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

WRGLANDWRMILL2011

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
	Intake	SH 63384 17585	SH 63394 17591
	-	-	-
	-	-	-

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

To provide water to a hydropower scheme.

Description of impoundment

Name of watercourse

Afon Dwynant

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).

2200mm toe to crest. 0mm change in height proposed.

What is the overflow or crest level of the impoundment (in metres above Ordnance Datum)?

21.993mAOD

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)?

650

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.

Yes

Tell us what the proposed flow at the outlet will be and how you intend to measure this. If the works involve monitoring of levels or flows, include details of this.

The Hands Off Flow proposed is Q95, 42l/s. In addition, 30% of the watercourse's flow, above the Hands Off Flow, will also bypass the turbine. A notch will be cut in the crest of the existing stone weir to provide these two flows.

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 - The weir already exists and is already filled.

Fish and eel passage

Confirm the fish species present at your site.

Brown trout.

Please confirm type of fish screen

Intake Coanda

Outfall None

Please confirm screen height and width - intake (millimetres)

Width 750

Height 705

Please confirm screen height and width - outfall (millimetres)

Width None fitted

Height None fitted

Please confirm screen aperture size (millimetres)

Intake 2mm

Outfall None fitted

Please confirm type of upstream fish/eel passage intake

None

Please confirm type of downstream fish/eel passage

None

Please confirm proposed flow for fish pass

N/A

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.

If gravel builds up behind the ‘Hands Off Flow’ notch it will be removed by hand or with a shovel to ensure the flow is not affected. The coanda screen may need brushing regularly with a nylon brush to remove peat residue or algae.

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.

The works will be done in a period of low flow and water will be diverted away from the site of the new coanda intake using a temporary sandbag dam. It will be diverted to the right hand side of the weir where excess water already flows. The reverse will be done when cutting the 'Hands Off Flow' notch in the crest of the stone weir i.e. water will be diverted to the left hand side, over the coanda screen, using sandbags.

Proposed Design of Structure

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

- File: 210327LB01-V2 Site layout.pdf - Download
- File: 211017 Flow duration curve, catchment area & hydrology assessment.pdf - Download
- File: 211017LB02-V1 Outfall.pdf - Download
- File: 21072701-v1 Stephen Cochrane Intake Front Elevation.pdf - Download
- File: 21072702-v1 Stephen Cochrane Intake - Section through Coanda.pdf - Download
- File: 21072703-v1 Stephen Cochrane Intake - General Layout.pdf - Download
- File: Glandwr Mill Photo Survey V1.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: Note re photo survey & file size error.pdf - 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

Would you like a copy of your submission?
Yes

Your email address
liam@greenearthhydro.co.uk