

Engineer's report on the state of the waterworks at Warwick, 1781

CR26/1/5/27

The Document of the Month for September is this report made by engineer John Stead on the state of an old mill and water engine in the town of Warwick, dated the 8th August 1781. The collection CR26 comprises manuscripts of the Fisher, Puckering, Wise and Waller families between the 12th and 19th century.

Report of John Stead Engineer on the State of an
Old Mill or Water Engine near the Town of Warwick as also for
a new Mill proposed to be erected for the purpose of Grinding
Corn - From a Survey taken the 13th of 8th Mo: 1781

Upon examining the present Mill or Engine as also the
Mill House, I find they are in a very ruinous State; so as
not to admit of repair divers of the Materials have been
removed from the premises & what remains is much
decayed also viewed the Dam Head & Water Course which
I find to be out of Repair in sundry places

The Supply of Water is about Two Thousand seven
hundred Hogsheads in twenty four hours which with the
present State of Eighteen Feet, is sufficient to grind and
dressed six Bushels of Wheat, but from the information I have had
of the increase of Water, I believe that the average Work
which may be done by that Stream applied to a proper
Mill will be twelve Bushels off Day - I suppose in
Winter it may generally be capable of doing twice that
Quantity - For effecting the above purpose, I recommend
that the present Mill and House be wholly taken down
and the new Mill to be erected on the same Ground

The Water Wheel to be Eighteen Feet Diameter, to work one
pair of French Stones of four feet Diameter and one
Dressing Mill

The Expence in Workmanship and Materials of all
kinds for such an Operation consist as also repairing the
Dam head and Water Course will amount Two hundred
pounds - the Undertaker having the old Materials near on
the premises

John Stead
Birmingham 30th of 8th Mo: 1781

Richard Walford of Bull Street offers to undertake the Work

Engineer's report, Warwickshire County Record Office, CR26/1/5/27

The report by Stead describes the 'very ruinous state' of the mill and 'recommends
That the present Mill and House be wholly taken down And the new Mill to be

erected on the same ground' ¹. He specifies the need for the new waterwheel to be 18 feet in diameter to enable it to grind 12 bushels of wheat per day, which he believed would double during the winter. He estimates that the workmanship, materials and repair of the Dam head and water courses would cost around £200, or £17,220.90 in today's money².

Stead mentions in his report that the mill in its current state had a supply of water measuring around 2700 hogsheads in 24 hours. He calculated that, with the present fall of water at around 18 feet, this was sufficient to grind and dress 6 bushels of wheat, so half of what he was proposing the new mill should do³. A hogshead is a flexible unit of measurement which varied depending on the type of commodity being measured. The University of Nottingham Manuscripts and Special Collections website has a useful guide to weights and measures including Hogs Heads⁴.

According to research by John Brace for the Warwickshire Industrial Archaeology Society, the mill mentioned in this document was located on the corner of Priory Road and The Butts in Warwick. A previous mill, located on Sheep Street, now Northgate Street, had already been demolished and turned into dwellings by the time of Stead's report⁵.

Watermills

A water mill (also spelt as watermill) is a mill which uses hydropower in the production of goods such as flour, paper and textiles. In Warwick it was used to grind wheat.

There are basically 2 types of watermills. The first is powered by a vertical waterwheel, and the second by a horizontal waterwheel. The vertical type also uses a gear mechanism, whereas the horizontal one does not. The vertical type of watermill can be further subdivided dependant on where the water hits the wheel paddles⁶.

¹ Engineer's report on the state of the waterworks at Warwick, Warwickshire County Record Office, CR26/1/5/27.

² Converted using The National Archives Currency Converter, <https://www.nationalarchives.gov.uk/currency-converter/#currency-result> (accessed 11/08/2023).

³ Engineer's report on the state of the waterworks at Warwick, Warwickshire County Record Office, CR26/1/5/27.

⁴ University of Nottingham, *Volumes or Capacity*, <https://www.nottingham.ac.uk/manuscriptsandspecialcollections/researchguidance/weightsandmeasures/volumes.aspx> (accessed 11/0/2023).

⁵ John Brace, *The Warwick Waterhouses*, Warwickshire Industrial Archaeological Society, 1996, <http://www.warwickshireias.org/wordpress/wp-content/uploads/2020/02/Warwick-Waterhouses.pdf> (accessed 11/08/2023).

⁶ Information gathered from *Watermill*, Wikipedia, <https://en.wikipedia.org/wiki/Watermill>, accessed 11/08/2023.