

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

WRKNIGHTSBROWN3001

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]

19/08/24

If you require a shorter or longer duration licence, please provide details and your justification

Abstraction is purely to facilitate construction of the sewer diversion and limited to dewatering of groundwater - The duration of the works is planned to be 25weeks.

Abstraction details

Abstraction location name/reference

Cardiff Arena

Abstraction point type

Area

National Grid Reference

ST 19354 75243

Downstream National Grid Reference (If abstracting from a reach), or corners of the area.

ST 19185 75167

ST 19132 75064

-

-

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.

Abstraction will be carried out by both wellpoint dewatering systems at circa. 6m deep and supplemented by sump pumps within the excavation itself. The wellpoint dewatering proposal is attached.

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

- File: Q6059 PDL-DES-003 Dewatering proposal v3.0.pdf - [Download](#)

Please upload your drawings and calculations here. (Spreadsheet file formats need to be: .xls, .xlsx, or .ods)

- File: W00157-KBC-TW-003_Phase 3 - Overpumping-.pdf - [Download](#)

Abstraction quantities

Abstraction location name/reference

Cardiff Arena

What purpose will the water be used for?

Purpose of the abstraction is to dewater excavations - Water will be pumped to bute east dock.

Period of abstraction Will it be all year?

No

Start Date: [DD/MM/YY]

02/04/24

End Date: [DD/MM/YY]

19/08/24

Maximum quantities (cubic metres)

Annual 150000

Daily 1200

Hourly 55

Peak abstraction rate (in litres per second)

15.4

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.

Proposed dewatering inflow rates attached along with formal proposal.

Using Ciria Guidance (Ciria 750) to estimate the inflow rate from excavations.

Worst-case is when the launch and 2no. reception pits will be excavated Using the upper limits of the initial inflow rate.

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

- File: Q6059 PDL-DES-003 Dewatering proposal v3.0.pdf - [Download](#)
- File: Cardiff Arena - Dewatering - Infill Rates.pdf - [Download](#)

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.

Groundwater abstracted will be treated by passing through a lamella tank and treatment/dosing tank before being discharged.

The proposed equipment is designed for solids separation from water. The system we are suggesting has the capability to eliminate up to 95% of solids from water. Typically, we operate below a 50mg/l TSS limit on average. As a result, we can expect the discharge to the dock to be under 50mg/l. The two key parameters that will require measurement are Turbidity (TSS) and pH. Our kit is equipped with builtin probes for both of these parameters including flow rates, providing realtime readings 24/7 to a cloudbased platform. This platform allows remote access for all relevant individuals.

The discharge destination is Bute East Dock which is managed by ABP. We have contacted Associated British Ports (ABP) to obtain permission to discharge into Bute East Dock. They did not have a objections to the discharge, but did want to ensure the water is treated and tested to an agreed quality before entering the dock (as they are then responsible for the water in the dock and downstream into the port). They have requested a copy of the discharge consent once we receive it.

generates hard and soft alarms via email
when approaching or breaching compliance limits.”

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)
	Bute East Dock	ST 19354 75243	150,000	236681680
	-	-	-	-
	-	-	-	-
	-	-	-	-

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

Groundwater will be pumped to the discharge location after passing through the water treatment equipment.

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.

No abstractors nearby

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 Joseph Palmer
Print name Joseph Palmer
position Design Manager

Date

* 14/02/2024

Would you like a copy of your submission?

Yes

Your email address

joseph.palmer@knightsbrown.co.uk