

**WENDOVER CANAL TRUST**

**METHOD STATEMENT**

**FOR**

**Rewatering between Bridge 4 and Bridge 4a**

**[www.wendoverarmtrust.co.uk](https://wendoverarmtrust.co.uk/)**

**Registered Charity No. 801190**

**Document Location**

The editable version of this document is held by the Wendover Canal Trust Operations Director. It is available to all members of the Wendover Canal Trust and the public via the Wendover Canal Trust’s website:

[www.wendoverarmtrust.co.uk](https://wendoverarmtrust.co.uk/)

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**Revision History**

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| **Issue** | **Date** | **Author** | **Summary of changes** |
| Issue 2 | Nov 23rd 2021 | A. Bardwell | Issue 2 minor updates |

1. **Description**

1.1 Description of section between bridges 4 and 4a

The section of the canal between Bridges 4 and 4a has been restored and is to rewatered. Most of the section has been lined with Bentomat with concrete blocks and 300mm of soil above the blocks to aid the waterproofing. Other sections have a cast concrete wall such as: -the mooring wall near to bridge 4, the bridge 4 abutments and the abutments at bridge 4a. Other walls such as the Whitehouses sluice structure are lime mortar laid, brick faced, concrete blocks.

At bridge 4 a set of stop planks has been installed, the design of which was guided by the CRT stop plank design software.

At bridge 4a there is Bentomat covered soil bund that prevents the water on the other side of the bridge from flowing through.

1.2 Description of the section from the Drayton Beauchamp (Drayton) pipeline inlet to Bridge 4a.

This section has already been filled with water. This water is replenished, when leakage and evaporation occur, by a plastic pipe that bypasses the bund at the start of the pipeline at Drayton bridge. Therefore, the level of the water in the re-watered, but static, section is the same as the level at the entrance to the pipeline.

The water that flows into the pipeline via a grill, runs under the canal bed to the Whitehouses sluice where it drops down the old steam engine shaft and thence runs through a culvert to Wilstone reservoir.

Two temporary bunds exist between the Drayton pipeline entrance bund and bridge 4a. Each of these bunds were breached several years ago to allow water to reach the bund at Bridge 4a.

The pipeline entrance can be blocked with temporary wooden boards to control the canal depth back to Wendover.

The plastic bund bypass pipe can be blocked to stop water flowing into the section from Drayton to bridge 4a.

1.3 Whitehouses

This structure originally formed part of the steam engine pumping station that has long been demolished. The water control part has been fully restored and will form an important part of the water level control as and when the Drayton pipeline is made redundant. The main features are the three arches which allow water to reach a water level control weir board and a settling tank before the water drops into the steam engine shaft and thence into Wilstone reservoir.

There is also a sluice built into the structure which would allow the whole section (bridge 4a to bridge 4) to be drained via a separate pipe into the old pumping shaft and thence to Wilstone reservoir, if required, in case of emergency or maintenance.

1. **Approvals**

2.1Canal and River Trust Approvals

The Canal and River trust has approved the “as built drawings” and has made many site visits whilst the work was caried out.

A further site visit was made to record the “as built “structures and audit the build quality.

Subsequently a report was issued by CRT that they were satisfied with the whole section and re-watering could begin.

1. **Re-Watering process**

**3.1** Principles of the rewatering process

The Canal and River Trust (CRT) has appointed a liaison Engineer/Hydrologist (Mike Wheeler) to advise, guide, and oversee the rewatering process.

Before rewatering is started the stop planks are to be sealed or otherwise suitably waterproofed with sealers such as Bentonitepaste.

* A gauge board (supplied by CRT) shall be fitted by Wendover Canal Trust (WCT) to the wing wall at Whitehouses sluices (right-hand side when facing the sluices) such that the zero is at 119.09m AOD before rewatering commences. The gauge board zero is to be set at 0.370m down from the top of the coping, this will then show the water level relative to the Tring Summit control weir crest.
* A suitable water level mark shall be applied to the Bridge 4a, Drayton end, abutments. This will be placed to show the water level at the current time. (Note: the water level at Whitehouses apron is likely to be lower than the water level between Drayton and Bridge 4a)
* A CRT ‘topological’ survey confirmed the level supplied by WCT that the Whitehouses brick apron is at 118.29m AOD and Tring Summit control weir height at 119.09m AOD.
* The timing of the filling has been agreed with to CRT begin after 19th November 2021 to ensure adequate supply of water.
* Rewatering may be suspended at short notice by CRT if there are any unforeseen operational issues.
* WCT may request that the rewatering process is stopped or delayed or that the water is let down to Wilstone reservoir via the Whitehouses paddle should the stop planks at Bridge 4 have serious leakage that cannot be rectified with normal CRT approved sealing methods.
* A windlass handle suitable for use on the Whitehouse sluice mechanism is to be stored adjacent to the sluice and to be available at all times for emergency use.
* The section between Bridge 4a and Bridge 4 will be filled initially to the level of the brick apron at 118.29m AOD.
* Filling is to be achieved by breaching the bund by using hand tools and a sharp knife to cut through the Bentomat embedded in the bund at bridge 4a and providing a suitable board and seating on the bund to be able to stop the water flow at any time. (see Health and safety instructions).
* When the water level is at 118.29m AOD (top of Whitehouses apron) the Bridge 4a bund is to be sealed with the board.
* Once filled to the target level at Whitehouses and the sealing board at Bridge 4a is in place, the plastic **bypass** pipe at Drayton will be bunged to isolate the rewatered section between Drayton and Bridge 4a.
* Note: It is important that the entrance to the pipeline under the canal bed is NOT closed off, boarded up or otherwise interfered with unless under direct instruction and control from CRT.
* WCT shall record the water level in the section between bridge 4 and 4a against the gauge board on a weekly basis. WCT will also record the water level between Drayton and Bridge 4a (compared to the water level mark applied to the Bridge 4a abutment). The recorded readings shall be supplied weekly to CRT (Mike Wheeler).
* Once CRT are satisfied with regards to the watertightness of the section between Drayton and Bridge 4a, the bung will be removed from the plastic bypass pipe at Drayton.
* Once CRT are satisfied with regards to the watertightness of the section between Bridges 4 and 4a the sealing board at bridge 4a will be removed to allow the water level to rise above the brick apron at Whitehouses.
* WCT will carry out a daily water level check at Whitehouses until the water level reaches and overspills (if it does, depending on the water level at Drayton) the weir structures behind the three arches.
* WCT will carry out daily checks for leakage at the Bridge 4 stop plank and if significant leakage is observed then CRT approved leak stop methods will be used.
* A low-level concrete block bund/sump will be created on the Tring side of the Bridge 4 stop planks to aid water pumping if that is required due to excess leakage.
* Weir height adjustment (if any) at Whitehouses will be the sole responsibility of CRT.

1. **Health and safety**

4.1 The health and safety measures described in the WCT H and S document suite (on the Wendover Canal Website) will apply to the whole operation. In addition, a new document (WAT PROC 006) covers the Monitoring and risk assessment and covers working near or over deep water. Alternatively, the Health and Safety measures prescribed by CRT can be adopted.

We are not expecting the risk assessment and procedures relating to COVID 19 (WATRA 17) to be affected

Tony Bardwell

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