertaken by volunteers from the Altogether Archaeology Project, with training and constant on site supervision provided by Oxford Archaeology North. The work will be undertaken under the overall direction of Oxford Archaeology North, assisted by Phil Bowyer and Paul Frodsham.
- Volunteers will be encouraged to take part in discussion and debate about the nature and purpose of enclosure sites and boundary features, and their relationship with the nearby earlier cup-marked stones, during breaks.
- In addition to the fieldwork proposed here, discussions will take place with local people in order to record any local knowledge of the enclosure, boundary features and cup marked stones, that may to date have gone unrecorded. It is hoped that such discussions will provide information about the area. Any local legends of potential relevance to the sites will also be recorded. All relevant information will be included within the project report.

## 10.2 Site Preparation

- Prior to the commencement of fieldwork and following consultation with the tenant farmer, any potentially dangerous stock will be removed from the site containing the archaeology.
- The Tynedale North of the Wall Archaeology Group will erect a tent, which will be located by the access road. This will provide adequate shelter for volunteers during lunch breaks and any periods when work has to be temporarily halted (for example due to heavy rain). It will also act as a site office and equipment store for the duration of fieldwork.
- Oxford Archaeology North will arrive on site on Saturday June 13<sup>th</sup> to set up and mark out the survey parameters. Fieldwork will commence with an onsite meeting on the morning of Saturday June 13<sup>th</sup>. This will involve an introduction to the archaeology of the site, a discussion of the project and a comprehensive health and safety briefing.

## 10.3 Survey

- The area has been subjected to Level 1 survey by the Tynedale North of the Wall Archaeology Group volunteers during the March 2015 survey, as detailed in Section 3 above.
- A comprehensive topographic survey will be produced by volunteers as part of this project. All volunteers will have the opportunity to participate in the survey, with full training provided to all, even if this means repeating some of the work. The survey will record the site within its immediate landscape context.

## 10.4 Survey Training / Outreach

- It is proposed to undertake a programme of survey training for members of the public on Area A (HER 7857 ), the circular enclosure (Figure 3.1). If time and volunteer numbers permit, survey training will then move on to Area B, the possible cairn and platform, Area C, the stone circle (HER 7835) and Area D, the linear boundaries and small cairns. This will entail detailed Level 3 analytical earthwork survey, as defined by English Heritage (2007).
- The survey programme will introduce a broad range of survey and recording techniques, ranging from basic techniques to the more advanced. It would include tapes, theodolites, plane tables, a survey grade GPS, and a Aerial Photography kite.
- In the course of the survey work the volunteers will work closely with professional archaeologists, who will provide training and on-the-job experience. The volunteers would undertake survey work under close supervision from the OA North project supervisor, and learn how to identify archaeological features/monuments, and how to use the survey instruments and the general principles of survey. The character and significance of the archaeological landscape will be explained.

## 10.5 Field Survey

- It is proposed that a detailed topographic survey be undertaken of Davy's Lee at EH Level 3, particularly in Area A, and then in Areas B, C and D as time and resources permit.
- The survey will entail the recording of the linear alignments, stone settings, stone alignments, earth banks, sod cast banks, orthostats and enclosures . It is proposed that the wider elements of the site at some distance from the core be recorded by a survey



grade GPS, and will be undertaken by volunteers under professional supervision. The core areas A through D will be mapped by photogrammetry using photographs taken from a kite and/or telescopic pole. The archaeological features including orthostats, enclosures and boundary features will be recorded by volunteers using a combination of a theodolite/disto and plane table / disto. A process of analysis, in conjunction with the volunteers to examine the development of the site will be undertaken, which will be presented graphically on the site drawings and also within the site descriptions.

*Survey Methods:* it is intended that this will serve as a training exercise for the volunteers, so the survey techniques will be devised to be easy to understand, and will allow for plotting in the field. There is a broad range of survey options that can be achieved by volunteers with access to non-expensive equipment, and it is proposed to introduce the volunteers to a range of techniques and then concentrate the survey using the plane table / theodolite.

*Plane Table / Alidade / Disto:* the technique has the advantage that it produces the drawing in the field and can cope with sloping sites. The use of a plane table is effective in allowing volunteers to understand the principles of surveying. Using stadia tacheometry an alidade has an effective distance measurement capability of 150m (assuming moderate accuracy), but it is difficult to train volunteers in this technique. The proposed alternative is to bring the technique up to date by mounting a cheap Leica Disto on top of the telescope of the alidade. This provides accurate distance measurement up to a distance of 100m and significantly eases the use of the equipment, and therefore makes it more productive. (The application of a disto on both a theodolite and an alidade at a recent community survey of fulling mills as part of the Windermere Reflections project, in the Lake District, was found to be a very successful approach; it has also been successful in the 2013 Ravensheugh Craggs and the 2014 Sewingshields project by the Tynedale North of the Wall group).

*Theodolite / Disto Survey:* the use of a theodolite / disto can be used alongside the plane table. The theodolite measures angles and the disto measures the distances and then the data is drawn up in the field by volunteers using an accurate film based protractor and ruler.

*GPS Survey:* a Satellite Global Positioning System (GPS) will be utilised to record the general background topography. The survey grade GPS is a Leica 1200 differential system and uses Ordnance Survey base stations in conjunction with a roving station to correct the raw data with corrections transmitted by mobile phone. The accuracy of the OA North GPS system is capable of  $\pm 0.03\text{m}$  and provides for a quick and effective means of recording the detail of the features.

*Photogrammetric Recording:* it is proposed to record the sites and immediate environs by means of high altitude photography, which, using specialist photogrammetric software, can be used to create accurate three dimensional models of the site and topographic surfaces. For large landscapes there are two methods available, the first is to use a UAV, which is a small multi-engined model helicopter and provides photography from any altitude up to approximately 100m height. The alternative is to use a kite with a light weight camera mounted beneath. The advantage of the kite is that the photography can be undertaken by the volunteers, and allows them to get involved in the photogrammetric process. Tynedale North of the Wall owns such a kite. In practice it is proposed to use both techniques, if a UAV can be obtained. Survey control is introduced to the photographs by the placement of survey control targets across the site which are located

by means of survey grade GPS.

The photogrammetric processing is undertaken using Agisoft software which provides detailed modelling using the overlap of up to 120 photographs, and creates a very detailed DTM (Digital Terrain Model) across the site. The photographs are then digitally draped over the model to create an accurate three dimensional model of the ground surface. The primary output, however, is an accurate two-dimensional image which can be used to generate accurate plans or profiles.

*Survey Control:* it is proposed that survey control be introduced to the sites by means of a high accuracy survey type differential GPS where possible. This can achieve accuracies of +-20mm, and will ensure that the survey is accurately located onto the Ordnance Survey National Grid. If at any of the sites there is no mobile reception (necessary to provide corrections for the GPS) then the control will be established by means of a total station.

*LiDAR plotting:* LiDAR at 1m resolution is available for the study area, which is of sufficient resolution to be able to inform the survey, and it is proposed to purchase one, possibly two, tiles of data as part of the project. There are two types of LiDAR available: two dimensional raster tiles, an example of which is presented within the present document, and three dimensional Ascii tiles which are more expensive, but can be manipulated in GIS, to enhance the vertical axis, change the light sources and change the viewing perspective. The latter considerably enhances the representation of the earthworks and it is proposed to purchase at least one tile of the Ascii data to facilitate the survey.

*Detail Survey Overview:* the detail survey by plane table / tape will record all structural and earthwork components, which will be drawn by hachure survey. Survey points will be marked on the ground using spray paint and the survey drawing will be manually drawn up with respect to them. On completion of the survey the field drawings will be digitised into a CAD system. The survey will record all archaeological features, earthworks and elements. The survey will aim to identify, locate and record all built elements of the landscape.

*Gazetteer:* a descriptive record of all features will be compiled using a standard proforma, which will incorporate a provisional interpretation of the function of the site / feature, where possible, and similarly will provide a provisional interpretation of the site's chronology where possible. Once the digital gazetteer has been collated and edited, it will be output as an Access Report and input directly into a Microsoft Word format. This data will be formatted and topped and tailed within word to produce the gazetteer volume for the survey project. The description will include the following fields:

- Northumberland National Park HER number
- Site Number
- Form
- Site Name
- NGR
- Site Description
- Monument Type
- Period
- Interpretation
- Dimensions
- Threats
- Management
- Photo reference

- Condition
- Surveyor
- Date of survey

*Photographic Record:* a photographic archive will be generated in the course of the field project, comprising landscape and detailed photography. Detailed photographs will be taken of the archaeological features using a scale bar. All photography will be recorded on photographic pro-forma sheets which will show the subject, orientation and date. The photography will typically be undertaken using a digital SLR camera with 12 megapixel resolution.

## 10.6 Archive and Report Production

A comprehensive Project Archive will be prepared as specified in Appendix 3 of *Management of Archaeological Projects* and fully in accordance with the *Guidelines for the Preparation of Archaeological Archives for Long Term Storage* (UKIC, 1990). The archive will be deposited in the Great North Museum.

This process will culminate in the production of a report including the following:

- Introduction to the project, if appropriate including extracts from this Project Design (e.g. from Sections 3) by way of background.
- A site location plan, related to the National Grid.
- The dates on which the project was undertaken.
- A concise, non technical summary of the results.
- A description of the methodology employed, work undertaken and results obtained.
- Plans and sections at an appropriate scale showing the position of the deposits.
- Recommendations for further archaeological work, if applicable, will be set out in the conclusions, but any such follow up work will not form part of this project.

Hard copies of the report will be provided to Northumberland National Park Authority, the North Pennines AONB Partnership, the Northumberland HER, the landowner, and the tenant farmer. In addition, high and low resolution PDF versions will be provided to the NNPA and AONB Partnership, to be used on the NNPA and AONB website and/or copied to project volunteers and other interested parties as appropriate.

## 11. Publication, Publicity and Outreach

- 11.1 Promotion, regular updates and a summary of the project will be made available on the Community Archaeology Blog on the NNPA website, and Tynedale North of the Wall Archaeology Group Facebook page and website..
- 11.2 The project will also be registered with the Online Access to the Index of Archaeological Investigations (OASIS), where digital copies of the report will also be made available.
- 11.3 If appropriate, press releases will be organised through the Northumberland National Park Authority Communications Officer, the North Pennines AONB Partnership Publicity Officer and the local media will be invited to visit the site while works are in progress.
- 11.4 Discussion of the results will be worked into numerous talks given by NNPA and AONB Partnership staff each year to local societies through Northumbria and the North Pennines.

11.5 Results will be made available worldwide through the NNPA and AONB website, in summary form and as a downloadable PDF of the full project report.

## 12. Stages, Tasks and Timetable

12.1 This is a small scale project with a relatively simple structure. It is divided into three stages and 12 tasks as shown in the table below. Following the approval of this Project Design, dates for the fieldwork phase will be finalised with the landowners and volunteers. Fieldwork is planned to extend over 9 days from Saturday June 13<sup>th</sup> through to Friday June 19<sup>th</sup> 2015. Post excavation work will take up to one calendar month to complete following the completion of fieldwork.

12.2 An interim report, at least, will be available within one month following the completion of the fieldwork.

Stage or Task No.	Stage/Task	Performed by	Dates
<b>S 1</b>	<b>PREPARATION</b>		
T 1.1	Finalising of MoRPHE compliant Project Design and EH approval	PB/PF	End of May 2015
T 1.2	Agree health & safety provision and arrange on-site facilities	PB/PF/OAN	End of May 2015
T 1.3	Prestart site meeting	PF/OAN	23 <sup>rd</sup> May 2014
T 1.4	Contact all AA volunteers and create contact database and rota for participants	PF	Early June 2015
<b>S 2</b>	<b>SURVEY</b>		
T 2.1	Site set up	OAN/PB	June 13 <sup>th</sup> 2015
T 2.2	On site start up meeting	Volunteers/OAN/PF	June 13 <sup>th</sup> 2015
T 2.3	Fieldwork	Volunteers/OAN//PF	June 13 <sup>th</sup> – 19 <sup>th</sup> 2015
T 2.4	Data reconciliation	OAN	July 2015
<b>S 3</b>	<b>REPORT, ARCHIVE &amp; PUBLICITY</b>		
T 3.1	Production of project report*	OAN	July 2015
T 3.2	Deposition of archive, dissemination of final report to HER	OAN	August 2015
T 3.3	Project report placed on NNPA and AONB websites	PF	Sept 2015
T 3.4	Public presentation of results	PB/PF/Volunteers	Sept 2015

OAN = Oxford Archaeology North

PF = Paul Frodsham

PB = Phil Bowyer

## 13. Project Review

13.1 The project will be subject to continuous review by the Phil Bowyer who will be on site throughout the fieldwork. Should any changes to the proposed programme become desirable during the course of the project then it will be necessary for these to be agreed

by the Project Team, but no further official consent will be required.

- 13.2 Upon project completion, volunteers will be asked to complete a questionnaire outlining their experience of working on the project and highlighting anything they would like to see done differently in future projects. Thus, in addition to fulfilling its own stated aims and objectives, this project will also play a positive role in planning future Northumberland National Park Authority and Altogether Archaeology modules.
- 13.3 The Core Team will also hold a review meeting upon completion of the project, and will discuss the results with the landowner and tenant farmer. This may lead to the development of a management plan for the site, though this lies outside the scope of this project.

## **14. Ownership**

- 14.1 The project archive will be deposited in the Great North Museum.
- 14.2 Copyright in all material produced will reside jointly with Oxford Archaeology North, Northumberland National Park Authority and the North Pennines AONB Partnership.

## **15. Health & Safety and Insurance**

- 15.1 Full consideration will be given to matters of health and safety throughout this project. Particular attention will be paid to the fact that the site lies in a pasture field containing large numbers of sheep. A health and safety induction will be given to all volunteers at project start up and all will be required to read a comprehensive module-specific risk assessment (Appendix 2, bound separately) which will be kept on site and which all volunteers partaking in the project will be required to sign, stating that they have read and understood it and that they will abide by its terms. This module is also subject to the generic Risk Assessment for Altogether Archaeology fieldwork, included in this Project Design as Appendix 1 (bound separately).
- 15.2 All work will be undertaken in full accordance with the provisions of the Standing Conference of Archaeological Unit Managers (SCAUM) Health and Safety Manual.
- 15.3 Oxford Archaeology North staff are fully trained with regard to health and safety, including first aid, manual handling, cable detection, site safety and risk assessment.
- 15.4 Oxford Archaeology North will ensure that at least one experienced First Aider and appropriate first aid supplies are on site at all times while fieldwork is in progress. Staff members will be supplied with appropriate safety clothing and equipment and advice as to appropriate clothing and equipment will be provided to volunteers.
- 15.5 All aspects of the *Altogether Archaeology* project are covered by Durham County Council's comprehensive insurance policy. In addition Oxford Archaeology North staff are covered by the company's own insurance.

## **16. Risk Log**

- 16.1 This is a small scale project and risks are of a correspondingly small scale. Nevertheless, a risk log is appended here as Appendix 3 (bound separately).



## 17. Main References

- Ainsworth et al. 2007. Understanding the Archaeology of Landscapes. A Guide to Good Recording Practices. English Heritage.
- Archaeology Data Service (ADS). 2008. <http://archaeologydataservice.ac.uk/era/>
- Bowyer, P & A. 2013. Archaeological Landscape Survey in the Vicinity of Sewingshields: Report of results. Unpublished.
- Frodsham, P. 2004. Archaeology in Northumberland National Park. York: CBA.
- Gates, T. 2004. The Hadrian's Wall Landscape from Chesters to Greenhead: An Air Photographic Survey. English Heritage and the National Trust.
- Young, R. (Ed). 2005. Archaeological Research Framework. Northumberland National Park Authority