

CPAT Report No 1102

Caergwrle Weir, Wrexham

SURVEY AND RECORDING



THE CLWYD-POWYS ARCHAEOLOGICAL TRUST

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SURVEY AND RECORDING

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Report for Hyder Consulting and the Environment Agency

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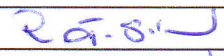
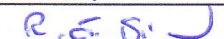
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1 INTRODUCTION

- 1.1 The Field Services Section of the Clwyd-Powys Archaeological Trust was invited by Hyder Consulting, on behalf of the Environment Agency, to undertake a programme of survey and recording on the site of a former mill weir and sluices, at Caergwrle in Wrexham (SJ 30978 57411). The work was in connection with proposed modifications to the weir to improve fish passage for salmon and other species.
- 1.2 The weir is sited on the River Alyn, to the south of the bridge carrying the A550 (Fig. 1). A site visit was made on 23 May 2011 to record the weir and fish pass prior to the commencement of works.

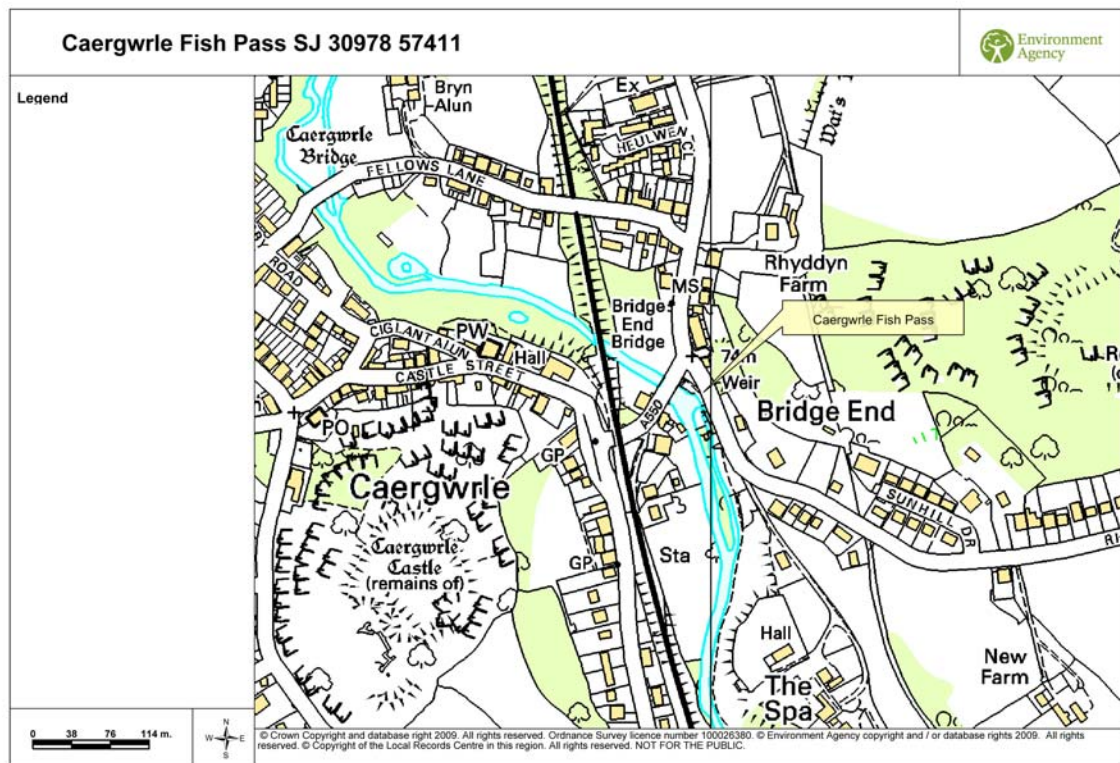


Fig. 1 Location of Caergwrle Weir

2 HISTORICAL BACKGROUND

- 2.1 It is thought that the mill (PRN 103823) may date from around 1800, driven by water from the River Alyn. In 1852 the old wooden machinery was replaced with new metal workings. The mill and weir are depicted on the Ordnance Survey 1st edition 25" map of 1880 and subsequently on the 2nd edition map of 1889 (Fig. 2), by which time a bypass sluice had been constructed to the west of the mill leat. The mill was known as Caergwrle, or Bookers Mill, and was part of the Rhyddyn Estate. At the beginning of the 20th Century the estate and mill was in the hands of the Parker Family, who also owned the estate. The mill carried out grinding for the estate and also provided electricity for buildings on the estate as well as nearby houses (Cleveley 2000, 4-6).
- 2.2 The mill underwent complete restoration from 1973 onwards, when it was converted into a dwelling.

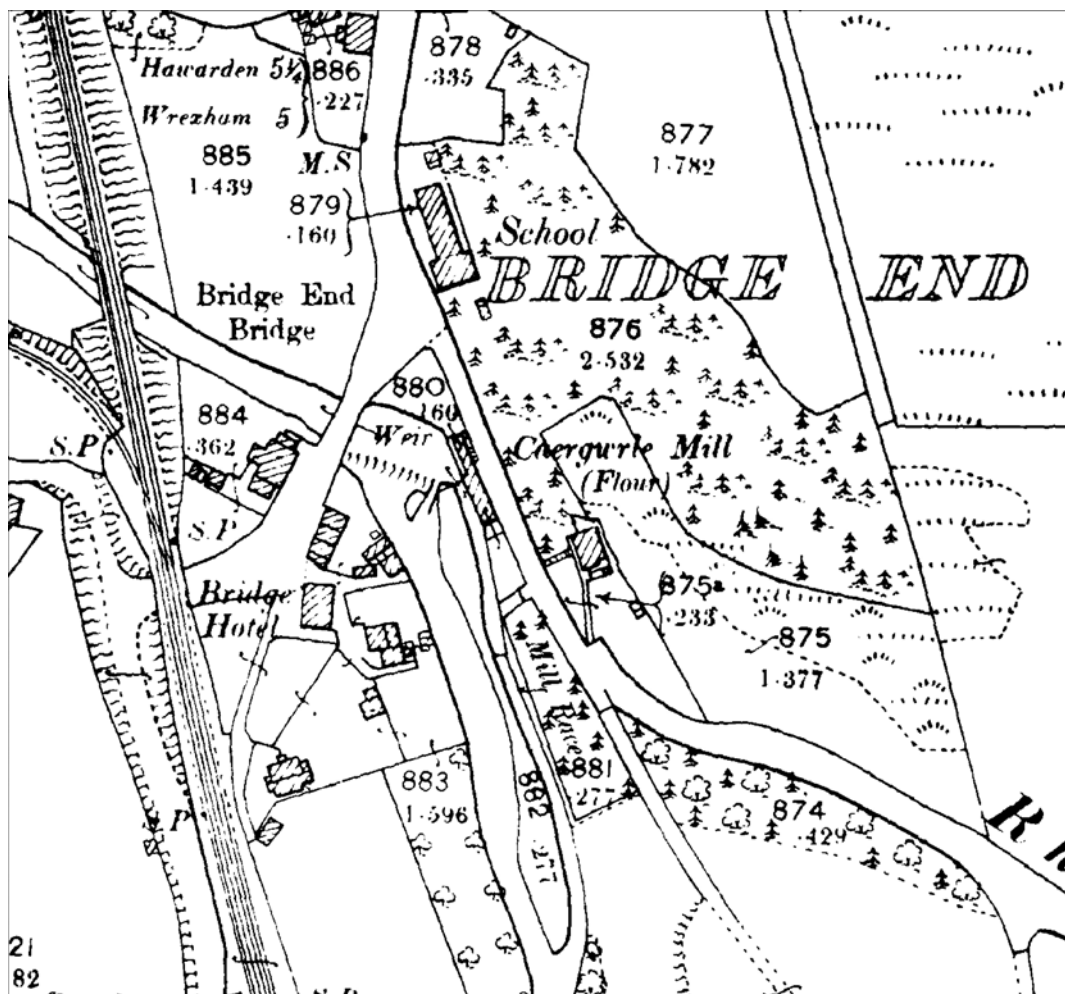


Fig. 2 Extract from the Ordnance Survey 2nd edition 25" map of 1889 (Flintshire 17.07)

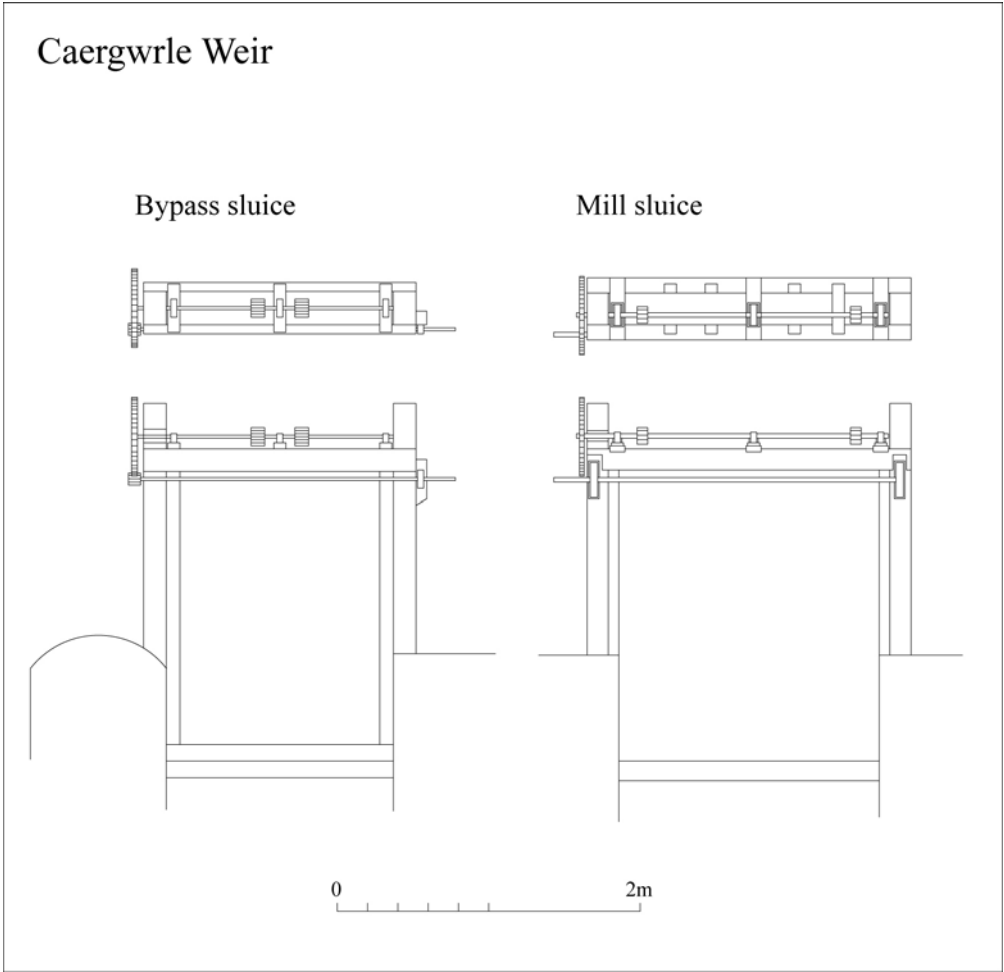


Fig. 3 Plans and elevations of the sluices viewed from downstream

3 THE WEIR AND SLUICES

- 3.1 The weir is located immediately to the south of the bridge which carries the A550 over the River Alyn and extends for around 30m across the river at an angle, diverting water towards the eastern bank. At the eastern end of the weir the water is controlled by two sluices, the westernmost at the head of a spillway and the eastern at the head of the mill race.

The Spillway Sluice

- 3.2 The sluice gate is in relatively good condition, comprising vertical posts on either side, supporting cross members which in turn support an axle mounted on three bearings, with a gear wheel on the western end. Geared sprockets on either side of the central bearing would have engaged with two racks mounted on the lifting board, which is now missing. The mechanism was operated from the eastern side by a crank handle which would have engaged onto the end of a spindle mounted on the southern face of the sluice, with a geared sprocket on the opposite end which engaged the gear wheel on the axle.



Fig. 4 The spillway and sluice. Photo CPAT 3288-0008

- 3.3 The spillway consists of a sloping channel which runs down the eastern side of the weir, separated from it by a stone wall and it is within this channel that the new fish pass is to be constructed.



Fig. 5 The spillway sluice mechanism. Photo CPAT 3288-0014

The Mill Sluice

- 3.4 Some 2.4m to the east there is a second sluice controlling water into the mill race which appears to have driven an undershot wheel. The mechanism is similar to that of the spillway sluice, although it was operated from a crank handle on the western end, next to the gear wheel. The fact that the two mechanisms are not identical suggests that they are not contemporary and reinforces the belief that the spillway was a later addition.

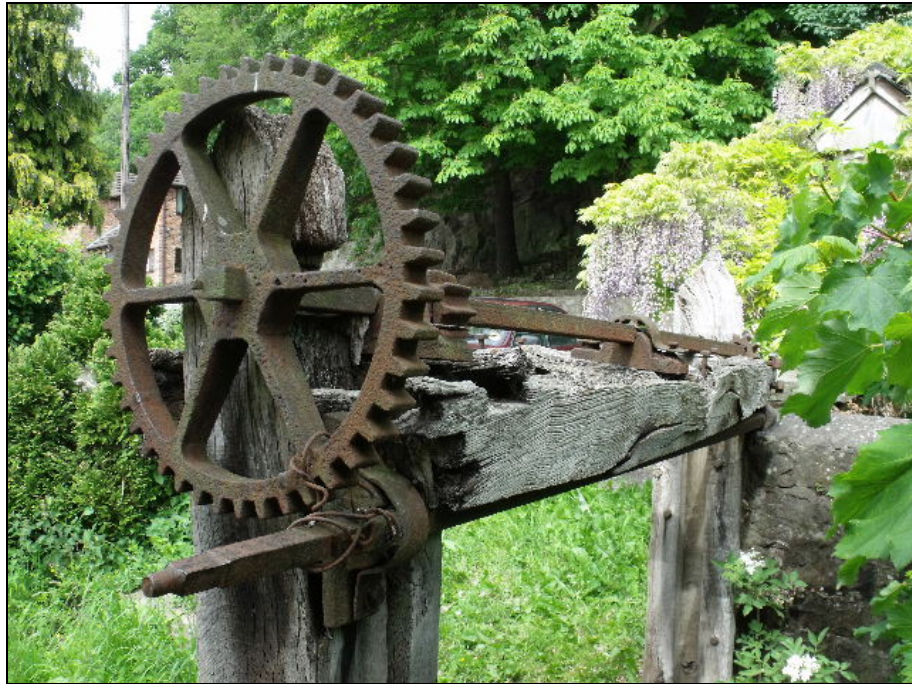


Fig. 6 The mill sluice mechanism. Photo CPAT 3288-0013

4 CONCLUSIONS

- 4.1 The surviving features consist of a weir and two sluices associated with an adjacent mill building which has been converted to a dwelling. The flour mill dates from the first half of the 19th century and was part of the Rhyddyn Estate.
- 4.2 These features are good surviving examples of 19th-century mill infrastructure and although not exceptional they have significant value as a group, which can be regarded as of local rather than regional importance. The proposed alterations involve the removal of the bypass sluice, with the existing spillway being used for the new fish pass. It would be appropriate for the sluice to be repaired and replaced as part of this scheme if at all possible.

5 REFERENCES

- Cleveley, V, 2000. Mills on the River Alyn. *Melin* 16, 3-22.
- 1880 Ordnance Survey 1st edition 25" map, Flintshire 17.07
- 1899 Ordnance Survey 2nd edition 25" map, Flintshire 17.07