

**ARCHAEOLOGICAL RECORDING
AT EVANS WEIR, PARKWOOD ROAD,
TAVISTOCK, DEVON**

Prepared for the Environment Agency

By A.J. Passmore and F. Pink

Exeter Archaeology

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1. INTRODUCTION (Fig. 1; Photo 1)

This report presents the results of archaeological recording undertaken by Exeter Archaeology between August and October 2010 during the replacement of a fish pass (or Salmon Leap) at Evans Weir, River Tavy, Parkwood Road, Tavistock (SX 49284 75301; Fig. 1; Photo 1). The present fish pass dates to the 1960s, but the date of the surviving (earlier) weir structure is unknown. The weir is situated at the head of the leat that powered Mount Foundry, an early 19th-century former iron and brass foundry that is located within the heart of Tavistock, within the Cornwall and West Devon Mining Landscape World Heritage Site. The archaeological recording was commissioned by the Environment Agency and was required as a condition of the grant of planning consent (WDBC 00471/2010) for the replacement of the existing fish pass. Advice on the archaeological recording was provided by the Devon County Council Historic Environment Service (HES).

2. THE WORKS

The work consisted of the removal of the existing fish pass and the remains of the 19th-century fish pass, the creation of a new fish pass and repairs and alterations to the weir and adjacent river bank wall.

3. AIMS

The aims of the work were to identify and record any historic fabric or associated buried archaeological deposits that were exposed during the removal of the fish pass.

4. METHOD

The work was carried out following advice from the Devon County Council Archaeological Officer, Stephen Reed, in an email dated 18 June 2010 to West Devon Borough Council; a subsequent Written Scheme of Investigation was prepared by EA.¹

A desk-based appraisal was carried out in order to provide a historical and archaeological context for the recording. The following sources were consulted:

- Devon Record Office and Westcountry Studies Library (historic maps, records and secondary sources)
- Devon County Council Historic Environment Service (including Historic Environment Record entries and aerial photographs)

Due to the hazardous conditions on site involving heights, water levels and the presence of tracked excavators fitted with demolition equipment, recording mainly consisted of a digital photographic and written record of those areas that were affected by the works. Where necessary this was prepared at a safe distance from the works. A plan was also created of the fish pass and west bank (at a scale of 1:50).

¹ Stead 2010.

5. HISTORICAL BACKGROUND (Fig. 2)

Evans Weir is situated on the River Tavy to the northwest of Tavistock. The weir lies at the head of the leat which formerly powered Mount Foundry, an iron and brass foundry dating to *c.* 1804. This was one of four foundries based within Tavistock in the 19th century.² Archaeological work undertaken by Wessex Archaeology at the site of the former foundry between 2004 and 2007 produced evidence for several phases of activity on the site during its use as a foundry, and subsequently as a woollen mill.³

The weir is in the same location as the 'Head Weir' marked on a map of 1752-3 by John Wynne. An accompanying schedule refers to the adjacent field (No. 49) as '*A piece of waste by the head weir*'. The weir is also depicted on a map of 1804⁴, at the head of two leats: 'mill leat' and 'foundry leat'. The former is first documented in the 12th century⁵ and powered a medieval mill located in the centre of Tavistock. The weir is not depicted as such on the Tithe Map (1842) although its position can probably be inferred by an indentation in the edge of a field called 'Headweir Ham' (field 349). The 1883 1:2500 Ordnance Survey (OS) map (published 1885; Fig. 2) depicts the weir with a waterfall to the south. The same arrangement is depicted on later historic OS maps.

6. RESULTS (Fig. 3; Photos 2-6)

During the removal of the fish pass and subsequent construction works four main phases were apparent; construction of an early slate revetment wall; construction of the weir; construction of the fish pass and realignment of the river bank (believed to date around the mid 19th century); and finally the construction of the 1960s fish weir.

6.1 Slate revetment wall (Photo 2)

The remains of the lower courses of an early river bank revetment wall were exposed underneath river gravels within the river bed. The wall was located immediately above the sluice gate at the entrance of the leat and was constructed of roughly coursed slate boulders, which at the western end were overlaid by the masonry of the current river revetment wall. The wall was aligned northeast to southwest, and its position indicates the river at this point was subsequently widened.

6.2 The weir and adjacent river bank (Photos 3-4)

The original weir was constructed with a base layer of slates, of varying shapes and sizes, and clay laid onto bedrock that had been chopped away to form a series of terraces. (The bedrock can be seen at a higher level projecting out from the west bank wall.) At the front of the weir a series of large vertical slates, laid on edge, had been set into the clay. In places at the front of the weir these slates were supported on smaller squared blocks of slate. Above and behind the slates were further rows of smaller slates, again laid on edge.

² Trevarthen 2009, 242

² T1258Marthen 2009, 217

³ Trevarthen 2009, 242

⁴ T1258M/E8 Plan (untitled) of lands exchanged with Mr Carpenter, 1804.

⁵ Buck 2009, 219

Fabric associated with the rear of the weir was partially exposed. Adjacent to the 19th-century fish pass a single course of stones was found laid onto the lower stone and clay deposit. In the centre of the weir at least three courses of stones were present, and these may represent the infilling of a deliberately-left void in the rear masonry (see below). The stones supported granite 'sleepers', between which were courses of orange red brick. Attached to the sleepers using iron bolts and L-shaped brackets were wooden beams. Granite sleepers were also present at the front of the weir, although any timbers had been removed.

The gap between the masonry forming the front and back of the wear had been infilled using a layer of sterile clay. During a flash flood part of this clay was washed away from the centre of the weir exposing the remains of a wooden culvert structure aligned north-south through the weir. Neither end of this culvert was visible, although the three courses of masonry at the rear of the weir described above were present over the top of the culvert indicating that it had been constructed late in the building sequence.

The top of the weir was formed from orange bricks with a coarse sandy gravel fabric course laid on end. At the front of the weir, and to a certain extent at the rear of the weir, the bricks between the granite sleepers had been replaced with bricks set into concrete. The top of the weir had been covered in concrete but part of this surface had been removed.

A short length of contemporary river bank wall survives to the south of the sluice and extended as far as the top of the fish weir. It comprised local slates up to 1.35m long and 0.20m wide, coursed and laid vertically at right angles to the weir with a granite or brick capping. To the north of the sluice the contemporary wall was constructed from long thin blocks of a fine-grained slate.

6.3 The 19th-century fish pass (Photos 5-6)

During the middle of the 19th century a fish pass was added to the west side of the weir; it is first depicted on the OS 1:2500 map surveyed in 1883. At the same time the adjacent river bank wall was realigned and moved to the west, with the upper section of the existing wall rebuilt on its original alignment. The wall is constructed of large blocks of granite, coursed, with sloping upper courses of local slate stone. These are capped with granite blocks held together with iron ties. The fish pass was partially replaced in the 1960s, but its structure partly survives, mostly down stream of the weir, and its original 'ladder' shape could be discerned.

Within the weir, the top of the pass was formed by three large granite blocks with flat tops and rear faces and a tapering front face. Below the weir, the pass would have comprised a series of ponds formed by a river bank wall, a parallel wall in the river and rows of dividing walls (of which three survived intact), decreasing in height away from the weir.

The masonry of the pass is constructed using rows of granite blocks, which display feather and tare drill holes (indicating a nineteenth-century date), with the upper course of the side wall tapered to counteract the drop in the height of the pass. The capstones were chamfered, and those on the side wall incorporated hipped ends. The

base was mostly covered by river gravels but some larger cobbles were visible within the upper surviving pond.

Below the fish weir is a further pond, created using narrower granite blocks.

6.4 The 1960s fish pass

The existing 19th-century fish pass was partially dismantled, and a new pass constructed, aligned parallel to the front of the weir. It was constructed of concrete with sockets for removable wooden beams. The front of the weir was faced with reinforced concrete and a skim of this material added over the top of the earlier fabric. A new concrete front to the top of the fish pass was also added adjacent to the weir. The sluice at the head of the leat was replaced, as was a second sluice located slightly downstream. New bridges across the leat and overflow were constructed, with a new concrete path running along the top of the river bank.

7. DISCUSSION

The archaeological monitoring during works to the weir has recovered evidence for a sequence of structures relating to the extraction of water from the River Tavy including revetment walls of the river bank, the weir and fish passes. The earliest fabric – a revetment wall for the river bank predates the present weir, although its date is unknown; it must however be associated with an early sluice.

The fabric of the weir itself is almost all of one phase, and part of the contemporary river bank wall also survives. The sluice was in the same position, as the present opening, which probably reflects the location of the medieval headweir. The date of the weir is unknown. It had clearly been constructed by the mid 19th-century when a fish pass was added, and although there is no clear dating evidence from the fabric, the use of coarse bricks may imply an earlier rather than later date. A tentative date of *c.* 1804 when Mount Foundry was constructed is put forward, although an earlier (perhaps 18th-century) date is possible.

There is no evidence for a fish pass within this construction; however the weir did incorporate a wooden culvert, the function of which is unknown. It is possible that this was used to filter water when the river was in flood, or perhaps to redirect the flow of water during the construction of the weir. Some repairs to the top of the weir were noted, perhaps at least in part representing consolidation following flooding.

In the mid 19th-century, certainly by 1883, a fish pass was added to the weir and the adjacent river bank wall rebuilt. This layout of the fish pass, with a series of rising ponds, is a typical construction technique, for fish passes, although surviving early (19th-century) examples do not appear to be common in the county.⁶

In the 1960's the fish pass was partially dismantled and replaced with a new fish pass aligned parallel to the front of the weir.

⁶ Cf Passmore 2005 for a survey of 25 weirs on the River Dart where only one early fish pass was recorded.

8. ARCHIVE

A fully indexed archive has been prepared and is currently stored at Exeter Archaeology's premises. The archive will be deposited under the accession number AR.2010.32 with the Plymouth City Museum and Art Gallery.

ACKNOWLEDGEMENTS

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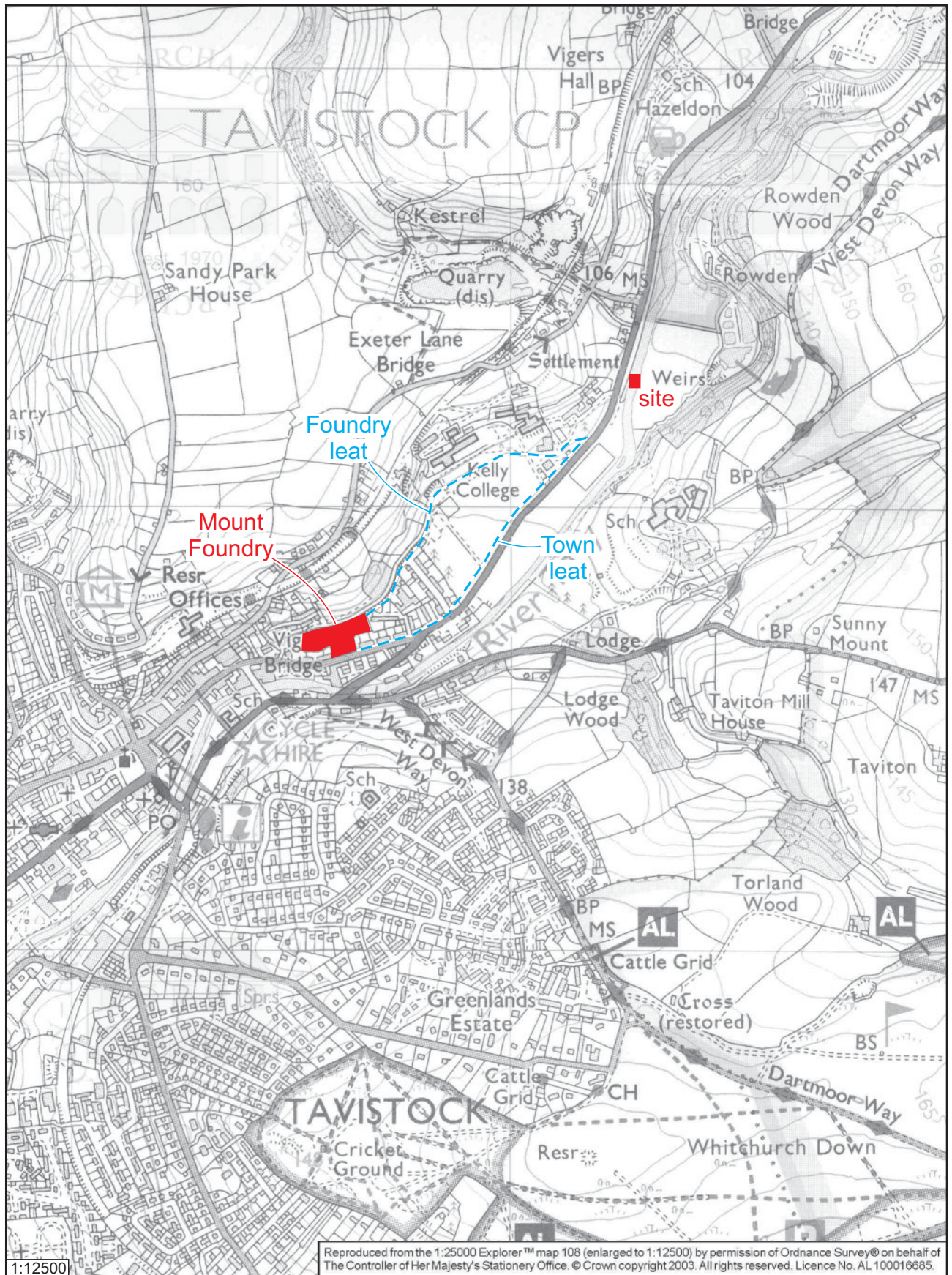


Fig. 1 Location of site.

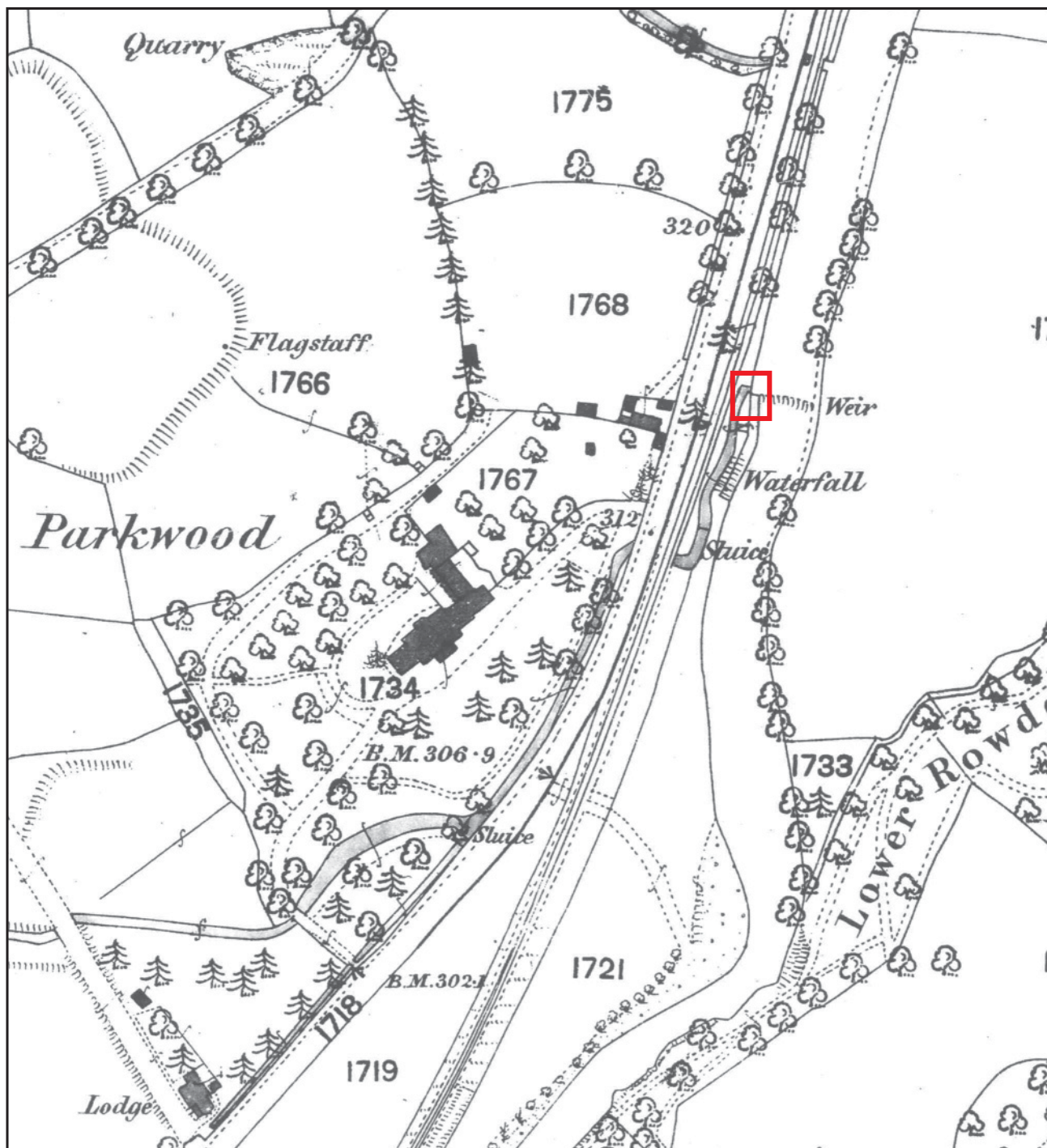


Fig. 2 Extract from Ordnance Survey map of 1883 showing location of site.

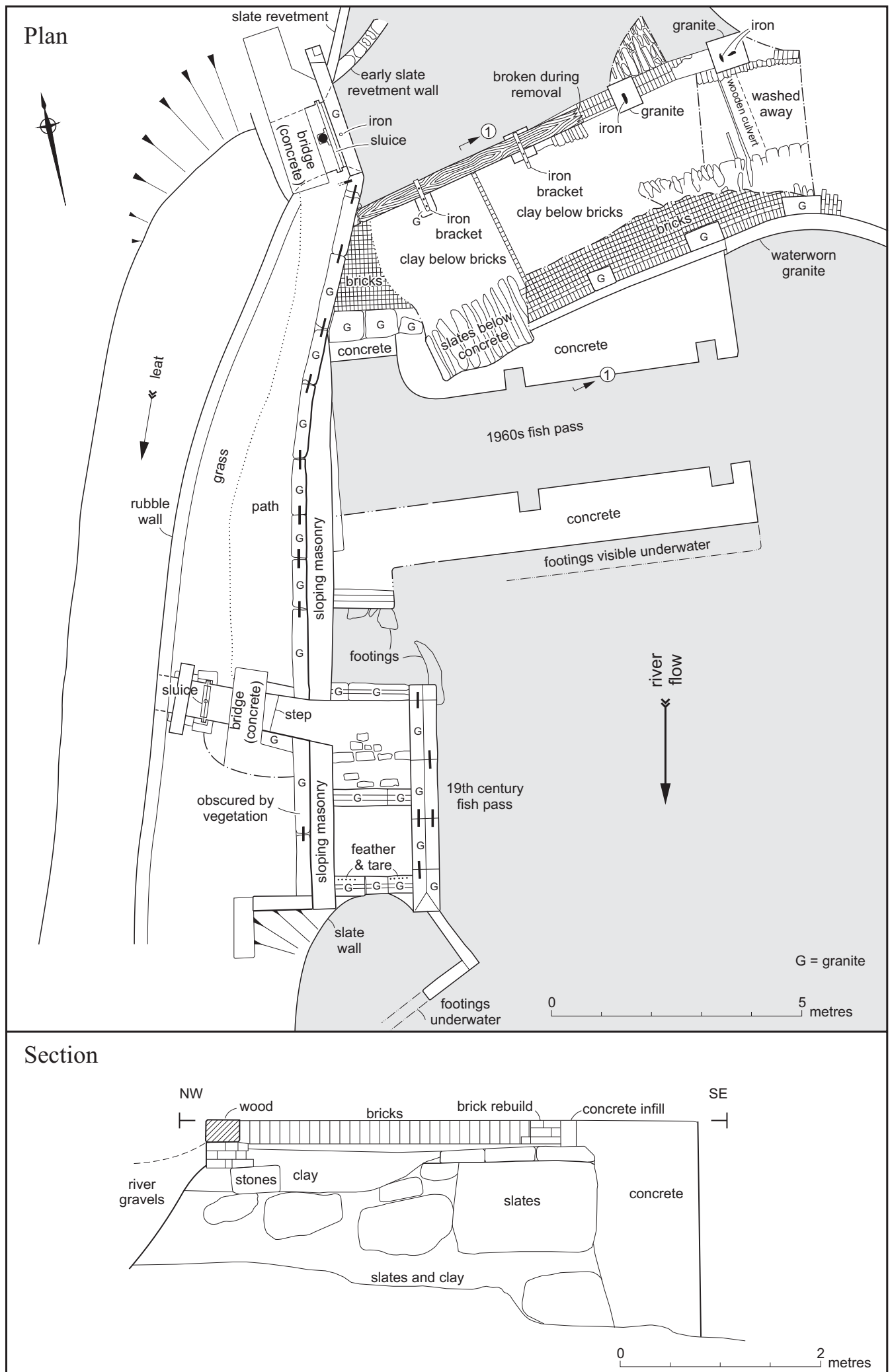


Fig. 3 Plan and section through the weir.



Photo. 1 View looking upstream (northwest) showing the weir (rear), partially-removed 1960s fish pass and part of the 19th-century fish pass (left).



Photo. 2 The early river bank revetment wall (behind bottom of staff), showing later wall above, looking north.



Photo. 3 The weir showing stone and clay infill and terraced cuts into bedrock, looking east.



Photo. 4 The weir following the washout showing the masonry at the front and rear, as well as part of the removed culvert, looking northwest.



Photo. 5 The remains of the 19th century fish pass, looking southwest



Photo. 6 The weir bank revetment wall showing (from bottom to top) bedrock, early revetment wall and the 19th century rebuild, looking northwest.