



Staverton Weir fish pass application

Supplementary notes

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SUMMARY

This document provides supplementary information in support of the fish pass application for Staverton Weir.

General

TRESCO (Totnes Renewables Energy Society) is proposing to install a hydropower scheme at Staverton on the River Dart that utilises the old mill leat. The 100-kw scheme will comprise a single Archimedean screw turbine located at the downstream end of the existing leat channel. Water will be abstracted via the upstream end of the leat at Staverton weir.

As part of the works it is planned to repair the existing weir and improve fish passage. It is proposed to reinstate the weir crest at 7.6 m OD, which was the mean level prior to collapse according to AP Land Survey's topographic survey undertaken in 2014. There is an existing 1.5 m wide and 0.4 m deep notch in the weir in addition to a non-best practice ramp style fish pass with a roughened bed. The developers plan to replace the existing fish pass with a best practice Larinier fish pass.

Section 5.3

The broad crested weir equation was used to calculate the water levels, with appropriate additional equations used to determine the flow splits between the fish pass, weir, notch, and hydropower scheme, to enable the effects of each of these on the associated water levels.

For the purposes of the calculations for the FP002 form the level of the weir crest is proposed to be repaired to 7.60 m OD.

Sections 6.4 and 6.5

At the location of Staverton Weir, flow will be split between the fish pass, weir, weir notch and hydropower scheme. The flow split between each site element is provided in the below table.

% exceedance	Flow (m ³ /s) through each site element			
	Weir	Proposed fish pass	Weir notch	Hydropower scheme
Q99 (1.126 m ³ /s)	0.000	0.842	0.276	0.000
95 (1.679 m ³ /s)	0.000	1.176	0.500	0.000
90 (2.158 m ³ /s)	0.000	1.308	0.591	0.240
70 (4.338 m ³ /s)	0.938	1.480	3.126	1.329
50 (7.257 m ³ /s)	2.652	1.551	0.758	2.789
10 (26.589 m ³ /s)	17.365	1.926	1.016	6.000
5 (36.703 m ³ /s)	27.455	2.126	1.152	6.000