Form WRD: Application for a new abstraction licence or a technical variation to an abstraction licence

Application type

Reference number (The number you generated in form WRA). Example: WRNATURALRESOURCESWALES1101
HochtiefWA/065/0006/0024variation3

Are there any applications currently being assessed by us that are linked to this application?
No

Is the proposed abstraction going to be aggregated with another existing abstraction?
No

Are any applications, at the same site; being assessed by the Environment Agency?
No

Tell us when you want your abstraction licence to end: [DD/MM/YY]
01-12-2026

Abstraction details

Abstraction location name/reference
Afon Glaslyn

Abstraction point type
Single point

National Grid Reference
SH58891 38978

Do you have any further points of abstraction?
No

Means of abstraction

Provide full details of the equipment you propose to use to abstract water, such as maximum pump capacity and any relevant dimensions, e.g. pipe diameter. For groundwater abstractions, include details about the borehole (depth and diameter) and details of screening and lining.

The water will be abstracted from the Afon Glaslyn using a pump in an eel screen (2mm aperture). The abstraction volume will be up to 500 m3/day. The pipe diameter is 225mm. The maximum pump capacity is 40 l/s. No formal intake structure has been built. The pump screen is mounted on a temporary gabion to avoid flotation and movement in flood conditions. The pump and gabion will be removed at the end of the construction project

Abstraction quantities

Abstraction location name/reference

Afon Glaslyn SH 58891 38978

What purpose will the water be used for?

Facilitate the operation of a tunnel boring machine

Period of abstraction Will it be all year?

Yes

Maximum quantities (cubic metres)

Annual 182500

Daily 500

Hourly 144

Peak abstraction rate (in litres per second)

40

Number of hours of abstraction per day

4

Add quantities for another location?

No

Calculations and supporting information

Use this section to show us how you have calculated the amount of water you require. This should include details of your operational regime (for example, number of hours and days you intend to abstract, number of units produced or area to be irrigated). We use this information to determine if the volumes you propose to abstract are appropriate for the purpose. Depending which industry you are in, you may need to provide additional information below.

If your proposal involves the provision of a residual flow via a notch or orifice, provide information on how this is being calculated. This should include details of the equation being used.

The tunnel boring machine (TBM) will operate 24 hours a day, 365 days a year. The TBM requires a maximum of 500m3 per day to operate. The water requirement will vary based on geology i.e. additional water will be required in clay geology, however will not exceed 500m3 per day. Typical usage is 100m3 per day. Ground investigations detailed the expected geology to be encountered supports this application.
Water abstracted from the Glaslyn used in the tunnelling process will be recycled. Water used in the tunnelling process will be abstracted and directed to a treatment facility in the construction compound which will entail dewatering and sediment removal. A separate abstraction license application will be submitted for water abstraction from the tunnel / shaft. The treated water will be stored within lagoons on site ready for reuse in the process. The water recycling system will reduce abstraction quantities from the Glaslyn. 500m3 per day is a maximum abstraction quantity and would only apply when the on site lagoons are empty / low, for example, at the early stages of the project.
The pump rate of 40 l/s is derived from the 500m3 requirements and abstracting from the Glaslyn in low tide conditions for 4 hours per day, ensuring the saline content in the abstracted water is minimal. The hourly abstraction rate of 144m3 is based on a continuous pump flow rate of 40 l/s over an hour.

Means of measurement

State how you intend to measure the quantity of water you abstract. You do not need to do this for a temporary or transfer licence.

Meter

Water efficiency

Provide details of what measures you provide or intend to implement, to ensure efficient use of water. This could include water storage, re-use or recirculation, monitoring and checking for leaks, undertaking water audits or other industry specific good practice.

Water abstracted from the Glaslyn used in the tunnelling process will be recycled. Water used in the tunnelling process will be directed to a treatment facility in the construction compound which will entail dewatering and sediment removal. A separate abstraction license application will be submitted for water abstraction from the tunnel. The treated water will be stored within lagoons on site ready for reuse in the process. The water recycling system will reduce abstraction quantities from the Glaslyn. 500m3 per day is a maximum abstraction quantity and would only apply when the on site lagoons are empty / low, for example, at the early stages of the project.

Frequent inspection of the recirculation system will be undertaken and any leaks repaired.

Fish and eel considerations (surface water abstractions only)

Does your proposal include measures to safeguard fish and eels? Only provide details of outfall screening if abstracted water is to be discharged back into a watercourse. For further guidance on appropriate screening Intake screening for fish

	Intake	Outfall
Type of fish screen	stainless steel perforated sheet	stainless steel perforated sheet
Screen aperture size (mm)	2mm	2mm

Confirm the fish species present at your site. If you're not proposing any measures to protect fish and eels, you must justify this. For example, we may have confirmed in our pre-application response that the intake is inaccessible to fish or you undertook a fish survey to confirm.

As per NRW feedback from preapplication PPN00944, a 2mm screen is required to prevent harm to European Eels. A Fish Habitat Assessment Report (reference C0233ATMGESZZRPx0005 Atmos January 2023) has been prepared in support of this application and confirms that the Afon Glaslyn has a good quality for Fish Habitat. The proposed fish screen will safeguard fish and eels.

Discharge details

If you intend to return any of the abstracted water to the environment, provide details below. Details of discharge location(s) should correspond with any maps submitted. Do not include discharges to a public sewage system.

	Discharge location name / reference	National Grid Reference of discharge point (12 digit)	Total volume to be discharged (cubic metres)	Environmental Permit for Water Discharge Activity number (if applicable)
	Afon Glaslyn	SH 58891 38978	500	EPR/DB3190FD
	-	-	-	-
	-	-	-	-
	-	-	-	-

Provide a description of the structure and equipment involved in discharge.

The outfall structure is a 225mm plastic pipe discharging to an stainless steel eel screen with 2mm aperture size. The screen is fixed to a temporary stone filled gabion.

Other abstractors / water users

Provide details of nearby abstractors or users of water who could be affected by your proposal. This should include deregulated users (exempt activities or abstractions < 20 cubic metres per day), anglers and canoeists.
Your local authority's environmental health will hold details of exempt domestic abstractors.

An existing abstraction from the Afon Glaslyn for Breedon Minffordd Quarry is located at SH 59088 39154, approximately 220m northeast and upstream of the proposed abstraction point. No other nearby abstractors (from the Glaslyn) have been identified.
No nearby river gauging stations are available, however an NRW river gauging station on the Glaslyn is located near Beddgelert at SH591477 approximately 8.8km north of the proposed abstraction point. Mean river flows for the Afon Glaslyn at the Beddgelert gauging station (from 19612021) are 5.855m3/s with a recent annual maximum of 151m3/s recorded in 2020 (data sourced from National River Flow Archive, February 2023). Based on flows in the Glaslyn, the abstraction amount (500m3 per day maximum / 40 l/s pump rate) is considered to have negligible impact on the Glaslyn and consequently any deregulated users.

Planning application

Have you sought advice on your planning application?

Yes

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 David Grantham

Print name David Grantham

position Environmental Manager

If an agent is to sign on behalf of the Licence Holder, a letter of authorisation from the Licence Holder is required.

- File: SVIP - Consent Authorisation Letter 27.08.24.pdf - Download

Date

* 22/06/2025

Would you like a copy of your submission?

Yes

Your email address

david.grantham@hochtief.co.uk