Form WRE: Application for a new impoundment licence, technical variation to an impoundment licence or the removal of an existing impoundment

Reference number (The number you generated in form WRA). Example: WRNATURALRESOURCESWALES1101

WRnaturalresourceswales3101

Are you applying for a licence for a new impoundment or an existing impoundment

alteration to an existing impoundment

Impoundment details

All information should correspond with any maps and drawings submitted with this application

	Impoundment location name/reference	Left bank National Grid Reference	Right bank National Grid Reference
	LLanwrda Weir	SN7140131619	SN7139131614
	-	-	-
	-	-	-

Provide details about the type of impoundment you propose to construct at the points specified above and how the works will operate. This should include a description of any existing works and how your proposal will affect the flow of inland water.

Tell us the purpose of the works. If the water is to be impounded for more than one purpose, list both the primary and secondary purpose

The project aims to improve fish passage beyond the weir on the Afon Dulais, Llanwrda, Carmarthenshire. This will provide access to 20km of suitable spawning and juvenile salmonid habitat.
The existing weir is broad crested, with a central low flow notch. This has concrete side walls, topped with wood around the top of the low flow notch. It is fitted with eel tiles and is at approximately 45 degrees; too steep to permit fish passage.
A new Larinier fish pass and an eel pass shall be installed in the centre of the weir.

The proposed design will consist of the following (also see attached drawings and Figures):
• Larinier fish pass (single-flight, 600mm channel width, 15% slope, 5150mm slope length, 100mm aluminium baffle height)
• Adjacent gravity-fed eel pass (300mm channel width, 17% slope, 5040 slope length, Berry and Escott tiles fixed onto the surface)
These passes will be separated by a central wall.
• Topping with coping stones to provide a more natural aesthetic

The weir is approximately 2m deep on the downstream side from the highest level of the concrete to the base of the structure. This means the water level downstream of the weir is 1.2m at Q99 flows. Over pumping will require careful planning we have engaged early with our contractors who will be constructing the fish pass.

Description of impoundment

Name of watercourse
Afon Dulais

Will your proposed impoundment result in a change to the submerged area (downstream) or new submerged areas behind (upstream of) the impounding works? (If yes, ensure this is shown on any map or drawings submitted)
No

Will the ponded area created by the impoundment be lined?
No

Give the height of the impoundment structure, from the downstream toe to crest or top of spillway (in metres above Ordnance Datum). If the proposal involves an existing impoundment, state the change in height (in millimetres).
The existing weir is approx 2m deep on the downstream side from the highest level of the concrete to the base of the structure

What is the overflow or crest level of the impoundment (in metres above Ordnance Datum)?
Current weir crest: 53.98m AOD

Will the proposal create a raised reservoir? (A raised reservoir is one where water is stored at a level above the natural level of the lowest level of the surrounding area.)
No

What is the proposed capacity of the impoundment when full to spillway level (in cubic metres)?
n/a

Does the proposal involve the controlled release of water to safeguard downstream flows? This could be the release of flood attenuation flows, reservoir compensation flows or a residual flow via a notch or orifice.
No

Is the impounded water to be used for a subsequent purpose?
No

How will the impounded area be filled initially, and subsequently refilled if applicable?

Example: by rainwater, overland flow or pumped from another source.

n/a

Fish and eel passage

Confirm the fish species present at your site.

Salmon, sea trout, brown trout, eels, grayling, fast water coarse fish (e.g. barbel, chub and dace)

Please confirm type of fish screen

Intake n/a

Outfall n/a

Please confirm screen height and width - intake (millimetres)

Width n/a

Height n/a

Please confirm screen height and width - outfall (millimetres)

Width n/a

Height n/a

Please confirm screen aperture size (millimetres)

Intake n/a

Outfall n/a

Please confirm type of upstream fish/eel passage intake

Larinier fish pass

Please confirm type of downstream fish/eel passage

Larinier fish pass and weir itself

Please confirm proposed flow for fish pass

79% exceedance flow = 0.17 m3/s

Construction, maintenance and operation

Provide details of maintenance or activities relating to the operation of the impoundment. Include the extent and frequency of activities. This could include the operation of scour valves or maintenance of a fish pass.

Describe any sediment management plan associated with the impoundment.

Maintenance will include clearing the fish/eel pass of accumulated debris and possibly repairing tiles by NRW staff. Access will be by walking across the existing weir when a dynamic risk assessment deems flow conditions to be safe. Ground levels around the weir are suitably shallow to allow for operatives to maintain the weir in low flow conditions.

Do you intend to divert the flow of the inland water while you are building, changing or removing the impounding works?

Yes

How do you intend to divert the flow of the inland water while you are building, changing or removing the impounding works. Give details.

We are currently in communication with the Flood Risk Activity permitting department within NRW to determine requirements for temporary flow diversion works. At this stage it is envisaged that half the river will be dammed upstream of the weir and the river flow over pumped and returned downstream of the weir.

Proposed Design of Structure

Upload design drawings and calculations here. (Spreadsheet file formats need to be: .xls, .xlsx, or .ods)

- File: 277161 - ARP - 04 - XX - DR - XX - 0001 General Arrangement.pdf - Download
- File: 277161 - ARP - 04 - XX - DR - XX - 0002 Sections.pdf - Download
- File: 277161 - ARP - 04 - XX - DR - XX - 0003 Existing Sections.pdf - Download
- File: 277161 - ARP - 04 - XX - DR - XX - 0004 Detail.pdf - Download
- File: 277161 - ARP - 04 - XX - DR - XX - 0011 Location Plan.pdf - Download

Please upload your stage 1 geomorphology photosurvey. Find out more on how to complete your survey on our Geomorphology Photosurveys for Hydropower developments page

- File: Downstream from weir.PNG - Download
- File: Upstream LH bank.PNG - Download
- File: Upstream RH bank.PNG - Download
- File: Upstream under bridge.PNG - Download

Other permissions

Planning permission advice received?
No

Is planning permission required?
No

What is the status of the planning permission?
Not required

Have you applied for or do you hold a Flood Risk Activity Permit (FRAP) for the proposed works?
No

Commercial confidentiality and national security

Are you applying for Commercial Confidentiality?
No

Have you applied to the Welsh Ministers for national security for your application?
No

Declaration

By signing below, you are declaring that, to the best of your knowledge; the information given in this form, on any map and in any supporting or additional information; is true.
Signed Martyn P Evans
Print name Martyn Evans
Position Head of Operations South West Wales

Date
* 04/02/2022

Would you like a copy of your submission?
Yes

Your email address
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