



## THE WENDOVER ARM TRUST WORKING PARTY NEWS

ISSUE 88

December 2011



*A Merry Christmas and a Happy New Year  
to All Our Readers*

### **November Working Party**

This working party saw the final ready-mix pour of the Stage 2 mooring wall. As there is no mooring wall in Stage 3 and the Stage 4 mooring wall is complete there is going to be a long interval before we construct any more reinforced concrete walls.

Bank lining was completed for the first 100 metres and the bed lining completed for the first 80 metres of Stage 2.

The access to the tip near Bridge 4A was improved with an additional access at the Little Tring end including scrub clearance.

### **December Working Party**

This was a working party of mixed tasks, partly of a clearing up nature.

The steel wall formwork was completely stripped down to individual components all of which were cleaned, oiled as necessary and stored away at Little Tring until required next, probably not for two or three years! Tony Bardwell has taken home some pieces of steel formwork that require welding repair

and Eddy Evans is going to service the adjustable feet that are used to level the front of the formwork. Thank you both.

Backfilling to the top of the Stage 2 mooring wall was completed although it will require further filling and trimming off up to the towpath level after the spoil has settled during the winter weather. The backfill spoil was mainly sourced from rough profiling of Stage 2 banks. There is no point in any final profiling of the banks until the Spring as frost and rain will only damage the final profile.

The plastic fencing along the top of the towpath bank in Stage 2 & 3 where work is in progress has suffered from the wind and some minor vandalism so this was repaired.

There has been movement in the timber structure of footbridges 4 & 4A. It was thought that this was due to shrinkage of the European Oak used for these bridges and, sure enough, the main bolts all needed tightening after which the movement disappeared.

Extensive scrub bashing continued along the offside bank of Stage 3 to enable tipping to take place and consolidate before lining reaches this length.

In April 2005 trial trenches were dug at the 100 metre markers to determine the position and depth of the 18" earthenware pipe carrying the water from Wendover under the canal bed. At that time several of the exposed pipes had longitudinal cracks along the crown of the pipe. Although the pipe generally runs on the offside of the canal, a year or two back an unknown manhole was found at the foot of the towpath bank at chainage 3622. We knew that at chainages 3500 and 3600 the pipe was on the offside at these points so it was decided to dig additional trial trenches to determine the exact route of the pipe in this area. To pipe cap where the pipe crosses the bed of the canal means cutting off access to the Drayton Beauchamp end and has to be carefully timed.

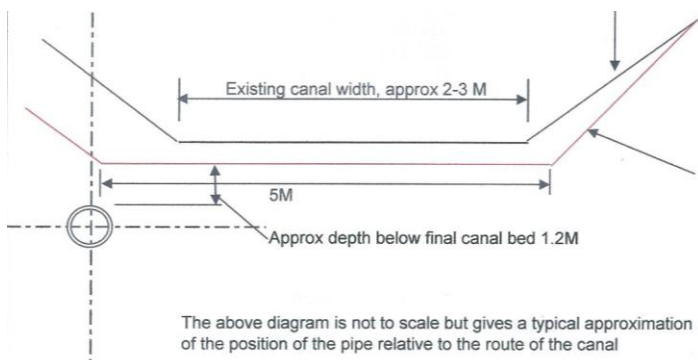
This investigation was successfully completed and it demonstrated the deterioration in the pipe after 100 years as shown below:



Peter Bird

### TYPICAL LONGITUDINAL CRACK IN THE 18" PIPE

The state of the pipe also explains why BW gave the Trust £200,000 towards restoration of the canal back to normal water level in lieu of the essential maintenance cost of renewing the pipeline.



Ray Orth

It should be noted that the pipe shown in the photograph is under the offside bank clear of any restoration activities as shown in the cross section above that records the results of this month's investigations.

The cross-section, that shows the excavation for the new lining in red, indicates how much it is necessary to cut into the offside bank to cap the pipe trench. This involves a great deal of excavation and subsequent backfill that then has to be left to consolidate before bank lining can progress.

## January Working Party

It is difficult to be precise about our activities next month as the weather is unpredictable. One thing we are going to try and avoid is mechanical plant traffic over the completed rough excavation of Stages 2& 3. We do not want to churn it up with crawler tracks leaving rough terrain in the Spring when we hope to start profiling and lining again.

One job commenced this month was the removal of the bulge in the bank opposite what was once the outlet culverts for water pumped up from Wilstone Reservoir by the Newcomen steam engine at Whitehouses. The bulge has a rough dry brick lining and was presumably there to prevent erosion of the towpath bank from the flow of pumped water from the culverts, something that will not happen again as all pumping from Wilstone was transferred to Tringford Pumping Station in the early 1800s. The bricks are being carefully recovered and stored for use in the renovation works at Whitehouses.

There is also plenty of scrub bashing required along both banks to ensure that the present scrub does not take over the banks again prior to re-lining. There is also the need to clear an area adjacent to Whitehouses to act as a storage area for the renovation works.

If the weather is kind, but the canal bed too wet and muddy for mechanical plant, there is plenty of Bentomat to cut into 4 metre and 20 metre lengths for next year's lining work.

## February Working Party

This will probably be a continuation of the January working party. We also have the WRG ESSEX group coming on the Saturday and Sunday.

## Ford Transit Tipper Lorry

Work is progressing on the refurbishment of the tipper. The sides, end, mudguards and H frame have now all been grit blasted and powder coated in black. Unfortunately the main body of the tipper would not fit into the oven for powder coating, but it has been grit blasted and in the capable hands of Eddy Evans for hand painting. We are very grateful to Ray Orth and his 'on-call' working parties who have travelled to Eddy's place at Wooburn Green to lift the body on and off and especially to Eddy Evans.

Eddy has welded new steel on the body and sides where rust had penetrated through the metal, and is also hand painting the body with black Hammerite.

## **Whitehouses**

We have been concerned for some while over the problem of how the future BW operational needs for water control at Whitehouses will fit in with the restoration works. The Trust and KESCRG (the latter have offered to take on the Trust's part of the work at Whitehouses) had a very constructive meeting with BW engineers in November.

As a result of this meeting, and further discussions Ray Orth and I had with BW engineers, the following programme of works was agreed.

The present manhole on the pipeline at Whitehouses, with a paddle outlet to the old pumping shaft is used to transfer water into Wilstone Reservoir. It requires to be cleaned and capped before re-lining takes place. The Canal and River Trust (CART) 2012/2013 programme of work will include the construction of a new manhole and sluice control on the pipe from the present manhole to the pumping shaft sited clear of the new canal profile. Once this is complete the present manhole will be capped and the paddle gear removed as part of the restoration re-lining.

The paddle and culvert that was once used to let water down from the canal into the pumping shaft will be reinstated using the paddle gear from the present manhole in conjunction with the re-lining and reconstruction of the wharf wall. The original nuts and bolts for the former paddle are still on top of the wharf wall! This will provide the means to drain the pound between the stop planks at Drayton Beauchamp bridge and the stop planks at Bridge 4. The construction of the narrows at Bridge 4 included the installation of metal stop plank grooves.

The initial exploration of the site by KESCRG exposed what was probably a settling tank connected to the 3 culverts leading into the canal at one end, and to a culvert leading into the old pumping shaft at the other end. Across the centre of the tank is the base of a weir, it was probably adjustable in height. This would have controlled water pumped up from Wilstone Reservoir into the canal with solids settling behind the weir.

Alternatively, in times of excess water, the water from the canal would have flowed in the reverse direction, the weir preventing solids entering the pumping shaft.

As the original Newcomen steam pumping engine was replaced by Little Tringford Pumping Station early in the 1800's there is no question of water being pumped up from Wilstone Reservoir into the canal at Whitehouses any more.

However, there is still the need to divert water from Wendover into Wilstone Reservoir at Whitehouses, and it is proposed to do this by allowing canal water to enter the settling tank via the 3 culverts and flow into the pumping shaft using the adjustable level weir that will require to be rebuilt with removable weir boards. BW also requires a sluice in the weir so that water can be let down the shaft through the sluice if required.

KESCRG will be undertaking the restoration of the wharf wall and the settling tank as part of their project. It is intended as part of the works to install a walkway over the settling tank as both a safety measure and to enable visitors to view the water control arrangements.

In examining the site BW expressed concern over the roots of the prunus tree that dominates the site at present.



Margaret Leishman

### **THE PRUNUS TREE AT WHITEHOUSES**

The pipe from the present manhole on the 18" pipeline to the pumping shaft lies between the prunus tree and the settling tank. Substantial roots from the tree are already intruding into the settling tank.

Prunus trees are not known for longevity, they have a limited life span of up to about 80 years.

In case it becomes essential to remove the tree, something we hope will not happen yet, Margaret Leishman has taken some hardwood cuttings in the hope that these will take and enable us to replace the tree in a more suitable location with an original off-shoot in the future. As a member of the RHS, Margaret has since contacted their members' advisory service and they say that the only easy way to get a true replica of the original is to take a hardwood cutting during the winter, and has sent her detailed instructions. Margaret is going to take further cuttings based on this advice.

### **The Future of the Pipeline**

During meetings with the engineers, BW expressed concern over the amount of water they were losing due to the leaky pipeline. At present the loss between Whitehouses and Tringford Reservoir is so great that they are diverting all the water at Whitehouses into Wilstone Reservoir. However, there is still leakage between the sump at Drayton Beauchamp and Whitehouses. BW would like to divert the water via the restored canal from Drayton Beauchamp to Whitehouses as soon as possible and to achieve this the following actions need to be taken:

- The Trust needs to complete the re-lining as far as a bund in the narrows of Bridge 4.
- This requires the water control works at Whitehouses to be completed. BW/CART will build the new manhole and sluice for controlling the water from the pipeline to the pumping shaft. Our Trust, with the help of KESCRG, will carry out the works on the wharf wall and the settling tank to BW/CART's specification.
- To weir water into the pumping shaft at Whitehouses requires raising the water level from Wendover to Tring summit level. Before the level is permanently raised, stop planks are required at Drayton Beauchamp Bridge to raise the water level incrementally and identify weak points in the banks between Drayton Beauchamp and Wendover.

- BW/CART will then investigate potential weaknesses in the banks and carry out essential maintenance work to cure any problems.
- The sump at Drayton Beauchamp will require sealing and this will leave the 18" pipe as a land drain beneath the canal to relieve any potential hydraulic pressure below the waterproof lining. It will drain into Tringford Reservoir as now.

To complete the relining to Bridge 4 requires 400 metres of pipe capping and 800 metres of re-lining to be completed. At the present rate of progress and weather permitting, this work is likely to take three to four years, i.e. completion in 2015. The estimated cost of this work is within the current reserves of the Trust so raising funds will not delay completion of this work.

### **General Notes.**

All volunteers receive and sign for the Trust's Restoration Handbook that includes full Health and Safety requirements for the restoration works.

The handbook is the property of the Trust; if you leave the working parties for any reason, please return your Handbook to either Ray Orth or myself.

Hard hats for use at all times and high visibility jackets to be worn on sites with mobile plant in use are kept in the store at Tringford and must be drawn/returned there.

One first aid kit is kept in the store, one in the Transit tipper and two are available for up to two working sites.

Also available in the store at Tringford are ear defenders and goggles that must be worn when using trimmers, angle grinders, concrete breakers and the like. BW will supply hard hats, gloves and footwear with reinforced toecaps on request. We normally work from 9am to 5pm (or dark if earlier!).

There are breaks for morning tea/coffee, packed lunch and afternoon tea/coffee. We take our own food and drink.

## DATES FOR WORKING PARTIES

So you can plan your diary ahead, the following are the dates of future working parties for 2012:

DATE	WORKING AT	WORK TO BE DONE
<b>2012</b>		
Friday 6 <sup>th</sup> January to Thursday 12 <sup>th</sup> January	Stage 2	Bed and bank lining. If the weather is bad or we have spare volunteers it is intended to scrub bash banks between bridges 4 and 4A
Friday 3 <sup>rd</sup> February to Thursday 9 <sup>th</sup> February	Stage 2	Bed and bank lining. If the weather is bad or we have spare volunteers it is intended to scrub bash banks between bridges 4 and 4A
Friday 2 <sup>nd</sup> March to Thursday 8 <sup>th</sup> March	Stage 2	Bed and bank lining. If the weather is bad or we have spare volunteers it is intended to scrub bash banks between bridges 4 and 4A
Friday 30 <sup>th</sup> March to Thursday 5 <sup>th</sup> April	Stage 2	Bed and bank lining. If the weather is bad or we have spare volunteers it is intended to scrub bash banks between bridges 4 and 4A <b>PLEASE NOTE THAT THIS BREAKS OUR FIRST SATURDAY IN THE MONTH RULE SO AS TO AVOID THE EASTER WEEKEND</b>
Saturday 21 <sup>st</sup> to Sunday 22 <sup>nd</sup> April	Stage 2	<b>A WRG/BITM ONLY WEEKEND – VOLUNTEERS TO SUPERVISE FOR H&amp;S ARE NEEDED FROM WAT</b>
Friday 4 <sup>th</sup> May to Thursday 10 <sup>th</sup> May	Stage 2 WAT Whitehouses KESCRG	Bed and bank lining Preparation work for wharf wall and settling tank renovation <b>KESCRG WILL BE JOINING US OVER THE WEEKEND</b>
Thursday 31 <sup>st</sup> May	Festival at Box Moor	Erecting Heras fencing and general works
Friday 1 <sup>st</sup> June to Tuesday 5 <sup>th</sup> June	Festival at Box Moor	General preparation and attendance at the Festival on an individual basis. There will be a roster of restoration volunteers over the three days of the Festival, Sunday to Tuesday to man the restoration stand.
Wednesday 6 <sup>th</sup> June	Festival at Box Moor	Dismantling Heras fencing and general works
Friday 6 <sup>th</sup> July to Thursday 12 <sup>th</sup> July	Stage 2	Bed and bank lining.
Saturday 14 <sup>th</sup> July 9pm) to Friday 20 <sup>th</sup> July	Whitehouses	Wharf wall and settling tank renovation <b>A KESCRG ONLY WEEK – VOLUNTEERS TO SUPERVISE FOR H&amp;S ARE NEEDED FROM WAT</b>
Saturday 4 <sup>th</sup> August to Sunday 12 <sup>th</sup> August	Stage 2	Bed and bank lining. <b>OUR USUAL AUGUST LONG WEEK.</b>
Friday 31 <sup>st</sup> August to Thursday 6 <sup>th</sup> September	Stage 2/3	Bed and bank lining.
Friday 5 <sup>th</sup> October to Thursday 11 <sup>th</sup> October	Stage 2/3	Bed and bank lining.
Friday 2 <sup>nd</sup> November to Thursday 8 <sup>th</sup> November	Stage 2/3	Bed and bank lining.
Friday 30 <sup>th</sup> November to Thursday 6 <sup>th</sup> December	Stage 2/3	Bed and bank lining.

Roger Leishman, Restoration Director. 7 Hall Park, Berkhamsted, Herts HP4 2NU.  
(Tel:01442 874536, e-mail [rleishman@ukgateway.net](mailto:rleishman@ukgateway.net))

