

*Friends of*

# Upminster Windmill



Newsletter March 2017

# Friends of Upminster Windmill

is a Charitable Incorporated Organisation (CIO) managing the windmill on behalf of the London Borough of Havering.

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**Vice-Chairman:** Martin Withers

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**Visiting.** The mill remains closed during its restoration, which will last until 2018. The Visitor Centre will open in early summer 2017.



**Diary.**

## ***Coffee afternoons:***

Wednesday 29th March at 2.30pm.

Wednesday 19th April at 2.30 pm.

The first of these in March will take place at the Old Chapel, St. Mary's Lane, and the second in April we hope will be in the new visitor centre at the mill.

These provide a good opportunity to meet volunteers and discuss developments in the restoration project.

**Trip for Volunteers** to visit Shirley Windmill in Croydon on:  
Saturday 25th March at 11am.

Please see Charlotte's report on page 11 for more details.

**Talks.** 24th April and 8th May. Charlotte is arranging various talks, so for a greater explanation of these please see her report on page 11.

## **AGM of the Friends of Upminster Windmill.**

Wednesday 17th May 2017 at 7.30pm.

To be held in the new Visitor Centre, Mill Field, St.Mary's Lane.

## Dennis Reports

In our last edition, I reported on the work underway in our millwright's Dutch workshop to refurbish the cap of the Mill. Since then, Andrew Conway (our volunteer photographic wizard) and myself were able to visit the workshop and see the work at first hand. Nigel Oxley (the Council's Historic Buildings Officer) and Luke Bonwick (our millwright consultant) accompanied us.

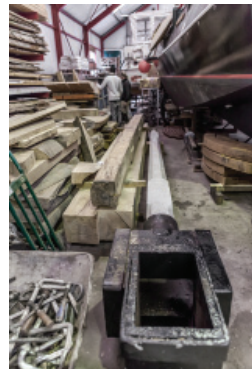
We were all impressed by the quality of the work and the progress made. Image 1 shows Willem (our millwright) working on the frame of the mill's cap. Our large brakewheel, yet to be refurbished, can also be seen.



***1. Cap frame during repair.***

The windshaft has been blast-cleaned, its neck and tail journals have been re-machined, the external parts galvanised and the shaft as a whole redecorated.

***2. Cleaned and renovated windshaft.***





It was not possible to obtain well seasoned elm in wide slabs of sufficient thickness to accommodate the required curvature of the segments of the curb. Each curved segment will therefore be made from two laminates glued and pegged together. Image 3 shows Willem's assistant, Douwe, machining one of the segments. More segments can be seen in the background.

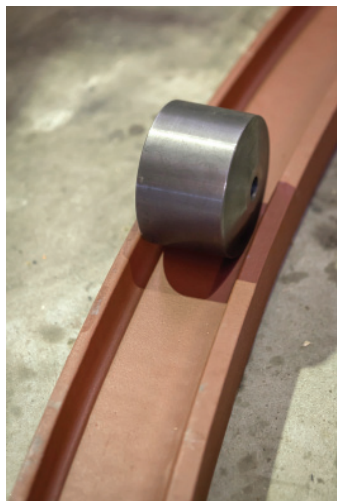


***3. A curb section being machined.***

The metal components of the curb have been repaired or recast and are ready for assembly. The sections of the upper curb channel have been shot-blasted and redecorated and are reusable. The lower curb channel sections were beyond repair and have been replaced. The curb rack (the toothed section) has also been refurbished, together with the nine-toothed drive pinion. The illustration shows a number of curb track



***4. Curb track channels.***



channel castings. One ring of segments will be fixed to the elm curb timbers and a second ring will be fitted to the oak track circle below the underside of the cap frame. Thirty new cap rollers have also been cast. These will sit between the upper and lower curb channels, enabling the cap's rotation. Both the rollers and the track channels have slightly tapered surfaces, recognising the increased diameter of the Mill caused by the width of the track. For each full rotation of the cap, the outside of the roller travels seventeen inches further than the nearside. An example of a cap roller within a lower curb channel is illustrated.

### ***5. Curb channel and roller.***

Other work has included the refurbishment of the metal parts of the fantail driving mechanism. The hub and spindle have been blast-cleaned, spray-galvanised and decorated with two coats of black epoxy paint. The down shaft and reduction gears have been blast-cleaned and redecorated with red lead oxide paint. Some of these parts can be seen in the following illustration.



### ***6. Fantail spindle and hub, and parts of the drive mechanism.***

The new metalwork for the shutters has also been cast and drilling and decorating is now in progress. A set of 576 new bronze thimbles (bushes) has been cast for the patent sails. These will be let into the side members of the sail frames to accommodate the pivot pins of each shutter hinge. A protruding rib on the outside of the thimble ensures it cannot rotate in its timber housing. New pivots (hinges) have also been cast, 288 plain, and 288 with shutter cranks (levers) incorporated, as seen in image 7.

Collectively, the shutter furniture allows the shutters to open and close, adapting the speed of the sails to the strength of the wind. The shutter boards have been made simultaneously by our volunteers (as illustrated on the cover of last December's Newsletter).



***7. Shutter hinges, plain and with levers.***

Meanwhile, work has also been progressing on the site at Upminster. Exposure of the ends of the two beams supporting the first floor showed severe deterioration where the beams were nestled in the brickwork. Willem has constructed four new ends, two of which have been scarfed successfully into position, as shown in image 8.



***8. Scarfed ends of the sheer beams that support the Meal Floor***



Work is also underway on the removal of the external first floor gallery, which image 9 shows is now mostly demolished. A walk around the gallery was once an exciting element of our guided tours but was stopped many years ago when the structure became unsafe.



***9. The reefing gallery. Most has been demolished.***

The Mill looks very sad now, though that is an inevitable phase of the project. Willem expects to fit the remaining beam-ends and finish the demolition of the gallery in April. The following month will see the scaffold erected and the start of the tower repairs.

Our cover picture shows Luke taking careful measurements of some of the Mill's components. The combination of Luke's recording and Andrew's photography enable an accurate historical record to be compiled, while simultaneously enabling Clifford and Jonathan to continue their electronic modelling. Clifford's separate article shows how the data from Luke and Andrew during their visit to Holland has enabled him to draw a wonderful exploded diagram of the parts of the cap-frame.

**Dennis Coombs**

## The Millwrighting Crew reports

In recent weeks the millwrighting volunteers, under the supervision of Paul Kemp, have tackled several tasks. The first was to remove the internal milling machinery that was attached to the main fabric of the mill. This has been completed and the mill is now clear for Willem Dijkstra to undertake the structural repairs.

The major machinery removed comprised the Sack Hoist, Wire Machine and Bolter. Each piece was photographed and carefully measured as to its position within the Mill. The pieces were labelled and are now carefully stored ready for the team to start refurbishment later this year.



***Bolter on the Meal Floor moved away from the wall***

Our second task has been setting up the workshop with new machine tools. Most of these have now been installed and we have started training the team how to use them safely. Comprehensive risk assessments are being carried out and health and safety training is underway. We are itching to start using the new machinery and to start refurbishing the milling machinery.

**John Reed**



## Archaeology and Garden Team

There has been no further archaeology on the site, so our attention has turned to landscaping. We have laid a boundary hedge from the front (south-east) corner of the new building sweeping westward in an arc across the field to meet up with the shed at the rear of the site.

The work required us to mark out and clear a semi-circular strip of land approximately 1.5 metres wide by 50 metres long, digging up turf and clearing tree stumps, roots and loads of ivy. With the ground cleared it then had to be dug over and topsoil added to raise the level to give the planting bed a well-defined profile.

We then added a wire fence along the full length of the bed, stapled to wooden posts set at 1.5 metre intervals.

The following week we planted 200 mixed native hedging plants (holly and hawthorn) on either side of the fence to give a nice double row of plants. Unbelievably, we managed to plant them all in one day.



***Hard graft! The boundary hedge and Visitor Centre garden takes shape.***

We are now concentrating on preparing the ground between the hedge and the new building to create a herbaceous border and lawn. We have also marked an area where we will build a path from the back door of the building down to the shed.

We propose to complete the garden area south of the new building (the St Marys Lane side) first and then work on the remaining parts.

I would like to thank all the volunteers who have helped with this work. It has been hard graft, not always in the best of weather. Without their help, a garden area would not have been possible.

During the spring and summer, as we develop the herbaceous border, there will be opportunities for more volunteers to help with both laying the garden and maintaining it. If you would like to help please contact Charlotte Coombes at [ccoombes@mary.havering.sch.uk](mailto:ccoombes@mary.havering.sch.uk) or 01708 642919



AOC, the archaeology company contracted by Historic England to create a formal record of the site of the former steam mill have now produced their report. This relies heavily on work undertaken by our archaeology volunteers, who were also able to participate in the field work. We will summarise the report in our next newsletter and make the report available through our website.

**Paul Sainsbury**



## Community Engagement - Charlotte reports

I have been in the role of Community Engagement Officer at Upminster Windmill for a few months now and I have really enjoyed this time. I previously worked for Valence House Museum (the local history museum for Barking and Dagenham) so it's a nice change to be developing my knowledge of the history of my own borough Havering.

During this period I have been networking with Havering College, Havering Volunteer Centre and local heritage sites. I held a Discover Me meeting on 22nd February which brought together people from historical sites in Essex

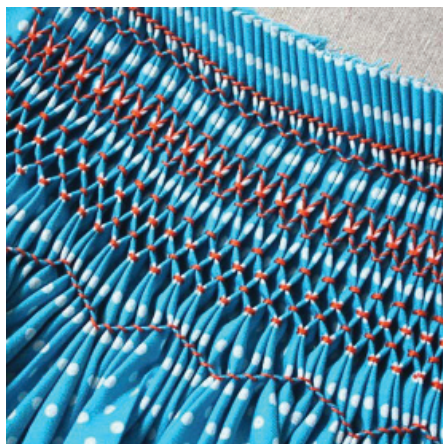
to discuss changes and opportunities in their organisations. This was a good opportunity to update them with the developments of Upminster Windmill and keep it fresh in people's minds.

I have a number of talks planned at associations and clubs and will be speaking at Havering Museums AGM on the 5th June - I have agreed to do a presentation on both the Old Chapel and Upminster Windmill.

Gemma previously organised coffee mornings and I hope to continue to offer them whilst work is underway at the new visitor and education centre. They are a good chance to meet with volunteers (which there are so many of you) and discuss developments. The next Coffee Afternoon will take place at the Old Chapel on Wednesday 29th March at 2:30pm. The following coffee afternoon is scheduled for Wednesday 19th April at 2:30pm.

Another Volunteer trip I have arranged is for a visit to Shirley Windmill in Croydon on Saturday 25th March at 11am. If you are interested in visiting the site please contact me to book: [ccoombes@mary.havering.sch.uk](mailto:ccoombes@mary.havering.sch.uk) or 01708 642919. Could you also let me know whether you are willing to car share?

I have also been working on "Millers Scissors" – a sewing and craft group that can help us in developing interpretation resources. This group will initially be making smocks for display in the Visitor and Education Centre and for school groups to use.



As an introduction to the group I have arranged a talk on Monday 24th April at 10.30am at the Visitor Centre to discuss the potential of Millers Scissors and provide a brief overview of Upminster Windmill's history and restoration project.

Additionally I have booked a workshop for Monday 8th May (timings to follow) to demonstrate how to make a smock and to learn the art of smocking. This workshop requires booking and lunch will be provided so please get in touch to find out more and book your space.

**Charlotte Coombes**

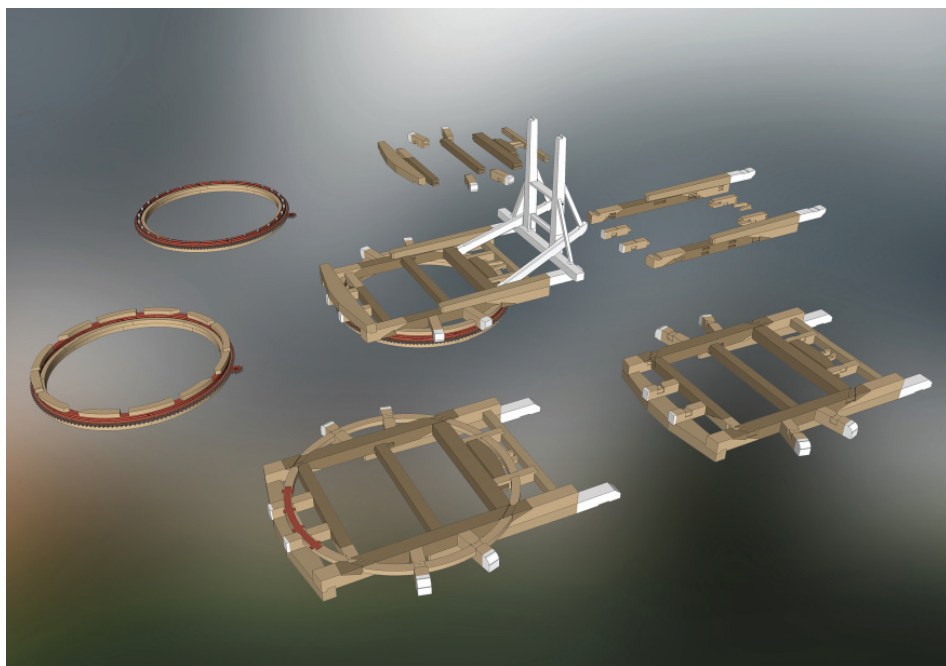


## Recording Our Mill

The restoration work affords a once in 214 year opportunity to record our mill as it has never been possible before. Through the kind cooperation of Willem (our millwright contractor), Luke Bonwick (consultant), Andrew Conway (our wizard pro photographer member), and John Reed with his volunteer millwrights crew, data is being fed back to the 'Backroom Boys', i.e. myself and Jonathan Green, who in turn are interpreting everything in precision 3D graphics.

Many of you will have seen the work by Jonathan and myself, either as simple still graphics, or as interactive 3D models on Sketchfab, or videos on YouTube. In the past we have had to rely upon photos and sketchy details to draw our models, but the restoration data is now providing accurate dimension, many down to millimetre accuracy, and construction details not previously visible.

The recording and accurate drafting is at an early stage, at present concentrating on the cap and fantail, both of which are complex structures. Below is an exploded view taken from the new 3D model being drawn to the dimensions extracted during restoration.



In the image above, the two foreground views of the cap frame have been inverted so you can see the under side.

The model in its present state, complete with annotations, can be viewed at:

[www.sketchfab.com/upminsterwindmill](http://www.sketchfab.com/upminsterwindmill)

I would like to thank all those who are devoting so much time and effort into the painstaking task of accurate recording as the restoration takes place, without which the new drawing work could not take place.



Jonathan Green has continued to refine his photorealistic 3D models, most notably his models *Upminster Windmill in the 1920's*, and *Upminster Windmill Full Model*. Both of these he has annotated, and in the case of the 1920's model the annotations can be used as an aid to take a tour around the mill site.

***The 1920's model of the mill site***



***Model of the full mill***

All our published 3D models continue to be available to view on Sketchfab at the web address above.

**Cliff Featherston**

## Obituaries



*We are very saddened to learn of the deaths of two of our long-standing members, both of whom have been part of the history of the Mill.*

### **Mary Purvis and Jean Weeks**

#### **Mary Purvis**

Mary died in December 2016. She was born at 1 Highview Gardens, which adjoins the mill-site, when the mill was still running. Mary and her family were friends of the Abraham family, owners of the Mill. She customarily spent boxing days with the Abrahams and described how, as a child, the best route to the Mill was to climb the wall and slide down the coal heap.

Our archive contains a report written by Mary recounting a terrific storm that caused the sails to break free after the mill had been vacated and left derelict. Mary contacted Alfred Abraham, by then retired and living in Howard Road, and between them they managed to get the sails back under control.

The Abrahams' family albums include many pictures of the Abraham and Purvis families, including pictures from holidays that Mary enjoyed with Emily Abraham and Reeve Burrell (Alfred's grandson). Mary was a well-known local figure who was modest about her life. She had been a child minder to some famous families and had cared for Elizabeth Taylor's children. Mary remained a keen supporter of our work and made a number of significant donations to our charity.





## **Jean Weeks**

Jean died at the end of November 2016. Her maiden name was Noakes and she was the third great-granddaughter of James Nokes (sic) who built the Mill in 1803. Although Jean was aware of the family history, her discovery that the Mill still existed came about by chance. She returned to Essex to attend an old school reunion in Grays. She bought a local paper which happened to include an article about the Mill, which she learned was opened by the Friends of Upminster Windmill. At her home in Gosport, she remembered that her father's "ditty box" contained a document about the Mill and she contacted us through our website. The document turned out to be the indenture of sale of the Mill, grounds and associated buildings by the Nokes family in 1839. Jean visited the Mill and presented us with the document. It was hung in the Mill for a while but was then lodged in Romford Library for safe-custody and replaced in the Mill by a copy. The document provided a rich stream of historical information. Jean continued as a loyal supporter of our work, making a number of significant financial donations. One of her last actions was to ask her son Simon to make a further donation to us.



*We have offered our condolences to both families.*



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Registered Charity Number 1162180  
Front cover: Luke Bonwick recording details of mill parts.  
Cover photograph by Andrew Conway**