

**Archimedean Screw
Hydropower scheme at
Staverton**

Environmental Permitting Particulars
(supplementary pages to EA Env Perm Forms B10 & F3)

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Executive summary

This document provides supplementary information to, requests for clarification of, and the latest status of documentation referenced in, those forms submitted to the Environment Agency (EA) under Environmental Permitting (EP) regulations for Flood Risk Activities. The forms in question are EA EP Forms B10 and F3. (EA hydropower guidance does not request EP Form A for hydropower schemes, as the same details are provided in WR Form WR317.)

Form B10**3 About your activities****3.b How many activities are you applying for?**

From the charging scheme as it stands, it is not completely clear how many activities need to be itemised separately in a Bespoke permit, and which or whether items are reduced or waived. The EA is invited to clarify this. When the FRA EP charges were introduced in 2018, the consultation impact assessment stated that the item prices are set for cost recovery purposes and that the EA is empowered to waive charges at its discretion. In particular it is anticipated that charges will be waived where an activity creates little or no additional administrative overhead (= no separate item cost to recover). These might include charges for e.g. the second instance of two adjacent similar activities on the same reach of river (e.g. two dewatering activities), where there is no separate decision-making process (cost burden to the EA) in considering the second activity. If a decision is at the discretion of the regulator, it is particularly important to a community group applicant that no cost should be incurred unnecessarily.

Other relevant questions which the EA will answer in deciding what fee is due:

- Does the EA have any (? national) internal guidance on a standard method of assessing charges for a hydropower scheme (for example) as a single interrelated set of civil works/enabling works?
- What are the charging precedents for recent hydropower or similar schemes in England?
- Some of the proposed activity items could be “exempt activities” (e.g. under FRA2 cable crossing, FRA7 dewatering, FRA19 eel pass), were it not for limiting conditions which apply to those exemptions. Text in the charging scheme suggests that this factor may reclassify activities to a less costly fee band, if any. Is this correct?

For the purposes of Form B10 3.b (and Form F3 1 – see below), a provisional cost and inferred number of activities have been entered: but the EA may conclude that the final figure is different. EA please respond with final advice on this before taking payment.

Form F3**1 Working out charges**

Number of Activities	6 (but see above and below)
Total charge £	1961.25 (see below for assumptions)

Form B10**3 About your activities****3.c Please provide a detailed description of the activities you propose and how you intend to undertake them**

Refer to drawings of proposed works. A Bespoke permit is sought, which we see as including (EA please correct and advise):

1) Permanent works of the hydropower scheme: being a new concrete foundation and spill wall between the banks of Staverton Leat – within a footprint of ~20m long by ~10m wide – onto which the mechanical equipment is installed and a protective enclosure added, and a private pole-mounted transformer erected adjacent.

We infer that this is: “Construction of a permanent in-channel impounding or flow regulation structure” – permit application charge £1441 – no reduction (as principal activity) = £1441.

2) Permanent service crossing of an armoured cable trenched into the riverbed, with onward cable to be buried in trenches on bank/s at regulation depths. Works can be achieved using a mini-digger during the agreed best season. All parts of the buried private cable will be specified and trenched to electrical utility standard requirements (ECS 02-0019). On agricultural land, the cable run will be buried to minimum 1050mm trench depth and marked with tile tape at 100mm above this. On other private land, the cable run will be buried to minimum 600mm trench depth and marked with tile tape at 100mm above this. (We infer that the temporary activity of limited excavation of the bed for the cable, and its permanent presence thereafter, are a single “activity” - please advise if otherwise).

We infer that this is: “Construction of a service crossing” – permit application charge £446 – 75% reduction (as secondary activity) = £111.50.

3) Permanent like-for-like repairs to small areas of leat bank walls and bed, as required, at various locations along length of the leat, and maintenance of the existing leat intake sluice headgear to ensure smooth operation. Repair works can be carried out by closing the intake sluice gates to dewater the leat, so no temporary works are foreseen. (We infer that this needs no temporary consent - please advise if otherwise).

We infer that this is: "Minor refurbishment and alterations of existing structures" – permit application charge £221 – 75% reduction (as secondary activity) = £55.25.

4) Permanent modification of weir fish easement as a technical fish and eel pass of metal baffles and plastic tiles within a concrete channel, with like-for-like repairs to defective parts of the adjacent weir crest, to default crest level 7.60 mAOD. Southwest of fish pass, defective piled crest to be removed and replaced with similar piles and concrete cap with natural finish. Northeast of fish pass, minor repairs in block stone and concrete to fix gaps in similar work.

We infer that this is: "Alteration of an in-channel impounding or flow regulation structure" – permit application charge £968 – 75% reduction (as secondary activity) = £242.

5) Temporary dewatering of a temporary cofferdam at downstream end of leat, for construction of main hydro works. Line of cofferdam to protrude ~5m into the river around the confluence of the leat, total length ~20m. Cofferdam to consist of courses of dumpy-bags (sand clay or gravel) and plastic membrane, or sheet steel piles if required by bed and depth conditions. During excavation and concrete works, cofferdam to be pumped out and filtered back to river via strawbale traps or equivalent and grassed bank. Riverbed graded to meet new works. On completion, cofferdam materials to be removed. Duration <3months.

We infer that this is: "Temporary dewatering of a work area" – permit application charge £446 – 75% reduction (as secondary activity) = £111.50.

6) Temporary dewatering of a temporary cofferdam at the weir, for the repair works. Cofferdam to consist of courses of dumpy-bags (sand clay or gravel) and plastic membrane, or sheet steel piles if required by bed and depth conditions. During excavation and concrete works, cofferdam to be pumped out and filtered back to river via strawbale traps or equivalent and grassed bank. On completion, cofferdam materials to be removed. Duration <3months.

We infer that this is same as previous, and is risk-assessed as part of the same workload, so does not attract a duplicate charge?

NB: EA please advise if any other part of the proposed works as described in the submission documents constitutes an additional activity which the EA must itemise in an EP consent.

Form B10

4 Supporting Information

4.a Please list the plans and documents included with this application

Staverton-102-V01-20180605-ABC Map.pdf	– plan of NGRs etc for EA licensing
Staverton-103-V03-20180926-Location Plan.pdf	- site location plan
Staverton-301-V05-20180606-Planning Drawing.pdf	- drawings of scheme
Staverton-106-V03-20181109-FDC Map.pdf	- plan of works for EP
River works plan – upstream.pdf	- plan of works for EP
River works plan - downstream.pdf	- plan of works for EP
0_SUM 20181031 Staverton 742.pdf	- project summary
1_DES 20181031 Staverton 742.pdf	- design description
2_HYD 20181031 Staverton 742.pdf	- Hydrology Assessment
3_ESA 20181031 Staverton 742.pdf	- Environmental Sustainability Assessment
5_CMS 20181031 Staverton 742.pdf	- outline method statement
6_EPP 20181031 Staverton 742.pdf	- “extra pages” to EP forms
7_DRA 20181031 Staverton 742.pdf	– Risk Assessment
8_EMS 20181031 Staverton 742.pdf	– Environmental Management System
Staverton Geomorph assessment.pdf	- Hydrogeomorphology Assessment
Staverton Fisheries Impact Assessment.pdf	– fisheries assessment
Staverton Fish Migration Flows.pdf	– fisheries additional evidence
Staverton Hydro Ecology Report Colmer Ecology July 2018.pdf	- ecological assessment
Staverton Hydro Flood Risk Assessment.pdf	- Flood Risk Assessment
Flow distribution - side channel flow split.pdf	- spot gaugings to demonstrate spill flow
WaterFrameworkDirectiveComplianceAssessmentStaverton.pdf	- WFD compliance check

Form B10**4 Supporting Information****4.b Environmental Risk Assessment**

The supporting document set details the potential risks of this project and how these are addressed. The principal focus is the avoidance of detriment to the Dart and to river fisheries ecology and habitats (and by extension, related features of the Dartmoor SAC).

See documents listed above. Particularly, please refer to:

Staverton-106-V03-20181109-FDC Map.pdf	– plan of works for Env Permitting
5_CMS 20181031 Staverton 742.pdf	- outline Method Statement
7_DRA 20181031 Staverton 742.pdf	– Risk Assessment
8_EMS 20181031 Staverton 742.pdf	– Environmental Management System