Wendover Arm Trust

Operations Report 26 August 2021

Website: - https://wendoverarmtrust.co.uk/

Summary

A very busy two weeks! Plenty of volunteer support and no problems with personal spacing for COVID 19 avoidance and no reported accidents or incidents.

We did have a puzzling event with a surprising finding at the end of it, see later!

First Aid

Several volunteers have been on a first aid training course. One of the outcomes from the discussions during the course was that we should have a mobile first aid point that contains the basic first aid equipment and the Defibrillator. A three-legged mobile cupboard has been made that can be stored away each night and placed near to the work area each day.

This month's mystery finding

Here is what we found. What is it?

Swing Bridge walls at Bridge 4

Having now finished the brick work on the towpath side, "all we have to do" is make a mirrored version on the offside. The existing structure condition was found to be very poor and most of the work done was demolishing the brick work and excavating down behind the bricks to give a clear working area. Rebuilding can now begin.

The new joining wall can just be seen towards the bridge. The remaining bricks are structurally sound. Not much left is there?

Fencing and pedestrian separation

We had a new toy to play with! After our recent break in where the gate was damaged, it was decided to rebuild, with the gates and the foot path from the road to the towpath in a new position. One reason was to assist large vehicles to enter and leave the site, and the other to make sure pedestrians using the towpath are kept separate from the various machines being used on site. The associated fencing was started.

Welfare hut moved

This hut was purchased to be a welfare unit at the start of the Covid pandemic. Now that most of the future work is focused on the other end of the site, the hut has now been emptied and moved to the car park and sited next to the reinforced hut 1. The hut will also be reinforced to slow down the pilferers and thieves that seem to be always watching us.

At the same time the area of land on the offside of bridge 4 has been opened to the public and allows people to wander down through the wildflower meadow and newly planted saplings to view the Whitehouses structure.

Bank profiling and lining

The main aim for this month was to get the Bentomat handling fixture (Bentomatic) on to a 13-tonne excavator and use it and thus make sure there were no more snags. (There were!).

To prepare for this a 40m long section on the towpath side, starting at bridge 4, was profiled at 45 degrees.

When it was time to affix the Bentomatic to the excavator it was found that this one did not have a hydraulic hitch override. The machine we had last month did and we thought all similar machines would be the same. To cut a long story in half, this meant that although we could open the hydraulic hitch (and attach the Bentomatic) by the normal method of "crowding" then opening the "bucket" hitch, it would be impossible to do that to remove the Bentomatic because the full bucket hitch motion cannot be achieved with the Bentomatic in place on the hitch. Even if the hydraulics were "bled" by cracking a hose connection the hitch springs would still be too strong to move with hand tools.

Oh well, we now know to ask for a machine with the override facility. To make sure we can use the Bentomatic on any 13t machine in future, we have now designed an "adapter" to go between the machine hitch and Bentomatic coupling.

Concrete pipe capping and Roadway

Excavation continued, following the "trench" infill that resulted from the pipeline being installed under the bed at the turn of the century. The concrete layer is 150mm thick and reinforced with steel "rebar" sheets. We have chosen to make it wider than strictly needed to just protect the Bentomat liner should the pipe ever collapse in future. This will allow the machines to run on a concrete "road" and thus avoid all the issues with mud churning and subsequent Volunteer risks. It also allows the dumpers to run inside of the wooden formers to get the concrete to where it is needed when casting the road.

The dumper driver can't see where the former boards are and is guided with hand signals. (Or maybe he's been sent off?)

This all went well until the line of the trench “disappeared”. We think the trench was originally dug by use of a steam shovel or similar equipment due to the regularity of the trench and the depth (2.5m down). It would have been unlikely that the pipe team would have also wanted to dig down through the bank and make the job harder. The clay pipe with mortar joints also didn’t lend itself to sharp bends so where did the pipe run?

We also found that the old Coal Tar lining was intact across the bed, the coal tar being put there long before the pipeline.

The coal tar was intact and quite thick right across the bed

Faced with this puzzle we went to the only place where we knew the pipeline would be and that was the next lamp hole (inspection pipe) about 30m away. We started excavating around the vertical lamp hole pipe and eventually found signs of the trench on one side of the pipe. Further digging towards our work area showed that the trench soon disappeared. How could this be?
Further delving (some 3m down) was enough to find the top of the pipeline and we could now see which direction it was running which turned out to be straight down the canal and nowhere near the banks!
Yet more excavation showed an opening that looked like a cave entrance. But it wasn’t. We found that excavating with the 13-tonne machine was difficult due to the very hard (almost like limestone) chalk layers. It would seen the team 100 years ago also found it so difficult to carve through, that they decide to tunnel under the rock!

A closeup shot of the tunnel entrance, there wasn't much room in there for the pipe and a person doing the mortar joints! (This picture was brightened to let you see further into the tunnel)

If you go back to the very first picture you may be able to see the top of the pipeline and the light brown raised mortar joints. It must have been very risky for someone to hand dig some 30 m under the rock especially as what appeared to be a softer or more easily dug layer was more likely to drop from the roof.
Since we now know there is no trench to follow in this section, and the Bentomat will be safe from damage due to the layer of rock forming the tunnel being some 2m thick, we decided that the pipe capping could run down the centre of the bed away from the pipe position.
The hole was filled in for safety reasons.
Back to the concreting. This continued as far as we could get in the time available, and we have now got to 452 m from bridge 4.

Bed excavation continued for next month's concreting, and that included the lamp hole vertical pipe area as well. A section of pipe was removed intact and will be kept as the only large section of pipeline to have been salvaged. It is currently being carefully stored and will become an exhibit at Whitehouses for everyone to see.

Tony Bardwell, Operations Director, Wendover Canal Trust