

Totnes Weir, Totnes, South Devon.

A programme of Archaeological Monitoring and Recording



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for

Mann Power Consulting Ltd on behalf of Dart Renewables Ltd

by



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Front cover image: River Dart at Totnes weir with sluice channel in foreground (2 x 1m scales; from SE).

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Non-technical summary

Context One Archaeological Services (COAS) carried out a programme of archaeological monitoring and recording during groundworks relating to the installation of a micro-hydropower scheme at Totnes Weir, Totnes, South Devon (the 'Site'), over 8 days between 1 April and 19 June 2015. The project was commissioned by Mann Power Consulting Ltd on behalf of their client, Dart Renewables Ltd.

The archaeological works were requested by the Local Planning Authority (South Hams District Council (SHDC)) as a condition of granting planning permission for the above works (Planning Application No: 56/1419/11/F). A weir has been present on the Site since the 16th century (HER monument ID MDV9033, Swallowfield Weir) and although the structure has been subject to significant rebuilding, the structure retains historic fabric with the added potential for the exposure of earlier waterlogged timber structural material within or beneath the weir.

The works identified a small number of stone and timber features, including the former fish run for the weir and some timbers within the stone structure of the sluice. The stone and timber elements which were observed and recorded within the sluice were thought to date to rebuilding in the late 19th century, which was followed by further extensive re-building in the late 20th century. No finds were observed or collected during the works.

1. Introduction

- 1.1 Context One Archaeological Services (COAS) carried out a programme of archaeological monitoring and recording during groundworks relating to the installation of a micro-hydropower scheme at Totnes Weir, Totnes, South Devon (the 'Site'), over 8 days between 1 April and 19 June 2015. The project was commissioned by Mann Power Consulting Ltd on behalf of their client, Dart Renewables Ltd.
- 1.2 The archaeological works were requested by the Local Planning Authority (South Hams District Council (SHDC)) as a condition of granting planning permission for the above works (Planning Application No: 56/1419/11/F), and following a consultation request to Mr Graham Tait (Archaeologist, Devon County Historic Environment Team (HET)). In a brief for archaeological monitoring and recording, dated 16 October 2012, Mr Tait stated:

"The weir at Totnes, as commented by English Heritage in their listing advice report (December 2010) (attached), is of undoubted local interest; having made a significant contribution to the industry of Totnes, from the site's historical associations with the River Dart, the town's milling complex through to a number of notable local individuals. A weir at this position has been in existence since the 16th century, and has been rebuilt numerous times since. Works associated with this revised proposed development will affect the historic weir; for example, in areas such as where the smolt shute is proposed (to the south of the weir), during works to the embankments, works to the face of the weir and installation of cable conduit.

While English Heritage consider the weir not to be suitable for listing due to the extensive rebuilding of the weir since the 16th century (and in particular the 19th and 20th centuries), they do state that the slope of the main weir was surfaced in the late 1960's or early 1970's, but do not comment on what surviving structures may be below this. Furthermore, the wall that separates the main slope of the weir to the southern sluice is thought to date to the second half of the 19th century.

Therefore works to install the proposed micro-hydropower equipment and to the weir itself have the potential to have an impact on any historic structure of the weir as well as upon any earlier structural elements that may survive within or below the extant structure. There is also the potential for the exposure of earlier waterlogged timber structural material within or beneath the weir."

- 1.3 The requirement followed advice by Central Government as set out in paragraph 141 of the National Planning Policy Framework (DCLG 2012).
- 1.4 The programme of archaeological works comprised four elements: the production of a Written Scheme of Investigation (WSI) which set out the project strategy; monitoring and recording during development groundworks; post-excavation and report production; and archive deposition. The WSI was approved by Mr Tait on 7 May 2013 prior to the commencement of any Site works. Following approval of the WSI, the location of the Archimedean screw and micro-hydropower station was moved to the south of the weir, however an updated WSI was not required.

2. Site location and topography

- 2.1 The weir at Totnes (Historic Environment Record (HER) Monument ID MDV9033, Swallowfield Weir) straddles the River Dart and is located on the northern edge of the market town of Totnes, at the head of the River Dart estuary and within the South Devon Area of Outstanding Natural Beauty (**Figure 1**). The Site (centred on NGR SX 80062 61254) encompassed the tidal estuary and both the north and south banks of the River Dart, covering an area of c. 2,930 square metres and at a height of between c. 2m and 3m above Ordnance Datum (aOD). A concrete weir extends across the full width of the river and a stone-built sluice and adjacent wall is located against the south bank (see **Cover photo**).

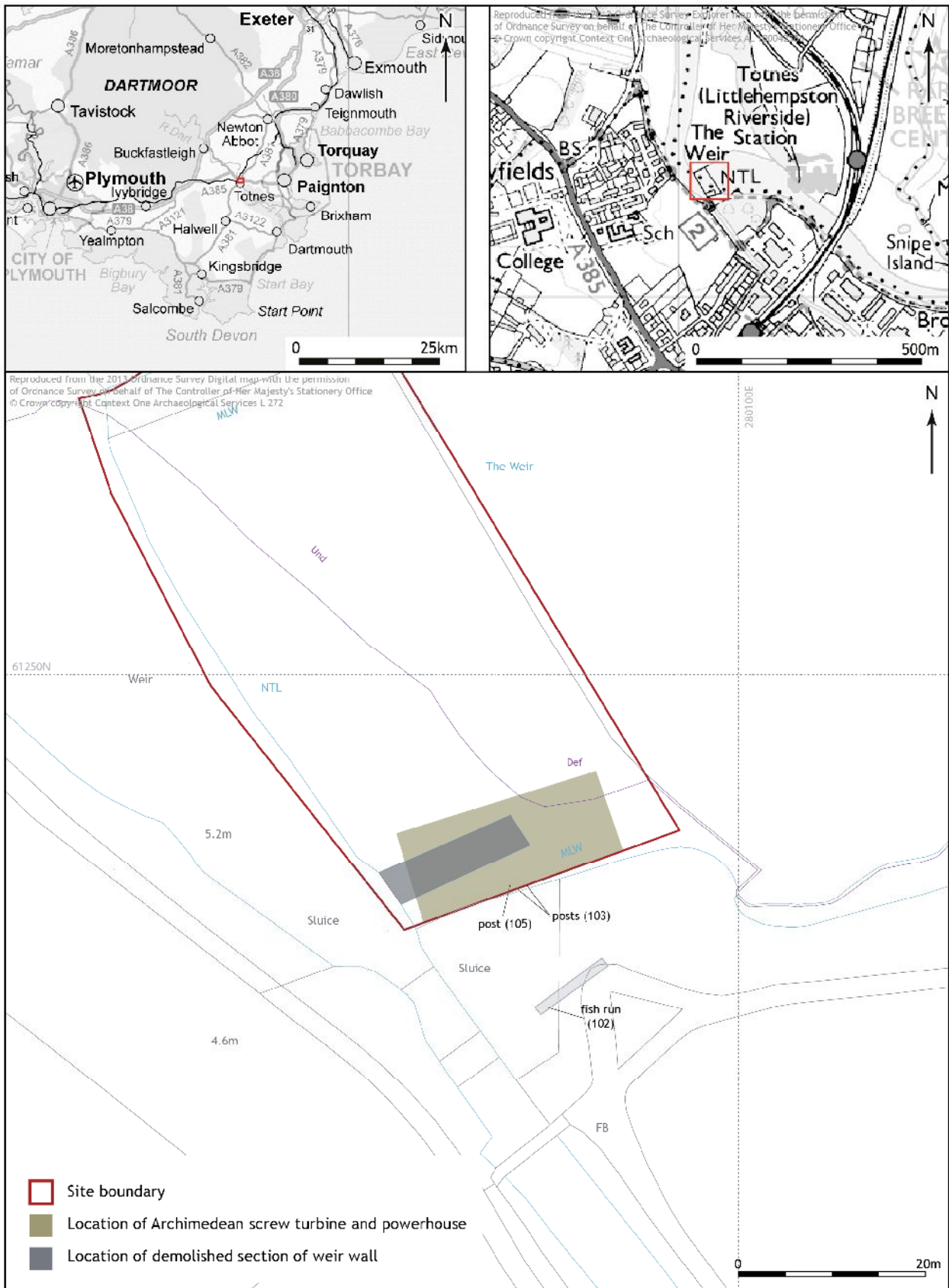


Figure 1. Site setting

3. Methodology

Development groundworks methodology

- 3.1 A machine equipped with a 0.90m toothless bucket was used for topsoil stripping surrounding the weir and on the access road. As part of the construction process for the new Archimedean screw turbine and powerhouse, later phases of concrete and stone were removed from the weir fabric itself using a machine and other handheld drilling machinery. In addition, a section of the weir wall was demolished (**Figure 1**).

Archaeological methodology

- 3.2 The programme of archaeological work was carried out in accordance with the *The Historic Environment and Development: Practice Note* issued by Devon County Council in 2009, and the codes, standards and guidelines set out by the Chartered Institute for Archaeologists (CIfA 1985, rev. 2012; 1990, rev. 2008; 1994, rev. 2008). Current Health and Safety legislation and guidelines were followed on site.
- 3.3 Although the groundworks did not comprise any deep excavations, scaled record shots were made of all structures revealed during the topsoil stripping and measured recording was carried out of the structure of the weir itself (mostly comprising the sluice and adjacent wall). Each profile of the structure was recorded as a graphical representation accompanied by a brief description.
- 3.4 All deposits were recorded as individual contexts and ascribed a unique number. Contexts referenced in this report are presented in standard terms, e.g. (100), (203).
- 3.5 A photographic record of the fieldwork comprised digital images in .jpg format, as well as measured photographs and drawings of the weir and any other features identified during the groundworks. As a minimum, the record included photographs of each profile of the weir, the Site setting and development works.

4. Results

- 4.1 Groundworks to strip topsoil and remove vegetation partially exposed a stone wall (102), located c. 10m south of the present flash lock and running parallel to the sluice channel (**Plate 1**). This structure was reburied after recording and is thought to have formed part of a fish run (**Figure 1**). A number of wooden timbers (103) and (105) lodged within the south wall of the sluice were also revealed during the removal of concrete and some cobbles (**Plates 2 & 3**). These comprised four upright timber posts (103) measuring 0.10m in diameter and 1.20m long. A further four timbers (105) provided further support relating to the same structure, comprising a horizontal brace with upright stakes and a post. The stakes and post had been subsequently displaced. The wooden framework (103) was surrounded by random coursed rubble (104) comprising large blocks of limestone measuring between 0.40m and 0.87m in length (**Plate 5**). No further structures or features of archaeological significance were identified during the works, including the demolition of the wall forming the north side of the sluice (**Plate 6**).
- 4.2 Development excavations were limited to topsoil stripping surrounding the weir and the removal of later phases of concrete and stonework from the sluice and weir fabric (**Plate 4**). A thin layer of topsoil (100) and mixed subsoil backfill (101) overlay the buried stone feature (102).



Plate 1. Buried stone fish run feature (102) (2 x 1m scales; from SE)



Plate 2. Timbers (105) within sluice stonework (104) (1m & 2m scales; from E)



Plate 3. Timbers (103), marked by scales, within sluice stonework (104) (2 x 1m scales; from N)



Plate 4. Removal of concrete and stonework from weir (from N)



Plate 5. North facing elevation of south sluice wall showing timbers (103) surrounded by weir stonework (104) with more recent wall above (2 x 1m scales; from N)



Plate 6. Pre-demolition recording of sluice north wall (from SE)

5. The finds

5.1 No finds were observed or collected during the archaeological works.

6. Discussion

6.1 Works for the micro-hydropower scheme exposed a small number of structures relating to earlier phases of the weirs use. A structure comprising a stone wall, located inland from the present flash lock of the weir and running parallel to the sluice, is thought to represent an earlier fish run, later buried during 20th century repairs to the structure. A layer of concrete visible on top of this structure likely represents an attempt to cap or protect it during construction works. A number of timbers were also recorded as being present within the stonework of the south wall of the sluice. These timbers likely relate to a timber framework belonging to an earlier sluice, or perhaps the fish ladder which existed on the south side of the weir from the early 18th century until the late 19th or early 20th century, when it was replaced by one on the north side. The timber structure was surrounded by a rubble stone wall, comprising randomly coursed blocks of limestone with weathered bonding. This contrasted to the walling above which consisted of regular coursed stone laid in stretcher bond. This suggests that the earlier walling may relate to late 19th century re-building of the sluice, while the later walling is certainly the result of extensive re-construction works in the 1960's and 1970's.

7. Archive

7.1 The project archive is currently held by COAS and consists of the following:

Item	Number	Format
Digital profile record sheets	2	.pdf

Profile record sheets	1	Paper
Timber recording sheet	4	Paper
Masonry recording sheet	1	Paper
Drawings	2	Permatrace
Digital images	157	.JPG

- 7.2 The paper archive has been scanned as a single file in .PDF format and will form part of the physical Site archive to be deposited with Plymouth City Museum & Art Gallery.
- 7.3 Copies of this report will be deposited with the client/agent and included as part of the Devon Historic Environment Record. A digital copy of the report will also be deposited with the Archaeology Data Service, via OASIS (On-line Access to the Index of Archaeological Investigations - <http://oasis.ac.uk/england/>). The OASIS entry will also be completed to include details of the archive contents.

8. COAS acknowledgements

- 8.1 We would like to thank the following for their contribution to the successful completion of this project:

Greg Nau, Mann Power Ltd
 Peter Kibel, Fishtek Ltd
 Graham Tait, formerly Archaeologist, Historic Environment Service, Devon County Council
 Stephen Reed, Archaeological Officer, Historic Environment Service, Devon County Council

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