

**Notice of request for more information**

Environmental Permitting (England and Wales)  
Regulations 2016

**Notice requiring further information**

To:

Mr Ed Henshaw  
Bluengineering  
NetPark  
Thomas Wright Way  
Sedgefield  
County Durham  
TS21 3FD

Application number: PAN-002900

Natural Resources Wales, in exercise of its powers under paragraph 4 of Part 1 of Schedule 5 of the above Regulations, requires you to provide the information detailed in the attached schedule. The information is required in order to determine your application for a permit, dated 16/07/2018. The information requested should be sent to the following address by 02/11/2018.

Information should be sent to:

Wales Permitting Centre  
Natural Resources Wales  
Cambria House  
29 Newport Road  
Cardiff  
CF24 0TP

Name	Date
Jason Copsey	19/10/2018

Authorised on behalf of Natural Resources Wales

Ffôn/Tel 03000 655193  
Ebost/Email [jason.copsey@cyfoethnaturiolcymru.gov.uk](mailto:jason.copsey@cyfoethnaturiolcymru.gov.uk)  
[jason.copsey@naturalresourceswales.gov.uk](mailto:jason.copsey@naturalresourceswales.gov.uk)

Canolfan Trwyddedu Cymru (Caerdydd), Cyfoeth Naturiol Cymru, Tŷ Cambria, 29 Heol Casnewydd, Caerdydd.  
CF24 0TP  
Wales Permitting Centre (Cardiff), Natural Resources Wales, Cambria House, 29 Newport Road, Cardiff. CF24 0TP

Gwefan/Website [www.cyfoethnaturiolcymru.gov.uk](http://www.cyfoethnaturiolcymru.gov.uk) Croesewir gohebiaeth yn y Gymraeg a'r Saesneg  
[www.naturalresourceswales.gov.uk](http://www.naturalresourceswales.gov.uk) Correspondence welcomed in Welsh and English

## Schedule

1. There is minimal information in the application on the composition of this trade effluent. We note reference to Bromine to be used as a disinfectant but what else might be in the effluent? Is it mains water that is added to the hot tubs? Are there any other cleaning compounds expected in the discharge or any hazardous substances? Evidence could include water quality analyses of other similar discharges you manage.
2. Please can you justify why primary treatment alone is sufficient for this effluent? Evidence could include what treatment is provided in other locations in the UK where the discharge goes to ground.
3. Clarification is required on the percolations values and the references made in Section 3.4 of the supporting information sheet to removing the existing superficial deposits and replacing with higher permeability material. Please can you justify this approach compared to say installing a drainage mound on site which would maintain the integrity of the existing ground?
4. Percolation values in the application form are given as an average of 85. Section 4.1 of the supporting information sheet details the procedure to complete these tests which occurred at the upper layer of the bedrock. This is within the acceptable range for drainage fields, but is towards the lower end, indicating fairly slow rates of percolation. What is the expected effect on percolation values following the excavation of the existing superficial deposits and replacement with more permeable material?
5. Section 5.4 of the supporting information sheet references the use of an impermeable geotextile membrane to restrict rainfall infiltration. Please can you provide further justification for this as it isn't standard practice? Introducing this means less infiltration leading to lower rates of dilution, potentially increased concentrations of pollutants entering groundwater.
6. The infiltration worksheet was developed for scenarios where matrix flow occurs and its calculations for dilution and attenuation assume flow is intergranular. The geological description demonstrates the underlying bedrock is fractured and fissure flow is likely to dominate. It's not clear that this has been sufficiently accounted for in the assessment. Please can you provide additional evidence how fracture flow has been incorporated into your assessment?
7. We'd expect any deterministic assessment, especially where reliance has been made on literature derived values, to include a sensitivity analysis. This has not been provided for in this assessment. Please can you provide further information on the parameters which most affect the modelling results and how realistic the figures used are? The infiltration

Ffôn/Tel 03000 655193  
E-bost/Email [jason.copsey@cyfoethnaturiolcymru.gov.uk](mailto:jason.copsey@cyfoethnaturiolcymru.gov.uk)  
[jason.copsey@naturalresourceswales.gov.uk](mailto:jason.copsey@naturalresourceswales.gov.uk)

Canolfan Trwyddedu Cymru (Caerdydd), Cyfoeth Naturiol Cymru, Tŷ Cambria, 29 Heol Casnewydd, Caerdydd.  
CF24 0TP  
Wales Permitting Centre (Cardiff), Natural Resources Wales, Cambria House, 29 Newport Road, Cardiff. CF24 0TP

Gwefan/Website [www.cyfoethnaturiolcymru.gov.uk](http://www.cyfoethnaturiolcymru.gov.uk) Croesewir gohebiaeth yn y Gymraeg a'r Saesneg  
[www.naturalresourceswales.gov.uk](http://www.naturalresourceswales.gov.uk) Correspondence welcomed in Welsh and English

worksheet user manual gives further guidance on this. For example, are the values for measurements such as hydraulic gradient and hydraulic conductivity realistic? What could be the possible range of values and what does this mean for the modelled predictions?

8. We note that the compliance point for the assessment has been set at 180m with the groundwater considered as a pathway only. NRW do not agree with this approach. The 'prevent and limit' requirements of the Groundwater Directive apply, and groundwater must be considered as a receptor and assessed as such.