

**CFA Archaeology**

**TEAMPULL NA TRIONAID, N UIST**

**Standing Building Survey, Watching Brief and Excavation**

**Project Design**

**31 May 2011**



*Advice on archaeology and planning*

*Environmental archaeology*

*Field Evaluation & Excavation*

*Finds / Environmental Analysis*

*Geophysical survey*

*Historic Building Recording*

*Site and Landscape Survey*

*Design, Illustration, GIS & Interpretation*



IFA-registered archaeological organisation

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## **1. Background**

Scheduled Monument Consent has been granted for conservation works to Teampull Na Trionaid, North Uist (NGR NF 8162 6028). This Project Design is provided to fulfil condition 12 of the consent. It is based upon a scheme of conservation works, including plans and elevation drawings sent to CFA by Robin Kent Architecture and Conservation.

Discussions between John Raven of Historic Scotland and Robin Kent Architecture and Conservation on behalf of the Teampull na Trionaid Conservation Association of have identified the following scope of works:

- (1) A standing building survey including plans and elevation drawings to include all putlog holes, recesses, scarcements, and other major architectural details;
- (2) A topographical survey plan to include the chapel buildings and graveyard walls, ground surface up to 5m beyond the boundary wall.
- (3) Archaeological watching brief to monitor the removal of tumbled masonry from the base of the chapel walls
- (4) Archaeologically excavate areas where foundation/underpinning works are proposed in the northwest corner of the Church and either side of the northern door of the Church and the southern wall of the Enclosure.

Teampull na Trionaid 's origins are uncertain but it was possibly built c1200 AD on an earlier site. The roofless ruins are attributed by the book of the Clan Ranald to the Iona prioress, Beathag, daughter of Somerled. The chapel is reputed to have been enlarged in the late 14th century and was still in use up until the early 18th century. The burial ground is enclosed by a circular enclosing wall is of c. 18th century date. The structural remains comprise a Church and the McVicar Chapel, the first is a large rectangular structure aligned east west with the smaller rectangular McVicar Chapel situated on the north side. The two chapels are about 1.5m apart and are connected by a passage which is bonded to either building. A burial enclosure is butted on to the southern wall of church on its southwestern corner.

## **2. Objectives**

The objectives of the programmes of archaeological works are:

1. To carry out a standing building survey of the building to produce a record of external and internal elevations;
2. To carry out a topographic survey of the site including the gravestones, boundary wall and ground 5m beyond the wall,
3. Archaeologically monitor the removal of collapsed stonework from the base of the chapel walls
4. Archaeologically excavate three areas where underpinning work / new foundations are proposed.
5. To produce illustrated reports on the work.

### **3. Method Statement**

#### **3.1 General**

Work will be conducted in accordance with the Institute for Archaeologists' Code of Conduct and relevant Standards and Guidance, and with Historic Scotland's standard requirements.

Any alteration to this methodology will need to be agreed in advance with Historic Scotland and would require an amendment/variation of Scheduled Monument Consent.

All staff will be suitably qualified and experienced for their project roles.

All staff will familiarise themselves with the archaeological background of the site, and the results of any previous work in the area, prior to the start of work on site. All staff will be aware of the work required under the specification, and will understand the project's aims and methodologies.

The archaeological work shall be open to monitoring by Historic Scotland, who shall be kept informed of the timescale of fieldwork by CFA.

#### **3.2 Desk-based Assessment**

A desk-based assessment has already been compiled by T Addyman on behalf of the Southern Isles Amenity Trust so this aspect of the work is not required.

#### **3.3 Standing Building Recording**

The survey requirements for both buildings are as follows

Location	Elevations/plans/photographic survey
Church	All internal and external elevations to be 3D laser scanned/Photographic survey and described
Church	Ground plan
McVicar Chapel	All internal and external elevations to be 3D laser scanned/Photographic survey and described
McVicar Chapel	Ground plan
Passage between the Church and the McVicar Chapel	All internal and external elevations to be 3D laser scanned, ground plan
Enclosure	All internal and external elevations to be 3D laser scanned, ground plan / Photographic survey and described, Ground Plan
Churchyard	Ground plan showing the positions of all gravestones
Churchyard wall	Ground plan
Church yard interior and 5m beyond	Levels to be taken at 1m intervals across the site

Table 1 List of building survey requirements

CFA will follow the *Descriptive Specification for Recording Historic Buildings* (English Heritage 2006). A Level 3 survey will be sufficient to record all the significant architectural details within the building. Level 3 surveys are described as a detailed record supported by a survey of internal and external elevations. Building plans also support this level of recording. Level 3 surveys also include a comprehensive photographic record of all significant architectural elements of which are described in the final report.

CFA uses a Digital Nikon D100 SLR to take high-resolution digital photographs of building elevations, contextual details, structures and specific architectural features. A comprehensive photographic record will be made of the chapel and include external and internal elevations. Selected representative images will be incorporated into the final report accompanied by a full set of contact prints. Plans and elevations will be supplied at 1:100 and 1:50 scale.

Commensurate with Level 3 surveys, the drawings will include contextulised and numbered and include moulded building fabric, quoins, window dressings and blocking work. Internal elevations will also be examined. A tabulated list of all significant architectural detail will be included in the rear of the report.

### **3.4 Laser scanning**

In order to capture the data required for the survey in the most effective manner A 3D laser scan of the buildings will be carried out by Oak Surveys on behalf of CFA. A full 3D laser scan will be carried out in all internal and external elevations of the chapel. A series of site control points will be installed and tied into the Ordnance Survey grid. The equipment used will be a Leica HDS 6000. All scans will be pre-controlled with a minimum of four targets per scan. The resulting scan data will adhere to the *3'D Laser Scanning for Heritage guidelines* and will be manipulated in Cloudworx.

Final drawings will be prepared from the scans showing the outline of the wall elevations including any major architectural features. In accordance with a Level 3 survey these will not be stone by stone representations of the elevations.

### **3.5 Topographical Survey**

The gravestones, boundary wall and ground 5m beyond the wall will be surveyed.

### **3.6 Survey Report**

The report will contain full illustrative detail supported by structural descriptions of all internal and external elevations supported by a tabulated inventory of all features of architectural significance. Drawings will be produced to illustrate breaks of build, repairs and putlog positions. Architectural mouldings and carved stones, (including missing carved stones) and scarcements will also be included.

The report will include a topographical survey showing the chapel in relation to its churchyard and the positions of all upstanding and recumbent gravestones at a scale of 1:200.

### **3.7 Watching brief during removal of collapsed masonry**

The areas where the collapsed masonry is present is recorded on the Proposed Plan (Drawing No. 413/7). All removal of collapsed stonework will be monitored by an archaeologist to record the presence of any moulded stonework prior to it being set-aside elsewhere on the site. Records of all architecturally significant stonework will be maintained using CFA stonework recording forms and will include taking digital photographs and where appropriate a measured sketch. An inventory will be made of all the worked stone and include a summary description on its type and dimensions (length x breadth x depth).

Only collapsed and dumped stone will be removed and only to current ground level.

### **3.8 Archaeological excavation**

#### *Excavation Strategy*

Trenches for underpinning /foundation work are required in the following locations:

- in the northwest corner of the Church;
- across the line of northern door of the Church and;
- along the line of the southern wall of the Enclosure.

A trench c 2m long x 0.75m wide x 0.6m deep is required in the northwest corner of the Church to allow the corner to be underpinned. This will run from the northwest corner of the church southwards parallel and adjacent to the Church wall

A trench 2m long x 1.5m wide x 0.6m deep is required on the line of the wall of the Church across the width of northern door of the church.

A trench c 4.5m long x 0.75m wide x 0.6m deep is required along the line of the collapsed southern wall of the enclosure to allow the wall to be re-built.

The areas where excavation is required (see above) will be excavated by hand. All features of archaeological interest revealed within the areas are to be recorded, fully excavated and all artefacts recovered. If appropriate, the contents of selected features are to be sampled with a view to recovering material suitable for dating and/or environmental analysis. If significant features lie below the level of the underpinning/foundations excavation below that depth may be required. If in-situ wall foundations are identified where walls are to be reconstructed the original foundations will be left in-situ and incorporated in to the new build.

Should archaeological features, groups of features, or artefacts be identified which appear to be extensive or archaeologically significant, such as burials, then Historic Scotland will be informed immediately and a strategy for their excavation or, in exceptional circumstances, preservation in situ, will be agreed with Historic Scotland.

#### *Excavation methods*

All excavation will be undertaken by hand.

A strategy of 100% excavation of features will be adopted, excluding modern intrusions such as field drains. All negative features (pits, post-holes, ditches) will be excavated by the conventional method of sectioning and sequential removal of the fill(s). Superimposed features will be investigated in stratigraphic sequence.

Soil samples from all excavated features will be collected and retained for possible further palaeobotanical/palaeoenvironmental analysis. CFA's Palaeoenvironmental Scientist will assess the environmental potential of the site and will provide advice to allow consideration of whether deposits have potential for conducting palaeobotanical or other soils analyses, and to allow a sieving programme to be undertaken if appropriate. He will advise on the potential for the preservation of faunal remains.

All artefacts and faunal remains will be retained. Significant artefacts will be given a small find number and their positions three-dimensionally recorded by Total Station.

A metal detector will be used to locate metal objects or concentrations after the initial cleaning. Post-excavation storage requirements will be assessed by Ms Anderson, CFA's Finds Manager. Sensitive artefacts will be lifted in a block of soil and sent for detailed excavation during conservation, but if an artefact is discovered which needs conservation in the field or immediate laboratory treatment, an appropriately qualified conservation specialist will be contacted by telephone for advice on appropriate treatment.

If human remains are encountered they will be left *in situ* and notification made immediately to the local police and Historic Scotland. If removal is required this will take place in compliance with Historic Scotland's Policy Paper *The Treatment of Human Remains in Archaeology*.

### *Recording*

All excavation and on-site recording will be carried out according to standard CFA procedures, principally by drawing, by photography and by completing standard CFA record forms. A full and proper record (written, graphic and photographic as appropriate) will be made for all work. All contexts will be recorded using context forms, and features will be drawn in plan before and after excavation (at 1:20 or 1:50 scale as appropriate) and in section (normally at 1:10 scale). All hand-drawn plans and sections will show at least two reference points which will be tied-in by instrument survey and whose co-ordinates will be marked on the drawing.

During or immediately after the completion of hand excavation, the overall site plan will be updated to show all features identified and all excavated sections. All hand-drawn plans and sections will show at least two reference points which will be tied-in by instrument survey and whose co-ordinates will be marked on the drawing.

A photographic record of all contexts will be taken in colour transparency and digital imagery and will include a clearly visible, graduated metric scale. A register of all photographs will be kept.

The stratification of all excavated areas will be recorded whether or not significant archaeological deposits have been identified.

CFA uses the Museum of London's single context recording system, with minor adaptations. Full details of CFA's on site recording strategy are contained within the document *CFA Archaeology Ltd – On Site Recording*. All CFA staff are issued with this document. Details of CFA's recording system have previously been submitted to Historic Scotland.

The locations of the trench will be recorded using industry standard Total Station electronic surveying equipment. CFA uses standard Leica Total Station electronic surveying equipment attached to a ruggedised laptop running PenMap for Windows to produce digital survey data, to allow on-site recording of trench location, features and the 3D locating of small finds during the excavation. The survey data and any hand-drawn plans will be accurately tied in to the Ordnance Survey National Grid and Ordnance Datum. Control points, such as fence lines, walls, buildings or other fixed features, will be surveyed to allow the plan to be tied in to the Ordnance Survey National Grid.

### *Sampling Strategies and Methods*

A programme of collection of soil samples and other appropriate material will be undertaken for scientific dating and the recovery of palaeoenvironmental evidence. A total sampling strategy will be adopted, with all undisturbed or uncontaminated archaeological contexts sampled on a routine basis, retrieving soil samples in sealed buckets with sample recovery of 12 litres (or, if the volume of the deposit is less than 12 litres, the whole deposit) from each feature or deposit excavated for wet-sieving. Bulk samples will be taken for wet-sieving for the recovery of palaeobotanical remains from the flots and artefacts from the residues, with unprocessed sub-samples retained for conducting routine soil tests as appropriate.

Samples to be collected will include:

- A bulk sample of 12 litres (or, if the volume of the deposit is less than 12 litres, the whole deposit) for wet-sieving from every excavated deposit;
- A routine sample of 500g from every excavated soil context on site will be retained as an unprocessed sub-sample from the bulk samples. This sample will be used in the characterisation of the sediment, through pollen analysis, particle size analysis, pH analysis, phosphate analysis and loss-on-ignition
- A soil monolith or monolith profile, using a Kubiena tin or similar equipment, through buried soils/old ground surfaces, ditch fills and other deposits as appropriate to the needs of interpretation of site formation processes (see below);
- Deposits likely to yield high concentrations of carbonised plant remains will, at the discretion of the Palaeoenvironmental Scientist, be subjected to a higher volume of sediment recovery in order to maximise the highest return of palaeoenvironmental information;
- Extensive deposits, such as ditch fills, will be sampled at a greater volume than 12 litres. Multiple standard bulk samples will be obtained from the fills present in any major ditch features. Specifically, these will be retrieved from the excavation baulks, so as to identify variation in the ditch fills not immediately observable during fieldwork.
- Other techniques (eg sampling for soil phosphate analysis/loss-on-ignition/magnetic susceptibility) requiring contained and grid and off-site control sampling will be used as appropriate from deposits of particular interest, such as those with a high burning or artefactual content.
- Opportunities for sampling for non-radiocarbon forms of dating (e.g. TL, OSL, dendrochronology) will be kept in mind.
- Control samples of 12 litres of topsoil and natural subsoil will also be collected. These will be used to demonstrate the quantities of macro-carbon present in each for comparison with archaeological samples during post-excavation. They will also be used as controls should soil tests such as phosphate be employed in post-excavation.

Samples will not be retained from obviously modern features, for example field drain cuts.

Any sediment remaining after sampling from significant or artefact-bearing sediments will be riddled upon excavation to maximise artefact recovery.

Soil monoliths will be used to recover complete archaeological sequences found within ditch sections or other features where multiple layers of archaeological significance are present. The use of centrally placed overlapping soil monoliths will allow other specialists to sub-sample the soils contained within for other specific environmental work (pollen/micromorphology/charcoal etc.). The criteria for selection and positioning of the soil monoliths will depend on the shape and profile of the feature; for example a U-shaped ditch would be sampled down its centre. The selection of appropriate sequences to be subjected to thin-section analysis will follow from a preliminary field assessment and either recovery and sub-sampling from a larger monolith, or by using specific soil thin-section sampling tins.

Monolith sampling will be carried out by CFA's Palaeoenvironmental Scientist or Assistant Palaeoenvironmental Scientist. Thin section analysis will be carried out by a qualified soil micromorphologist. Column samples will be taken in Kubiena tins of sediment sequences with the potential to provide information on soil formation processes and feature functions, and from buried soils with the potential to provide information on past land use. Soil monolith sampling is carried out using stainless steel Kubiena tins ranging from 50mm to 1000mm. Specialist soil micromorphology tins are used according to standard in-house sampling procedures.

### **3.9 Watching Brief and Excavation Report**

The products of the fieldwork element will be:

- A standard Historic Scotland Data Structure Report, which will be produced including all elements normally required by Historic Scotland and distributed as required by Historic Scotland
- An entry for *Discovery and Excavation in Scotland*
- An OASIS Scotland entry
- A costed project design for post-excavation as appropriate.

The report will include full descriptions of any archaeological features and deposits encountered and provide interpretations of their date and origin.

The report will be produced within 4 weeks of the completion of fieldwork.

Consideration will be given to the production of a short, popular account of the excavation suitable for publication on Historic Scotland's web site or through another medium such as *Scottish Archaeological News*.

A digital copy of the full report with plans and DES entry on CD - in PDF and doc formats will be supplied to Historic Scotland and the Council Archaeology Officer. The inclusion of photographs, plans and illustrations will fall within the current guidelines for archival standards set by the Archaeology Data Service and RCAHMS. A full copy of all digital photographs and digital data, where available, will be produced and presented on CD in archive stable format.

#### *Post-excavation recommendations*

Recommendations for any post-excavation and publication requirements will be presented in a communication separate to the data structure report.



Limited examination of artefacts and samples will be undertaken as an element of the work towards the production of the DSR. However, artefacts and samples recovered may require further post-excavation analyses and the results incorporated within a publication report. The scope and scale of such works will be determined in consultation with Historic Scotland. A Post-excavation Research Design will be prepared which details the tasks to be undertaken to bring the findings of the excavation to publication in an appropriate archaeological journal.

Any post-excavation works required will be funded by the Applicant.

The project archive, comprising all CFA record sheets, plans and reports, will be deposited with the National Monuments Record of Scotland (NMRS) within six months of completion of fieldwork and any relevant post-excavation analyses, following RCAHMS standards for archiving. The disposal of small finds will be conducted according to the standard FDP procedure. The finds will be packaged in boxes labelled with the full site name and date with a packing list in each box and a cover note listing all boxes. Appropriate conservation of finds will be conducted before disposal.

#### **4. Project Personnel**

**Project Manager** will be Bruce Glendinning BSc PgDip MifA. Mr Glendinning graduated from the University of Glasgow in 1993 with a BSc in Archaeology. Since then he has worked as a professional archaeologist with many units throughout Scotland and England. He has extensive experience of managing large-scale archaeological projects in both rural and urban environments. In addition to project management he has acted as a consultant for Morrison Homes, Robertson Residential, Apex Hotels, Wimpey Homes and Stewart Milne Homes amongst many others. He was overall project manager on CFA's recent excavations within the Scheduled Area of Melrose Abbey in advance of the construction of new school buildings for St Mary's School.

**Project Manager / Architectural Recording** will be carried out by Dr Michael Cressey BA MSc PhD FSA(Scot). Dr Cressey will direct fieldwork, carry out the desk-based survey and produce the draft report. Dr Cressey has been involved with numerous building recording projects in England and Scotland, including recording roof timbers at Tewitt Hall (medieval) and the Anglo Saxon tower at St Peters Church on behalf of English Heritage. In 1991, Dr Cressey worked for six months as a draughtsman at Lulworth Castle, Dorset recording internal architectural features using mainly photogrammetry. In 2002 Dr Cressey undertook a major building recording study at Fenton Tower, East Lothian. Dr Cressey is currently writing a monograph detailing the building surveys carried out over the past ten years at Stanley Mills, Perth and Kinross, on behalf of Historic Scotland.

**Laser Scanning** recording will be carried out by Andrew Beardsley of Oakes Surveys. Oak Surveys are a member of Royal Institute of Chartered Surveyors (RICS) and the Institute of Civil Engineer Surveyors (ICES).

**Excavation Director** will be Magnus Kirby. Magnus has been a field officer for CFA since 2002. He has directed a number of major excavations including: the excavation of a multi-period site at Lockerbie Academy in advance of PPP schools project (Dumfries and Galloway Council); excavations of WWII camp at Frogston Road, Edinburgh in advance of new Water Pipeline (ERM Ltd per Black and Veatch); excavations of a Roman enclosure and field system, Burgh Road, Carlisle (Story

Homes Ltd) and recent excavations of Roman and Iron Age remains at Inveresk, Musselburgh (NHS Lothian).

**Watching Brief** will be carried out by a suitably qualified professional archaeologist.

**Report illustration** will be carried out by Leeanne Whitelaw, MA AAIS. Leeanne is CFA' Graphics Manager and is a qualified archaeological illustrator/surveyor with a background in historical building recording. Over the past five years she has been involved in most of CFA's standing building surveys.

**Environmental Co-ordinator and Geoarchaeologist** will be Dr Mike Cressey BA MSc PhD MifA FSA Scot. Dr Cressey has been working as a field archaeologist since 1982. He completed the MSc in Environmental Archaeology and Palaeoeconomy at Sheffield University in 1991. During the course of his postgraduate studies he has developed his soil science skills, and he is also skilled in palynology, palaeolimnology and fossil wood identification. Dr Cressey will provide advice, as appropriate.

**Finds Co-ordinator, Osteoarchaeologist** will be Sue Anderson BA MPhil MifA DipMusStud. Sue Anderson is a Project Manager at CFA with extensive experience in general finds analysis. She graduated from Durham University in 1986 and completed her research into human skeletal populations of the first millennium AD in the North-East of England in 1991. After graduation, she worked as a freelance human bone specialist on contracts for a variety of archaeological units throughout the country, as well as projects funded or managed by English Heritage and Historic Scotland. She developed an interest in post-Roman pottery whilst working for Hampshire County Museums Service as a Museum Assistant, and gained further experience as Finds Manager for Suffolk County Council Archaeological Service between 1995 and 2004. During that time she added further specialisms in post-Roman small finds and Roman and medieval/post-medieval ceramic building material, and has compiled and written numerous reports on general finds assemblages. Her publications include reports on human bones from sites in East Anglia and Southern England, several large reports in the Ancient Monuments Laboratory Report Series (all forthcoming), papers and reports on medieval pottery in Medieval Ceramics, and a paper on architectural terracotta in Archaeological Journal. In addition, she has training in archaeological conservation and collections management as part of both her degree course and post-graduate museums diploma, as well as practical experience in a conservation laboratory. Ms Anderson will provide advice throughout the project, as appropriate.

## **5. Timetable**

The survey will take place week commencing 13 June 2011. Other elements of the work (watching brief and excavation) will take place as required by the principal contractors programme. However, it is currently envisaged that the watching brief on stone clearance will take place week commencing 13 June 2011. The excavation will follow soon after, this will take place as 1 phase of works and it is estimated up to 8 days will be required for a team of 2 to complete these. The standing building survey will be available 4 weeks after the completion of the on-site survey, with initial drawings being available earlier on the 1st July 2011. A data Structure report on the watching brief and excavations will be available 4 weeks after the completion of on-site works. Any post-excavation will be completed 1 year after the agreement of the post-excavation research design.

## **6. Health and Safety**

All work for the project will be subject to Risk Assessment procedures, a copy of which can be provided prior to the commencement of the project.

## **7. References**

English Heritage (2006) 'Understanding Historic Buildings: A guide to good recording practice.