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
WRERICWRIGHTWATER1404

For hydropower abstractions, specify the capacity (in kilowatts) of your scheme.
25kW or less

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]
31/07/2026

Abstraction details

Abstraction location name/reference
Mold Wastewater Treatment Works

Abstraction point type
Single point

National Grid Reference
SJ 24644 63223

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 abstraction transfer license (removal of groundwater from an excavation and discharge to the wate rcourse on site) is associated with construction works to install a new Primary Settlement Tank and HYBACS pumping station chamber at Mold Wastewater Treatment works.

The Primary Settlement Tank base will be 4.63m below ground level. The internal diameter of the Settlement tank will be 13.7m.

The HYBACS pump chamber (immediately east of the Primary Settlement Tank) will have an invert level 3.72m below ground level. The pump chamber will be 3m in diameter.

For the proposed Primary Settlement Tank, and based on the volume of the excavation within the groundwater of 20.139m³ (based on a conservative estimate of a 13.7m diameter excavation over a depth of 1.47m (maximum groundwater depth)), the groundwater inflow rate is estimated as 16.7825 l/s. This equates to 60.417m³ per hour) and 1,450.008m³ per day.

For the HYBACS pumping station chamber, and based on the volume of the excavation within the groundwater of 2.67m³ (based on a conservative estimate of a 3m diameter excavation over a depth of 0.89m (maximum groundwater depth)), the groundwater inflow rate is estimated as 2.225 l/s. This equates to 8.01m³ per hour) and 192.24m³ per day.

The following abstraction rates and volumes are therefore proposed for the abstraction license:

Abstraction Rate: 47.5 l/s (total estimated inflow of 19.0075 l/s, plus 25% contingency, multiplied by 2 to allow for flexibility in the period of abstraction, for example if a faster rate of abstraction is required following a period of downtime and the excavation is full of groundwater).

Abstraction Volume: 2,060m³ per day (based on the estimated inflow of 19.0075 l/s, plus 25% contingency).

If necessary, continue on a separate sheet and upload below.

- File: 16011 - Hydrogeological Assessment-01.pdf - Download

Abstraction quantities

Abstraction location name/reference

Mold Wastewater Treatment Works

What purpose will the water be used for?

Dewatering - no intervening use (discharge will be made to watercourse)

Period of abstraction

Will it be all year?

No

Start Date: [DD/MM/YY]

18/05/2026

End Date: [DD/MM/YY]

31/07/2027

Maximum quantities (cubic metres)

Annual 432,600 (based on 7 months of abstraction in any one year)

Daily 2060

Hourly 171

Peak abstraction rate (in litres per second)

47.5

Number of hours of abstraction per day

24

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.

Dewatering flow estimates have been based on the size and depth of the excavation, the groundwater depths, and the groundwater inflow rate (0.012 l/s) recorded at BH1 during the ground investigations.

For the proposed Primary Settlement Tank, and based on the volume of the excavation within the groundwater of 20.139m³ (based on a conservative estimate of a 13.7m diameter excavation over a depth of 1.47m (maximum groundwater depth)), the groundwater inflow rate is estimated as 16.7825 l/s. This equates to 60.417m³ per hour) and 1,450.008m³ per day.

For the HYBACS pumping station chamber, and based on the volume of the excavation within the groundwater of 2.67m³ (based on a conservative estimate of a 3m diameter excavation over a depth of 0.89m (maximum groundwater depth)), the groundwater inflow rate is estimated as 2.225 l/s. This equates to 8.01m³ per hour) and 192.24m³ per day.

The volumes do not take account of the installation of cofferdams which will significantly reduce the groundwater inflow. The dewatering volumes quoted would likely only be realised on initial excavation and prior to cofferdams being installed.

The following abstraction rates and volumes are therefore proposed for the abstraction license: Abstraction Rate: 47.5 l/s (total estimated inflow of 19.0075 l/s, plus 25% contingency, multiplied by 2 to allow for flexibility in the period of abstraction, for example if a faster rate of abstraction is required following a period of downtime and the excavation is full of groundwater).

Abstraction Volume: 2,060m³ per day (based on the estimated inflow of 19.0075 l/s, plus 25% contingency).

Additional document. (Spreadsheet file formats need to be: .xls, .xlsx, or .ods)

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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.

Not applicable, license required to dewater excavations to facilitate construction

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 (opens in new tab)

	Intake	Outfall
Type of fish screen	n/a	rectangular bar with 30mm spacing
Screen aperture size (mm)	n/a	30mm

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.

A detailed survey of species has not been undertaken, however it is unlikely that the minor watercourse on the eastern site boundary supports significant fish populations. Nevertheless, to protect fish, a bar screen or mesh with 30mm spacing is proposed on the outlet to the watercourse. The 30mm screen size is selected to protect fish and is taken from NRW's 'Intake screening for fish' guidance

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)
	River Alyn Tributary	SJ 24671 63234	2060 per day	n/a
	-	-	-	-
	-	-	-	-
	-	-	-	-

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

A maximum 300mm size pipe with a bar screen or mesh (30mm bar spacing) fitted. The pipe will be anchored in place adjacent using wooden stakes or similar.

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.

The effects on existing users are considered to be negligible based on the abstraction occurring at relatively shallow depth and lack of nearby springs or wells (water abstractions). The abstraction will therefore not impact upon the volume of groundwater within the underlying bedrock aquifer.

The watercourse where discharge will be made is located within the site and under the ownership of Welsh Water. Based on the size of the watercourse, it is not used for recreation or fishing and there are no ‘existing users'.

Planning application

Have you sought advice on your planning 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 Aled Williams

Print name Aled Williams

position Principal Consultant

Date

* 14/04/2026

Submit your application

Enter your email address to get a copy of your application

aled.williams@waterco.co.uk