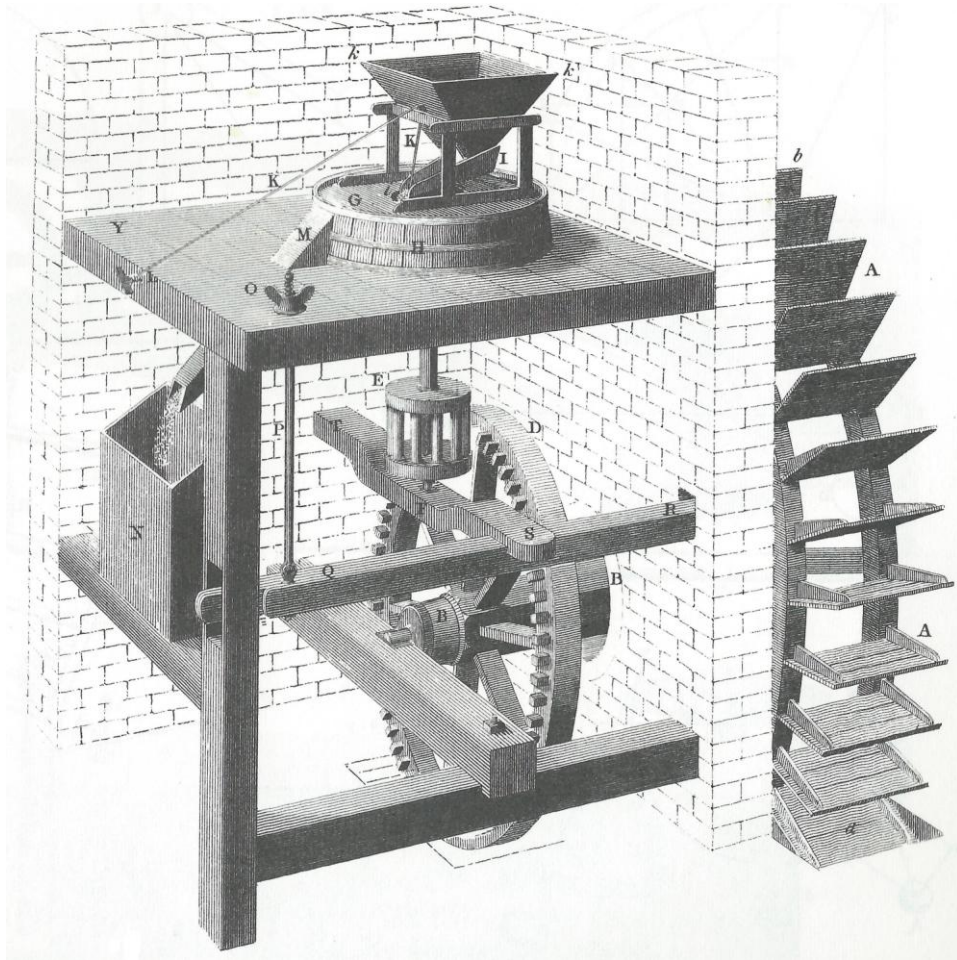


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**MELIN ABERDARON  
CONSERVATION MANAGEMENT PLAN**  
for  
**Geraint Jones**

March 2015

**Govannon Report GC378**

## **MELIN ABERDARON – CONSERVATION MANAGEMENT PLAN**

*Govannon consultancy has been commissioned by Mr Geraint Jones to prepare a first-stage conservation management plan for Melin Aberdaron, Gwynedd (the present document).*

### **1 INTRODUCTION,**

This document is a first-stage conservation management plan (CMP) for Melin Aberdaron, also known as Melin Cefn Nona, a former corn mill located at SH 17364 26472 in the community of Aberdaron, Gwynedd.

A mill on this site is attested in a document of 1777 but it is possible that there was an earlier mill here or nearby. The mill was enlarged in the early and mid-19<sup>th</sup> century and fell out of use in the 1930s.

The mill is owned by Geraint Jones, who has commissioned the CMP. The CMP has been prepared by Dr David Gwyn MCIFA FSA of Govannon consultancy, and was drawn up in March 2015. Dr Gwyn has prepared CMPs for many clients including one for the Cambrian Railways (with Donald Insall Associates) and for historic machinery (Ffestiniog Railway Lilla Group)

### **2 CONSERVATION PRINCIPLES**

#### **Cadw's Conservation Principles**

*Cadw's Conservation Principles for the sustainable management of the historic environment in Wales (2011)* consist of the following:

- Historic assets will be managed to sustain their values
- Understanding the significance of historic assets is vital
- The historic environment is a shared resource
- Everyone will be able to participate in sustaining the historic environment
- Decisions about change must be reasonable, transparent and consistent
- Documenting and learning from decisions is essential.

#### **Legal and planning context**

Melin Aberdaron is listed Grade II as 'Y Felin' (Cadw building ID: 19992). Cadw's guidance states:

Once a building is listed, any works which will change its character will require Listed Building Consent (LBC). Private applicants will need consent from the local planning authority and local authorities will need to apply to the Planning Division of the Welsh Government for consent. If the planning authority considers that consent should be granted, then in most cases the papers are referred to Cadw. Cadw's role is to consider the issues raised by the application and recommend whether it should be 'called in' for consideration by the Welsh Government. In practice, this will be the Planning Division or the Planning Inspectorate. The majority of applications are returned within four weeks to the appropriate local planning authority for it to proceed to determine them.

Some local planning authorities have received a 'delegation' from Cadw to determine consent applications for Grade 2 listed buildings without needing to notify Cadw. These authorities have demonstrated to Cadw that they have at officer level an appropriate and

demonstrable level of professional expertise, underpinned by clear policies and procedures to carry out historic environment duties without the need to refer applications to Cadw. The authorities with Listed Building Consent delegation currently are Carmarthenshire and Monmouthshire.

Listing is not designed to hinder progress. It provides, in effect, a breathing space to allow planners, developers, and special interest groups or individuals the opportunity to consider the historic or architectural importance of a building. It allows an opportunity to explore fully various alternatives for future use, and proposals for alteration or even demolition.

Queries about whether Listed Building Consent is required or on the progress of LBC applications should be directed to the conservation or planning department of the appropriate local planning authority.

The Welsh Government's current guidance on conserving the historic environment is given in *Planning Policy Wales 2014* (<http://gov.wales/docs/desh/publications/140731planning-policy-walesedition-7-en.pdf>).

Melin Aberdaron is situated in a landscape identified in the Cadw/ICOMOS/Countryside Council for Wales sponsored *Register of Landscapes of Outstanding Historic Interest in Wales*, namely Lleyn and Enlli. This is a non-statutory designation but is a material consideration in the planning process.

### **3 UNDERSTANDING THE HERITAGE VALUES AND ASSESSING SIGNIFICANCE**

#### **The Asset – Melin Aberdaron**

Melin Aberdaron is an historic mill building of regional significance as a good example of a small rural mill of the 19<sup>th</sup> century.

#### **Evidential Value of Melin Aberdaron**

The survival of the fabric of at least two significant phases of Melin Aberdaron, one pre-1841, one pre-1889, can potentially inform us about the capacity of a small rural community to construct, maintain and enlarge such a building in the 19<sup>th</sup> century. The survival of parts of the water-wheel, the stones, hoppers and control mechanism and the kiln can potentially inform us as to the capacity of a small rural community to equip and operate a corn mill in the 19<sup>th</sup> century.

#### **Historical value of Melin Aberdaron**

Melin Aberdaron is of regional historic value as a rural corn mill of 19<sup>th</sup> century construction with older, possibly Medieval, origins.

#### **Communal value of Melin Aberdaron**

Melin Aberdaron is a known and appreciated element in the village of Aberdaron, a settlement with strong cultural, religious, literary and historical traditions and which has also attracted visitors to the area since the 19<sup>th</sup> century. It is located adjacent to the road by which most people reach the village, and forms an important part of the 'village-scape'.

### **4 STATEMENT OF SIGNIFICANCE**

Melin Aberdaron is a 19th century water-driven rural corn mill of regional importance surviving in good condition on a site of considerable archaeological potential.

## **5 MANAGING CHANGE TO HISTORIC ASSETS: CONSERVATION PRINCIPLES IN ACTION**

SPAB's Mills Section 'Repair Philosophy' states:

In all repair work it is essential that a mill is not regarded merely as a building but as a machine. While the building often forms an integral part of the machine, it is the mill in its entirety, building and machinery, which is of importance. The true repair of any machine must be to working order, and the Section will pursue this ideal wherever feasible. Many degrees of repair are possible, however, and all are valid if they are undertaken with the primary aim of preserving mills as machines.

SPAB's philosophy emphasises 'the capable custodian' – an informed individual who is aware of the issues surrounding his or her mill and is informed as to the means to address them.

### *Routine management and maintenance*

Routine management and maintenance should be undertaken in a way that preserves as much of the historic fabric for the long-term.

### *Repair*

Holding repairs should be undertaken as a matter of priority on the timber flooring in the mill. Any fundamental repair to the fabric or machinery of Melin Aberdaron should be based on the principles that original components should be retained as much as possible.

### *Periodic renewal*

Millstones require periodic renewal. Traditional burrstones are now difficult to acquire but produce a finer grain, and should be resourced wherever possible.

### *Archaeological intervention*

Archaeological intervention should be guided by the archaeological assessment commissioned by the owner (Govannon consultancy report 378 [2015]: *Melin Aberdaron: Archaeological Assessment*).

### *Restoration*

The mill should be restored as near as possible to its condition at the end of its working life in the 1930s.

Existing building stonework should be retained wherever possible. Replacement stonework should be identified by a shallow drill-hole to metric measurements.

Existing roof-timbers should be retained wherever possible. Replacement timberwork should be of similar material and be identified by a carved date.

Existing roofing-slates should be retained wherever possible. A characteristic of Aberdaron mill is the mixture of poor quality grey Ordovician randoms grouted together and higher quality Arfon purple ('Bangor blue') slates. These distinctions – of size, colour and method of fixing – should be maintained as much as possible in any restoration work.

Machinery within the mill should be restored to working order by accredited millwrights using original components as much as possible. Any new iron components should be identified by date-stamp or in the casting.

If possible, a water-wheel should be constructed on the same pattern as the part-surviving existing water-wheel and installed in the mill by accredited restoration engineers, the spider of the existing wheel being retained and stored. The owner should examine water-rights and water-flow beforehand, and assess their suitability for turning a wheel. Note however, that all-water-powered machines are subject to drought and other interruptions in the supply, and that a water-supply even as consistent as would have been achieved in the 19th century may be beyond the capacity of the owners of Melin Aberdaron. An option is to run an 8" plastic pipe from the water-supply through the mill-pond and the wrought-iron pipe in the mill-dam to a header tank if there is sufficient water to turn a wheel.

In the light of the foregoing, it is worth considering the installation of a small prime-mover within the mill to operate the stones, or as an auxiliary; a replicated water-wheel might be coupled to a generator by belt drive to provide it with a function.

Traditional burr-stones are recommended wherever possible as giving a much finer grain than modern mil-stones; however, this will be subject to availability.

#### *New work and alteration*

Any new work or alteration to the fabric or machinery of Melin Aberdaron should be undertaken through agreement with the local authority Conservation Officer, and be undertaken by an accredited conservation architect and millwright.

Any new work or alteration will be based on the principle that original components should be retained as much as possible.

Any new work or alteration to the fabric or machinery should be recorded and archived.

Any new work or alteration to the fabric or machinery should be undertaken in such a way that, where appropriate, restoration to its earlier condition is possible.

Any new work or alteration to the fabric or machinery should be based on common sense and reason.

#### *Integrating conservation with other interests*

Operating Melin Aberdaron as a visitor experience is likely to pose a series of challenges. These will include (but not necessarily be limited to):

- Ensuring safe access to the confined and hot space of the kiln area
- Prevention of accidents from unfenced machinery
- Rendering the mill-pool and water-supply safe for visitors and pedestrians

Any necessary changes should be undertaken with health and safety as the primary concern but should respect historic character as much as possible, and should be discussed with the Gwynedd Conservation Officer in advance.

#### **SPAB Mills section's Directory of Millwrights states:**

It is expected that all millwrights on the Directory will maintain certain minimum standards with respect to documentation and communication in their commercial relationships with customers (and these expectations have been communicated to the millwrights). These include the following:

- specification of works signed off by both parties
- written quotation based on such specification, which the customer accepts
- drawings (where required) to illustrate proposed work; even if these are not necessarily to professional draughtsman standards, they should be reasonably accurate
- adequate communication to be maintained throughout the period during which work is underway, such that each party is kept informed about project milestones and delivery dates (accepting these will change due to other circumstances, e.g. weather conditions)

<https://www.spab.org.uk/spab-mills-section/millwrights-directory/>

## **6 REVIEWING THE CMP**

This document should be reviewed at five-yearly intervals as work progresses.

## **7 RECOMMENDATIONS**

It is recommended that the owners of Melin Aberdaron:

- Consider restoration of Melin Aberdaron to working order as a business and heritage experience
- Become members of SPAB mills section
- Become members of Cymdeithas Melin
- Explore options for community involvement in the restoration/operation of Melin Aberdaron eg through the establishment of a village trust or through partnership with Ymddiriedolaeth yr Enlli.

## **8 ACKNOWLEDGMENTS**

The author of this document is grateful to John Crompton of Cymdeithas Melin/The Welsh Mills Society for his advice.

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<https://twitter.com/ukmills>

Facebook: SPAB Mills Section

## Appendix 1

### SPAB Mills section Repair Philosophy

**Windmills and watermills are an irreplaceable part of our national heritage. They form a vital part of the traditional landscape and have an important place in the history of industry, engineering and technology, in the development of motive power and the processing of raw materials. In their structure and machinery they represent an enduring quality of craftsmanship. Mills have a unique place in the tangible record of the past and their proper protection, repair and continued working is the sincere objective of the Mills Section.**

The majority of mills have already been lost due to disuse and decay. Many have more recently been destroyed, either by the removal of machinery or by poorly-considered conversion to other uses. Ideally, mills typical of their region or which, through their structure and machinery, illustrate features of historical or technical development, must be the prime candidates for protection and repair. Due mainly to limitations of ownership or finance, however, such a choice is not always available, so other considerations must apply. The aim of the Mills Section is therefore to fight for the conservation and repair of any mill which still retains its machinery.

In all repair work it is essential that a mill is not regarded merely as a building but as a machine. While the building often forms an integral part of the machine, it is the mill in its entirety, building and machinery, which is of importance. The true repair of any machine must be to working order, and the Section will pursue this ideal wherever feasible. Many degrees of repair are possible, however, and all are valid if they are undertaken with the primary aim of preserving mills as machines.

Mills worthy of protection, but which, through limitations of ownership or finance, cannot be repaired fully at the present time must not be abandoned. Holding repairs can be undertaken, often at modest cost, to conserve that which survives, by weatherproofing, and preventing structural failure. Such repairs are vital if more mills are to survive intact. If carried out well, this work can lay the foundation for fuller repairs to be undertaken in the future, when conditions may change and proper support for the continued existence of a mill may be assured.

The aim of repair should be to retain and maintain as much as possible of the existing structure and machinery in order to preserve the historical and technical integrity of each mill. As a general rule, a mill should be repaired to the same appearance as when it last worked, a rule that applies as much to the interior as to the exterior.

Ancillary machinery, engines and buildings, such as the miller's dwelling, kilns, granaries, cart sheds and other related outbuildings, even if comparatively modern, are all part of the history and development of milling and, where options allow, should be retained and repaired in a like manner, alongside the mills they served.

Particular care should be taken to document each mill and site before the commencement and during the progress of the repair works. Original features that relate to the working of a mill should be kept in their correct context, irrespective of whether the mill is to function or not.

Where replacement of any part is deemed necessary, such replacement should be carried out using appropriate and comparable materials and new parts should be faithful copies of the originals. Should no original part survive as a pattern, the design of new parts should be based on all available evidence, to be in keeping with local tradition and practice. Old parts removed and replaced are often worth preserving separately as they may be of historical or technical interest.

Where mills are to work, it is vital to ensure that the machinery is set up to run as smoothly, efficiently and safely as possible. Effective maintenance must follow repairs and a working mill will require regular checks and running adjustments, preferably by a miller, millwright or capable custodian.

The removal of any item of machinery from a mill and the moving of a mill to a new site will normally be opposed by the Section, except where all attempts at on-site protection have failed and the building or machinery is threatened with certain destruction.

In order to function, windmills and watermills depend upon a close relationship with the natural sources of energy from which they derive their power. Ideally, therefore, the space around a windmill should be maintained as clear as possible of buildings and trees, to allow a free flow of wind. Similarly, an uninterrupted water supply is vital to work a waterwheel or water turbine. The maintenance of all watercourses, dams, weirs and ponds, with the provision of access for their repair and management, is therefore of particular concern to the Section.

Many mills and mill sites are having their potential investigated for the production of hydro-power. The philosophy of the Mills Section views this in exactly the same way as any other adaptive re-use. For all listed mills there is a presumption towards the requirement of Listed Building Consent for any hydro-power installation. Irrespective of the status of the mill it is vital that new and modified works are appropriate to their environment. Such works need to be as unobtrusive as possible, or they should be kept separate from the traditional installation. Any scheme that is not in the best interests of conservation, that threatens historic fabric or working parts, is not acceptable. In most cases, however, a compromise in favour of the natural and historic environment can be achieved.

Windmills and watermills are primarily machines, and proposals to convert them to other uses will always be critically examined by the Section. The SPAB was founded in 1877 by William Morris as a direct result of the contemporary spoiling of history, craftsmanship and true function which he witnessed being carried out as 'restoration'. The Mills Section bases its philosophy on over seventy years experience in the protection and repair of mills in many parts of the country, and aims to encourage the sincere and proper repair of mills, to ensure that truly representative examples will survive for future generations to study and enjoy. All such work will raise problems which can only be answered by those with adequate knowledge and experience. Such advice should be sought and considered carefully before any action concerning the future of any mill is taken.



## ***The Mills Section Committee, 1983.***

(revised 2000 and 2004)

### **APPENDIX 2**

#### **Accredited millwrights**

The following millwrights are identified by SPAB. SPAB emphasises that inclusion in this directory is not, in any way, a recommendation. Neither SPAB nor the Mills Section of the SPAB accepts any liability.

#### *Practising millwrights*

**Ian M. Clark**  
ACR Eng Tech MIMechE

Ian Clark Restoration  
1 Railway Cottages, Itchen Abbas, Hampshire SO21 1BA  
Tel: 01962 779495 (mobile 07836 536932)  
Email: [ian@ianclarkrestoration.com](mailto:ian@ianclarkrestoration.com)  
Web: [www.ianclarkrestoration.com](http://www.ianclarkrestoration.com)

Further information on professional experience, including case studies of recent mill work, can be found on Ian Clark Restoration's [website](#).

**Malcolm Cooper**

Carom Water Crafts  
365 Snarlton Lane, Melksham, Wiltshire SN12 7QW  
Tel: 01225 707153  
Email: [carolac71@msn.com](mailto:carolac71@msn.com)

**Dorothea Restorations**

2 Rannoch Road, Bristol BS7 0SB  
Tel: 07834 767516  
Email: [wallisconservation@gmail.com](mailto:wallisconservation@gmail.com)  
Web: [www.dorothearestorations.com](http://www.dorothearestorations.com) and [www.wallisconservation.co.uk](http://www.wallisconservation.co.uk)

Dorothea Restorations can undertake: complete or part restoration of any kind of windmill or watermill; condition surveys, maintenance reports and emergency repairs; millstone dressing; supply of composite millstones. They also stock a few French burr stones, depending on sizes required.

Recent projects include:

Clencher's Mill: restoration of the waterwheel, replication of pentrough and missing bypass sluice; refurbishment of main shaft bearings and renewal of foot and upright shaft bearings.

Houghton Watermill: installation of a refurbished set of French burr millstones and stone crane into the mill and motorising to provide additional flour production due to increased demand.

**David Empringham  
Woodworking**

233 Desborough Avenue, High Wycombe, Bucks HP11 2TW  
Tel: 01494 443271 or 01494 715264 (workshop)

David Empringham Woodworking have a combined experience of 76 years and have worked on both traditional watermills and windmills. They deal with timber frame work, engineering, castings - making patterns both large and small, reassembling and dressing French burr stones, masonry work, and research into social and technological history.

Recent projects include:

Great Haseley Windmill, Oxfordshire: rebuilding all floors; replacing masonry internally and externally together with new lintels; making and fitting new sash windows throughout; rebuilding bolter and drive; making new stone furniture; raking out old cement pointing and repointing whole tower with lime mortar; complete rebuild of cap; making common sails and fan with associated drive mechanism.

Feckenham Watermill, Worcestershire: making patterns to provide rim sections and hib spiders; making oak shaft and fitting cross tail gudgeons and bands

Eastington Watermill, Gloucestershire: making complete set of parts including a pattern for hubs, providing machined steel shaft with shell bearings, and making oak rims and spokes, starts, paddles and sole boards.

**Janes Limited**

The Old Dairy, Holwell, Cranborne, Wimborne, Dorset BH21 5QP  
Tel: 01725 517170

**Paul Kemp**

26 Abbots Drive, Stanford-le-Hope, Essex, SS17 7DG  
Tel: 07973 701584  
Email: [paulkemp77@btinternet.com](mailto:paulkemp77@btinternet.com)

Paul Kemp is experienced in: applying lead flashing, the Belzona Membrane System and various types of paint; producing steelwork and patterns for casting; applying weatherboarding to caps, smock towers and post mill bucks.

Recent projects include:

Fulbourn Windmill, Cambridgeshire: new sail frames, stocks and clamps.

Coleshill Windmill, Buckinghamshire: rebuilding of fanstage and fan; re-boarding of the cap; repairs to the sails and stocks and production of new stock clamps with iron work.

Hawridge Windmill, Cholesbury, Buckinghamshire: repairs to cap frame and cap circle; ongoing work to produce a new fanstage, fan and four new sails.

Further examples of work are available on request.

**Neil Medcalf**

Traditional Millwrights Ltd.  
Home Farm, Alford Road, Farlesthorpe, Alford, Lincolnshire LN13 9PH  
Tel: 01507 463617 (mobile 07958 710378)  
Email: [tradmillwrights@aol.com](mailto:tradmillwrights@aol.com)  
Web: [www.tradmillwrights.co.uk](http://www.tradmillwrights.co.uk)

Traditional Millwrights Ltd was founded by Neil Medcalf in 2002. They have almost 60 years' combined experience repairing and maintaining historic wind and water mills. Many of these mills are working mills, some commercially. This allows them to work closely with experienced millers so understanding how to present mills to the public as well keeping them running smoothly. Specifications for grants undertaken, general advice or in depth consultation carried out. The company works nationwide for a variety of clients including local authorities, English Heritage, Historic Scotland, The National Trust, heritage organisations and private individuals. They have recently restored an empty Mill Tower back to full commercial working order and so have practical experience of all millwrighting work. Customers use the company time and again and are happy to provide references which you are encouraged to take up. Information on latest projects can be found on their [website](#) and [Twitter](#).

**Owlsworth IJP Ltd**

Hampstead Farm, Binfield Heath, Henley on Thames, Oxfordshire RG9 4LG  
Tel: 0118 969 6949  
Email: [info@ijp.co.uk](mailto:info@ijp.co.uk)  
Web: [www.ijp.co.uk](http://www.ijp.co.uk)

Owlsworth IJP work on both windmills and watermills and offer the full spectrum of mill-related work from minor repairs to full conservation projects on working mills and mill machinery plus full condition surveys, including repair specifications for funding applications.

All work is undertaken in-house by highly skilled craftsmen including carpenters, heavy timber framers, blacksmiths, masons and bricklayers. Work can be carried out either on site or in Owlsworth IJP's extensive workshops to include sail manufacture, stone furniture and gear cogging. They also carry out regular maintenance regimes including stone dressing to small mills and commercial outlets.

Recent projects include:

Downfield Windmill, Soham: new sails and stocks; repairs to cap frame; re-cladding cap in traditional Cambridgeshire style; re-instating fan stage and fly frame to original detail.

Shepherd Wheel, Sheffield: complete rebuild of iron waterwheel including main shaft bearings; construction of new timber pentrough, recogging of pitwheel; new bronze shells made to fit existing cast iron bearing chairs for layshafts, repairs to timber belt pulleys and new belts; returned to working order.

Shipton Mill, Gloucestershire: construction of new timber hurst frame to carry two pairs of millstones; electric motors installed with gearboxes and softstart electric invertors; regular stonedressing for commercial milling of Duchy of Cornwall wheat.

**Vincent Pargeter  
(Millwright) Ltd**

101 St. Nazaire Road, Chelmsford, Essex CM1 2EG  
Tel: 01245 265579  
Email: [vincent@vpargeter.orangehome.co.uk](mailto:vincent@vpargeter.orangehome.co.uk)

**Richard M. Seago**

Mill House, Mill Road, South Walsham, Norwich NR13 6DF  
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Conservation**

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Email: [qwconservation@gmail.com](mailto:qwconservation@gmail.com)  
Web: [www.qwconservation.com](http://www.qwconservation.com)

**Martin Watts**

1 Trinity Cottages, Cullompton, Devon EX15 1PE  
Tel: 01884 34676  
Email: [mdcwatts@btinternet.com](mailto:mdcwatts@btinternet.com)

**Tim Whiting**

9 Mayflower Avenue, Saxmundham, Suffolk, IP17 1BU  
Tel: 07773 992438 or 01728 605770  
Email: [twcm@talktalk.net](mailto:twcm@talktalk.net)

*Consultant millwrights*

**Bonwick Milling  
Heritage Consultancy**

Luke Bonwick  
Stoneycroft, West End Road, Bursledon, Southampton, SO31 8BP  
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