Application for an environmental permit Part C6 – Variation to a bespoke water discharge activity and groundwater (point source) activity

Environment Agency

Fill in this part of the form, together with part C2 and part F1, if you are applying to vary (change) the conditions or any other part of the permit. Please check that this is the latest version of the form available from our website.

You only need to give us details in this application for the parts of the permit that will be affected (for example, if you are adding a new facility or making changes to existing ones).

You do not need to resend any information from your original permit application if it is not affected by your proposed changes.

Please read through this form and the guidance notes that came with it.

The form can be:

1) saved onto a computer and then filled in. Please note that the form follows a logic that means questions will open or stay closed depending on a previous answer. So you may not be able to enter text in some boxes.
2) printed off and filled in by hand. Please write clearly in the answer spaces.

It will take less than three hours to fill in this part of the application form.

Contents

About the effluent – details and type

From the list below, choose which type of effluent you are applying for on this form and answer the questions shown in Table 1.

You must fill in a separate copy of this form and the appropriate appendix or appendices for each type of effluent you plan to discharge.

Table 1 – About the effluent

Type of effluent	Charge band	Please tick box	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Sewage effluent (non-water company)	1.3.3 Sewage effluent discharge with a volume up to and including 5 m^3/day to surface water from domestic household or organisation operating for charitable purposes	☐	All	a, b, c, d	b, f	-	a, b	All	-	b*, e*	a, b, c, f*, g, h	All
	1.3.4 Sewage effluent discharge with a volume up to and including 5 m^3/day to groundwater from domestic household or organisation operating for charitable purposes	☐	All	a, b, c, d	b, f	-	a, b	All	-	d, e*	a, b, c, f*, g, h	All
	1.3.5 Sewage effluent discharge with a volume up to and including 5 m^3/day to surface water (not requiring specific substances assessment)	☐	All	a, b, c, d	b, f	-	a, b	All	-	b*, e*	a, b, c, f*, g, h	All
	1.3.6 Sewage effluent discharge with a volume up to and including 5 m^3/day to groundwater (not requiring specific substances assessment)	☐	All	a, b, c, d	b, f	-	a, b	All	-	d, e*	a, b, c, f*, g, h	All
	1.3.7 Sewage effluent discharge with a volume greater than 5 m^3/day up to and including 15 m^3/day to groundwater (not requiring specific substances assessment)	☐	All	a, b, c, d	b, f	-	a, b	All	-	d, e*	a, b, c, f*, g, h	All
	1.3.8 Sewage effluent discharge with a volume greater than 15 m^3/day to groundwater (not requiring specific substances assessment)	☐	All	a, b, c, d	b, f	-	a, b	All	-	d, e*	a, b, c, d*, e*, f*, g, h	All
	1.3.9 Sewage effluent discharge to groundwater requiring specific substances assessment (any volume)	☐	All	a, b, c, d	b, f	-	a, b	All	b, c, d	d, e*	a, b, c, d*, e*, f*, g, h	All
	1.3.10 Sewage effluent discharge with a volume greater than 5 m^3/day up to and including 50 m^3/day to surface water (not requiring specific substances assessment)	☐	All	a, b, c, d	b, f	-	a, b	All	-	b*, e*	a, b, c, f*, g, h	All

Table 1 – About the effluent, continued

Type of effluent	Charge band	Please tick box	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Sewage effluent (non-water company)	1.3.11 Sewage effluent discharge with a volume greater than 50 m^3/day to surface water (not requiring specific substances assessment)	☐	All	a, b, c, d	b, f	-	a, b	All	-	b*, e*	a, b, c, d*, e*, f*, g, h	All
	1.3.11 Sewage effluent discharge to surface water requiring specific substances assessment (any volume)	☐	All	a, b, c, d	b, f	-	a, b	All	b, c, d	b*, c, e*	a, b, c, d*, e*, f*, g, h	All
Water company WwTW treated sewage effluent	1.3.5 Sewage effluent discharge with a volume up to and including 5 m^3/day to surface water (not requiring specific substances assessment)	☐	All	a, b	a, f (b is optional)	-	-	All	-	a, b*, e*	a, b, c, f*, g, h	All
	1.3.6 Sewage effluent discharge with a volume up to and including 5 m^3/day to groundwater (not requiring specific substances assessment)	☐	All	a, b	a, f (b is optional)	-	-	All	-	a, d, e*	a, b, c, f*, g, h	All
	1.3.7 Sewage effluent discharge with a volume greater than 5 m^3/day up to and including 15 m^3/day to groundwater (not requiring specific substances assessment)	☐	All	a, b	a, f (b is optional)	-	-	All	-	a, d, e*	a, b, c, f*, g, h	All
	1.3.8 Sewage effluent discharge with a volume greater than 15 m^3/day to groundwater (not requiring specific substances assessment)	☐	All	a, b	a, f (b is optional)	-	-	All	-	a, d, e*	a, b, c, d*, e*, f*, g, h	All
	1.3.9 Sewage effluent discharge to groundwater requiring specific substances assessment (any volume)	☐	All	a, b	a, f (b is optional)	-	-	All	a, b, c, d	a, d, e*	a, b, c, d*, e*, f*, g, h	All
	1.3.10 Sewage effluent discharge with a volume greater than 5 m^3/day up to and including 50 m^3/day to surface water (not requiring specific substances assessment)	☐	All	a, b	a, f (b is optional)	-	-	All	-	a, b*, e*	a, b, c, f*, g, h	All
	1.3.11 Sewage effluent discharge with a volume greater than 50 m^3/day to surface water (not requiring specific substances assessment)	☐	All	a, b	a, f (b is optional)	-	-	All	-	a, b*, e*	a, b, c, d*, e*, f*, g, h	All
	1.3.11 Sewage effluent discharge to surface water requiring specific substances assessment (any volume)	☐	All	a, b	a, f (b is optional)	-	-	All	a, b, c, d	a, b*, c, e*	a, b, c, d*, e*, f*, g, h	All

Table 1 – About the effluent, continued

Type of effluent	Charge band	Please tick box	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Settled storm sewage	1.3.19 Combined sewer overflow	☐	All	a, b	-	a, b, c, d, f, g, h, i, j, k	-	All	-	a, b*, d*, e*	b, g, h	All
Storm sewage	1.3.19 Combined sewer overflow	☐	All	a, b	-	a, b, c, e, f, g, h, i, j, k	-	All	-	a, b*, d*, e*	b, g, h	All
Emergency overflow	1.3.20 Emergency overflows	☐	All	a, b	-	a, l, m, n, o	-	All	-	a, b*, d*, e*	b, g, h	All
Trade and/or non-sewage – known volume	1.3.12 Trade and/or non-sewage effluent discharge to surface water or groundwater with a volume up to and including 5 m^3/day (not requiring specific substances assessment)	☐	All	a, b, c, d	b, c, f	-	a, b	All	b, c, d	b*, d*, e*	b, f*, g, h	All
	1.3.13 Trade and/or non-sewage effluent discharge to surface water or groundwater with a volume greater than 5 m^3/day (not requiring specific substances assessment)	☐	All	a, b, c, d	b, c, f	-	a, b	All	b, c, d	b*, d*, e*	b, d*, e*, f*, g, h	All
	1.3.14 Trade and/or non-sewage effluent discharge to surface water or groundwater requiring specific substances assessment (any volume)	☐	All	a, b, c, d	b, c, f	-	a, b	All	b, c, d	b*, c, d*, e*	b, d*, e*, f*, g, h	All
Trade and/or non-sewage – rainfall-dependent	1.3.12 Trade and/or non-sewage effluent discharge to surface water or groundwater with a volume up to and including 5 m^3/day (not requiring specific substances assessment)	☐	All	a, b	b, e, f	-	-	All	b, c, d	b*, d*, e*	b, f*, g, h	All
	1.3.13 Trade and/or non-sewage effluent discharge to surface water or groundwater with a volume greater than 5 m^3/day (not requiring specific substances assessment)	☑	All	a, b	b, e, f	-	-	All	b, c, d	b*, d*, e*	b, d*, e*, f*, g, h	All
	1.3.14 Trade and/or non-sewage effluent discharge to surface water or groundwater requiring specific substances assessment (any volume)	☐	All	a, b	b, e, f	-	-	All	b, d	b*, c, d*, e*	b, d*, e*, f*, g, h	All

Table 1 – About the effluent, continued

Type of effluent	Charge band	Please tick box	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Mixed effluent (sewage combined with trade and/or non-sewage) – known volume	1.3.5 Sewage effluent discharge with a volume up to and including 5 m^3/day to surface water (not requiring specific substances assessment)	☐	All	a, b, c, d	b, c, f	-	a, b	All	b, c, d	b*, e*	a, b, c, f*, g, h	All
	1.3.6 Sewage effluent discharge with a volume up to and including 5 m^3/day to groundwater (not requiring specific substances assessment)	☐	All	a, b, c, d	b, c, f	-	a, b	All	b, c, d	d, e*	a, b, c, f*, g, h	All
	1.3.7 Sewage effluent discharge with a volume greater than 5 m^3/day up to and including 15 m^3/day to groundwater (not requiring specific substances assessment)	☐	All	a, b, c, d	b, c, f	-	a, b	All	b, c, d	d, e*	a, b, c, f*, g, h	All
	1.3.8 Sewage effluent discharge with a volume greater than 15 m^3/day to groundwater (not requiring specific substances assessment	☐	All	a, b, c, d	b, c, f	-	a, b	All	b, c, d	d, e	a, b, c, d*, e*, f*, g, h	All
	1.3.9 Sewage effluent discharge to groundwater requiring specific substances assessment (any volume)	☐	All	a, b, c, d	b, c, f	-	a, b	All	b, c, d	d, e*	a, b, c, d*, e*, f*, g, h	All
	1.3.10 Sewage effluent discharge with a volume greater than 5 m^3/day up to and including 50 m^3/day to surface water (not requiring specific substances assessment)	☐	All	a, b, c, d	b, c, f	-	a, b	All	b, c, d	b*, e*	a, b, c, f*, g, h	All
	1.3.11 Sewage effluent discharge with a volume greater than 50 m^3/day to surface water (not requiring specific substances assessment)	☐	All	a, b, c, d	b, c, f	-	a, b	All	b, c, d	b*, e*	a, b, c, d*, e*, f*, g, h	All
	1.3.11 Sewage effluent discharge to surface water requiring specific substances assessment (any volume)	☐	All	a, b, c, d	b, c, f	-	a, b	All	b, c, d	b, c, d	a, b, c, d*, e*, f*, g, h	All

Table 1 – About the effluent, continued

Type of effluent	Charge band	Please tick box	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Mixed effluent (sewage combined with trade and/or non-sewage) containing rainfall-dependent effluent	1.3.5 Sewage effluent discharge with a volume up to and including 5 m^3/day to surface water (not requiring specific substances assessment)	☐	All	a, b	b, c, d, e, f	-	a, b	All	b, c, d	b*, e*	a, b, c, f*, g, h	All
	1.3.6 Sewage effluent discharge with a volume up to and including 5 m^3/day to groundwater (not requiring specific substances assessment)	☐	All	a, b	b, c, d, e, f	-	a, b	All	b, c, d	d, e*	a, b, c, f*, g, h	All
	1.3.7 Sewage effluent discharge with a volume greater than 5 m^3/day up to an including 15 m^3/day to groundwater (not requiring specific substances assessment)	☐	All	a, b	b, c, d, e, f	-	a, b	All	b, c, d	d, e*	a, b, c, f*, g, h	All
	1.3.8 Sewage effluent discharge with a volume greater than 15 m^3/day to groundwater (not requiring specific substances assessment)	☐	All	a, b	b, c, d, e, f	-	a, b	All	b, c, d	d, e*	a, b, c, d*, e*, f*, g, h	All
	1.3.9 Sewage effluent discharge to groundwater requiring specific substances assessment (any volume)	☐	All	a, b	b, c, d, e, f	-	a, b	All	b, c, d	d, e*	a, b, c, d*, e*, f*, g, h	All
	1.3.10 Sewage effluent discharge with a volume greater than 5 m^3/day up to and including 50 m^3/day to surface water (not requiring specific substances assessment)	☐	All	a, b	b, c, d, e, f	-	a, b	All	b, c, d	b*, e*	a, b, c, f*, g, h	All
	1.3.11 Sewage effluent discharge with a volume greater than 50 m^3/day to surface water (not requiring specific substances assessment)	☐	All	a, b	b, c, d, e, f	-	a, b	All	b, c, d	b*, e*	a, b, c, d*, e*, f*, g, h	All
	1.3.11 Sewage effluent discharge to surface water requiring specific substances assessment (any volume)	☐	All	a, b	b, c, d, e, f	-	a, b	All	b, c, d	b*, c, e*	a, b, c, d*, e*, f*, g, h	All

Table 1 – About the effluent, continued

Type of effluent	Charge band	Please tick box	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Trade – returned abstracted water (including ground source heating and cooling)	1.3.15 Cooling water or thermal discharge to surface water or groundwater (not requiring specific substances assessment)	☐	All	a, b, c, d	b, c, f	-	-	All	b, c, d, e, f	b*, d*, e*	a*, b, d*, e*, f*, g, h	All
	1.3.16 Cooling water or thermal discharge to surface water or groundwater requiring specific substances assessment	☐	All	a, b, c, d	b, c, f	-	-	All	b, c, d, e, f	b*, c, d*, e*	a*, b, d*, e*, f*, g, h	All
	1.3.17 Aquaculture (not requiring specific substances assessment)	☐	All	a, b, c, d	b, c, f	-	-	All	b, c, d	b*, d*, e*	a*, b, d*, e*, f*, g, h	All
	1.3.18 Aquaculture requiring specific substances assessment	☐	All	a, b, c, d	b, c, f	-	-	All	b, c, d	b*, c, d*, e*	a*, b, d*, e*, f*, g, h	All

* Check the relevant question and our guidance notes on part C6 to see if you need to give an answer.

1 About the variation you are applying for

1a Give a brief description of the changes you want to make to your permit

In order to re-establish permeability within the target formation, it may be necessary to undertake a reservoir stimulation, which is designed to create channels of communication through the near wellbore formation, having been blocked by formation damage as a result of the initial drilling and completion operations.

Retained non-hazardous proppant carriert fluid left within the target formation upon completion of the hydraulic fracture stimulation.

Only after the reservoir stimulation operations are complete is the proppant carriert fluid considered a waste.

1b Give this effluent a unique name: Proppant Carrier Fluid

You must use this name to identify this effluent throughout this application and all associated documents.

1c Is this a release from a dam, weir or sluice ('reservoir release') under Schedule 21 of the EPR meaning of water discharge activity?

Yes ☐
No ☑

1d Have you obtained all the necessary permissions in addition to this environmental permit to be able to carry out the discharge (see B6 guidance notes for more details)?

Yes ☑
No ☐
N/A ☐

2 About the effluent – how long will you need to discharge the effluent for?

2a What date do you want the permit for this effluent to start? 01/01/2025 (DD/MM/YYYY)

Please note that charges will start on this date, even if you have not started to discharge, unless you contact us to change (delay) the start date (see the guidance notes on part C6). The start date cannot be before the permit is issued and cannot be changed (delayed) after it has already passed.

2b Is the discharge time limited?

Yes ☐ Please give the date you expect the discharge to end but please note that your permit will not end on that date and you will still need to notify us to surrender the permit _____ (DD/MM/YYYY)

No ☑

2c Will the discharge take place all year?

Yes ☐
No ☑ Please give details of the months when you will make the discharge: TBC

2d Will the discharge take place on more than six days in any year?

Yes ☐
No ☑

3 How much do you want to discharge?

3a What is the daily dry weather flow? _____ cubic metres

3b What is the maximum volume of effluent you will discharge in a day? 70.00 cubic metres

Show how you calculated the figure given in the box below and continue on a separate sheet if necessary, giving a reference for the extra sheet

In order to re-establish permeability within the target formation, it may be necessary to undertake a reservoir stimulation, which is designed to create channels of communication through the near wellbore formation, having been blocked by formation damage as a result of the initial drilling and completion operations.

The reservoir stimulation will be carried out as a single stage treatment in the WNA-2 borehole. Carrier fluid volumes for a single stage treatment are 60m3 - 70m3 with 12.5 tonnes of proppant entrained. The fluid mix is injected at a surface pressure of 9,000psi at a low rate for less than one (1) hour, then flowed back to surface in a controlled manner through well clean-up equipment.

3 How much do you want to discharge?, continued

Document reference: 05 Waste Management Plan

3c What is the maximum rate of discharge? litres a second

3d What is the maximum volume of non-rainfall dependent effluent you will discharge in a day? 70.00 cubic metres

3e What is the maximum rate of rainfall dependent discharge? litres a second

3f For each answer in question 3, show how you worked out the figure on a separate sheet

Document reference: As per 3b

4 Intermittent sewage discharges

4a For each answer to b to o below, show how you worked out the figure on a separate sheet

Document reference

4b What is the total volume of the off-line/storm tank storage? cubic metres

4c What is the total volume of on-line storage? cubic metres

4d What is the pass forward flow at the settled storm overflow setting? litres per second

4e What is the pass forward flow at the storm overflow setting? litres per second

4f Is the discharge screened?

Yes ☐ Answer the relevant questions from 4g to 4j

No ☐ Now go to 4k

4g What is the mesh screen spacing? millimetres

4h What is the minimum screen capacity flow through the mesh screen? litres per second

4i What is the bar screen spacing? millimetres

4j What is the minimum screen capacity flow through the bar screen? litres per second

4k Is the overflow constructed to good engineering design?

Yes ☐

No ☐ On a separate sheet explain what standards the overflow has been constructed to

Document reference

4l What is the emergency storage capacity of the sewer and wet well? cubic metres

4m What is the storage time within the sewer and the wet well above the top water level at dry weather flow? hours and minutes

4n What is the pass forward flow at the pumping station? litres per second

4o For intermittent emergency overflows you must provide a document setting out the key protection measures you will provide

Document reference for pumping station key protection measures

5 Should your discharge be made to the foul sewer?

Foul sewer means public or private foul sewer.

Before answering these questions, you must read the guidance notes to part C6.

You will also need to contact your sewerage undertaker (usually your local water company) and you may need to check if it is possible to connect to a private foul sewer.

5a How far away is the nearest foul sewer from the boundary of the premises? metres

5b To assess whether it is reasonable to discharge your effluent into the foul sewer, please answer 5b1 or 5b2

5b1 Discharges from domestic properties

5 Should your discharge be made to the foul sewer?, continued

Multiply the number of properties served by the sewage treatment system by 30 metres.

Number of domestic properties served by the sewage treatment system [ ] × 30 metres = [ ] metres

5b2 Discharges from all other premises including trade effluent

Divide the volume of the discharge (in cubic metres) by 0.75 and then multiply this figure by 30 metres.

Volume of the discharge (answer to question 3b) [ ] cubic metres / 0.75 = [ ] × 30 = [ ] metres

Is your answer to question 5b1 or 5b2 above greater than the distance to the nearest foul sewer (answer to 5a)?

No ☐ You do not need to explain why you cannot discharge your effluent into the foul sewer at this point. However, we may request this information from you when we determine your application. Now go to question 6.

Yes ☐ You must explain on a separate sheet why you cannot discharge your effluent into the foul sewer, giving a reference for the extra sheet. Before you submit the application, you must explore the possibility of connecting to the foul sewer, and send us evidence that you have approached the sewerage undertaker, including their formal response regarding connection, if relevant. You must also show the extra cost of connecting to a sewer compared with the treatment system you propose, and details of any physical obstacles such as roads, railways, rivers or canals.

We will only agree to the use of private treatment systems within sewered areas if you can demonstrate that:

- the additional cost of connecting to the foul sewer would be unreasonable
- connection is not practically feasible, or
- the proposed private treatment system can be shown to significantly benefit the environment

We are unlikely to grant a permit for a discharge of treated domestic sewage in circumstances where a private sewerage system is being proposed due to a lack of capacity in the nearest public sewerage network.

The guidance notes to part C6 will help you understand what information you need to provide in order to answer this question.

Document reference for where you have given this justification [ ]

6 How will the effluent be treated?

6a Do you treat your effluent?

Yes ☐ Now go to question 6b

No ☑ You must explain why the effluent will not be treated

Document reference for where you have given this justification [05 Waste Management Plan]

6b Fill in Table 2 for each stage of the treatments carried out on your effluent in the order in which they are carried out

Table 2 – Treatments carried out on your effluent

Order of treatment	Code number	Description
First		
Second		
Third		
Fourth		

Continue on a separate sheet if you need more rows. If you prefer, you can also send us an overall design for the whole treatment process.

Document reference [ ]

7 What will be in the effluent?

For all applications, whether to surface water, or onto or into ground, you should still check to see if your discharge is likely to contain any of the specific substances listed in the guidance documents on 'Risk assessment for treated sewage or trade effluent discharges to surface water or groundwater' – search for this term at www.gov.uk/government/organisations/environment-agency and answer the relevant questions for your discharge below.

7a Are any of the specific substances listed in 'Risk assessment for treated sewage or trade effluent discharges to surface water or groundwater' likely to enter the sewerage system upstream of the discharge through any authorised or known inputs?

Yes ☐

No ☑

7 What will be in the effluent?, continued

7b Are any of the specific substances listed in 'Risk assessment for treated sewage or trade effluent discharges to surface water or groundwater' added to or present in the effluent as a result of the activities on the site?

Yes ☐

No ☑

7c Have any of the specific substances listed in 'Risk assessment for treated sewage or trade effluent discharges to surface water or groundwater' been detected in samples of the effluent or in the sewerage catchment upstream of the discharge?

Yes ☐

No ☑

7d Are there any other harmful or specific substances in your effluent not mentioned in 'Risk assessment for treated sewage or trade effluent discharges to surface water or groundwater'?

Yes ☐

No ☑

7e What is the maximum temperature of your discharge? 60.00 degrees Celsius

7f What is the maximum expected temperature change compared to the incoming water supply?

_____ increase in degrees Celsius

_____ decrease in degrees Celsius

8 Environmental risk assessments and modelling

You may need to carry out an environmental risk assessment or modelling to support your application. Please answer all the questions that are relevant to your discharge. If an environmental risk assessment or modelling is required, you must send it to us with your application.

8a Sewer modelling report (for discharges of final effluent from a water company WwTW or intermittent sewage discharges)

You must carry out sewer modelling following the guidance 'Surface water pollution risk assessment for your environmental permit' at www.gov.uk/government/organisations/environment-agency. Send us details of how the modelling was carried out and the outcome.

Document reference for the sewer modelling report _____

8b Discharges to lakes, estuaries, coastal waters or bathing waters

You must carry out modelling following the guidance 'Surface water pollution risk assessment for your environmental permit' at www.gov.uk/government/organisations/environment-agency. Send us details of how the modelling was carried out and the outcome.

Document reference for the modelling report _____

8c Discharges to freshwater (non-tidal) rivers

If the discharge contains, or potentially contains, any specific substances, you must carry out screening following the guidance 'Surface water pollution risk assessment for your environmental permit' at www.gov.uk/government/organisations/environment-agency. The guidance notes on part C6 outline the information you must provide.

Have you answered yes to any of 7a to 7d?

Yes ☐ Send us the completed screening tool, along with the raw data used to create the summary statistics

Document reference for the screening tool and raw data _____

No ☐

8d Discharges to groundwater

You must carry out a groundwater quantitative risk assessment following the guidance in 'Groundwater risk assessment for your environmental permit' at www.gov.uk/government/organisations/environment-agency. Send us details of how the modelling was carried out and the outcome.

For groundwater remediation schemes you must send us a site-specific remediation strategy that has been agreed with the local Environment Agency Groundwater and Contaminated Land Team.

Document reference for the groundwater remediation report 07 - Environmental Risk Assessment

8 Environmental risk assessments and modelling, continued

8e Environmental impact assessment

Have you carried out an environmental impact assessment?

Yes ☐ Send us details of how the assessment was carried out and the outcome

Document reference for the environmental impact assessment

No ☑

9 Monitoring arrangements

Note: If your effluent has a maximum volume of **no more than** 50 cubic metres a day you do not need to complete question 9d or 9e.

9a What is the national grid reference of the inlet sampling point? (for example, SJ 12345 67890) TBC

9b What is the national grid reference of the effluent sample point? TBC

9c Do you have an Urban Waste Water Treatment Directive final effluent sampling point?

Yes ☐ Please provide the national grid reference

No ☑

9d What is the national grid reference of the flow monitoring point? TBC

9e Does the flow monitor have an MCERTS certificate?

Yes ☐ Please give the certificate number

No ☑

9f Do you have a UV disinfection efficacy monitoring point?

Yes ☐ Please provide the national grid reference

No ☑

9g You should clearly mark on the plan the locations of any of the above that apply to this effluent

Document reference for the plan TBC

9h Do you intend to do your own effluent monitoring?

Yes ☑

No ☐

10 Where will the effluent discharge to?

10a Mark in Table 3 where this effluent discharges to and fill in the relevant appendix or appendices.

You must use the name you gave to this effluent in answer to question 1b of this form when filling in your relevant appendix or appendices.

Table 3 – Where the effluent discharges to

Receiving environment		Relevant appendix
Borehole or well	☒	1
Into land (for example, through a drainage system)	☐	2
Onto land	☐	3
Tidal river, tidal stream, estuary or coastal waters	☐	4
Non-tidal river, stream or canal	☐	5
Lake or pond	☐	6

10b Is this effluent discharged through more than one outlet?

Yes ☐ Give details, on a separate sheet, of the circumstances under which each outlet would be used by this effluent

Document reference

No ☑

10c If you answered yes to question 10b above make sure you show clearly on your discharge point appendix or appendices and site plan that this one effluent can discharge to more than one discharge point.

You must give us all the details we need for each of the discharge points used by this effluent.

11 How to contact us

If you need help filling in this form, please contact the person who sent it to you or contact us as shown below.

General enquiries: 03708 506 506 (Monday to Friday, 8am to 6pm)

Textphone: 03702 422549 (Monday to Friday, 8am to 6pm)

Email: enquiries@environment-agency.gov.uk

Website: www.gov.uk/government/organisations/environment-agency

If you are happy with our service, please tell us. It helps us to identify good practice and encourages our staff. If you're not happy with our service, please tell us how we can improve it.

Please tell us if you need information in a different language or format (for example, in large print) so we can keep in touch with you more easily.

Feedback

(You don't have to answer this part of the form, but it will help us improve our forms if you do.)

We want to make our forms easy to fill in and our guidance notes easy to understand. Please use the space below to give us any comments you may have about this form or the guidance notes that came with it.

How long did it take you to fill in this form?

We will use your feedback to improve our forms and guidance notes, and to tell the Government how regulations could be made simpler.

Would you like a reply to your feedback?

Yes please ☐

No thank you ☐

For Environment Agency use only

Date received (DD/MM/YYYY)

Our reference number

Payment received?

No ☐

Yes ☐ Amount received

£

Plain English Campaign's Crystal Mark does not apply to appendices 1 to 6.

Appendix 1 – Discharges to a borehole or well (or other deep structure)

If you are discharging the effluent to a borehole or well or other deep structure (such as concrete rings, natural swallow hole or deep soakage pit) you must ensure that the discharge is indirect to groundwater. Direct discharges to groundwater cannot be permitted. We will undertake a groundwater quantitative risk assessment on your behalf in line with the guidance 'Groundwater risk assessment for your environmental permit' at www.gov.uk/government/organisations/environment-agency.

For us to do this you must answer the following questions relevant to your application and provide us with additional information as summarised in Table 4.

Without this information we will be unable to complete the risk assessment and it is likely your application will be rejected.

Answer all the questions below. Use a separate line for each effluent if more than one effluent discharges using this discharge point. Remember, when linking your effluent to a discharge point you must use the name you gave to your effluent in answer to question 1b in the effluent form.

1.1 Give the discharge point a unique name
For example, 'Outlet 1' (you must use this name to identify the discharge point on the plan) WNA-2 Reservoir Stimulation Discharge Point

1.2 Give the national grid reference of the discharge point TBC

1.3 Is the discharge to ground via a

Well ☑

Borehole ☐

Other deep structure ☐ Please give details (e.g. concrete ring structure, shaft, natural swallow hole, soakage pit etc)

1.4 What is the diameter of the borehole, well or other deep structure that the effluent will be discharged into? _____ metres

1.5 Is the borehole, well or other structure already constructed?

Yes ☑ Now answer questions 1.6 to 1.9

No ☐ Now answer questions 1.10 to 1.12

Existing borehole, well or other deep structure

1.6 What is the total depth to the bottom of the existing well, borehole or other structure? 1,921.00 metres below ground level

If you are unaware of the actual depth please estimate the depth based on the following categories:

0–5 metres ☐

5–10 metres ☐

Greater than 10 metres ☐

Uncertain ☐

What evidence is the estimated depth above based on? _____

1.7 Does the well, borehole or other structure extend into groundwater?

Yes – always contains water ☐

Sometimes – water is present occasionally ☐

No – never contains water ☐

If groundwater is always, or sometimes, present, what is the highest level that the standing water reaches?

Measured ☐ _____ metres below ground level

Estimated ☐ _____ metres below ground level

Appendix 1 – Discharges to a borehole or well (or other deep structure), continued

1.8 Please provide any records, diagrams or borehole logs you may have that could help us understand:

- the method of construction (including any solid casings or linings used)
- the likely depth of the deep structure
- the local groundwater conditions

Please provide photocopies where possible. If it is not possible (for example, if the documents are large or bulky) please summarise any additional information you have on a separate sheet.

Document reference for the records, diagrams or borehole logs: 05 - Waste Management Plan

1.9 If any maintenance has been carried out on your well, borehole or other deep structure (for example, to aid effective drainage), please give details below

Discharge is for proppant carrier fluid.

Please now answer question 1.13

Proposed borehole, well or other deep structure that has not yet been constructed

1.10 Please tell us why you are unable to install a shallow engineered drainage system. This information forms an important part of our permit determination process. Which methods of shallow disposal have you considered, and why did you decide these were not feasible to take forward? Please answer questions 1.10a and 1.10b to provide the results of soakage tests and summarise in the box any relevant information supporting your decisions (for example, permission refusals from landowners or physical constraints, or land availability or proximity to buildings).

1.10a What was your percolation value (Vp) result? _____ seconds per millimetre

You must show in Table 4 how you worked out the percolation value.

Table 4 – Percolation value

	Trial 1	Trial 2	Trial 3	Average
Hole 1				
Hole 2				
Hole 3				
Hole 4				

1.10b If a shallow engineered drainage system were feasible, what would be the required surface area of your infiltration system? _____ square metres

Supporting information to explain why you are unable to install a shallow engineered drainage system can be appended to your application.

Document reference for these details _____

1.11 Please tell us the type of deep structure (for example, borehole, well, deep soakage pit) you propose to install

What will the total depth be? _____ metres below ground level

Appendix 1 – Discharges to a borehole or well (or other deep structure), continued

1.12 Please tell us the reason this depth has been selected and, if you are aware of any relevant existing information on local water levels, please also tell us the depth to groundwater (in metres below ground level). What measures will you undertake to ensure the discharge is not direct into groundwater? If the discharge will be direct to groundwater explain why you cannot make it indirect. Direct discharges to groundwater cannot be permitted.

Proximity of your discharge to other receptors

1.13 Is the borehole, well or other deep structure where the discharge is being/will be made within 50 metres of any other well, spring or borehole used to supply water for drinking water or food production purposes?

Yes ☐ Please show the location of the well, spring or borehole you identified in answer to question 1.13 on the plan you have provided for section 4 of the main application form. Please now answer question 1.14

No ☑ Please now answer question 1.15

1.14 Please tell us about the water supply (or supplies) used for drinking water or food production purposes identified in question 1.13 above; for example, the name of the property or properties served by the water supply, what they use the water for (drinking water, food production) and where they are in relation to your discharge

1.15 What is the distance to the nearest watercourse (for example, surface water, river, stream or ditch)? _____ metres

Please tell us whether you have considered discharging to surface water and why this is not feasible

In Table 5 please provide any further information required for us to complete a groundwater quantitative risk assessment on your behalf in line with the guidance 'Groundwater risk assessment for your environmental permit' at www.gov.uk/government/organisations/environment-agency. Without this information we will be unable to carry out a hydrogeological risk assessment on your behalf.

Table 5 summarises the information required to allow us to undertake a hydrogeological risk assessment of your discharge to a deep infiltration system. Without this information your application will be rejected. You will already have provided some of this information earlier in this application form. **We also need you to provide additional information indicated by a tick (✓) in Table 5**. For further guidance on the additional information required please search for 'Groundwater risk assessment for your environmental permit' at www.gov.uk/government/organisations/environment-agency and the guidance notes on part C6. You may require the advice of an environmental consultant to collate this information.

For some of the risk assessment inputs we are better placed to provide the information and will do so for those parameters indicated by an asterisk (*) as far as possible. However, if you wish to provide site-specific information for those parameters with an asterisk you are welcome to do so.

Appendix 1 – Discharges to a borehole or well (or other deep structure), continued

Table 5 – Further information required for the Environment Agency to complete a groundwater quantitative risk assessment on your behalf

Information	Description	Existing structure	Proposed structure	Information supplied?
Information supplied by the applicant This has already been requested earlier in the application form				**Information you have already supplied on the application form**
National grid reference of the discharge point		Appendix 1 Q2	Appendix 1 Q2	
Volume of effluent (m^3 per day)		Q3b	Q3b	
Type of effluent treatment	Septic tank, package treatment plant, other	Q6	Q6	
Type of deep infiltration system	Borehole, well, concrete ring structure, other	Appendix 1 Q3	Appendix 1 Q3	
Diameter of deep infiltration system (metres)		Appendix 1 Q4	Appendix 1 Q4	
Depth to the base of deep infiltration structure (metres)		Appendix 1 Q6	Appendix 1 Q11	
Depth to water table (metres)	Is discharge above or below water table?	Appendix 1 Q7, Q8	Appendix 1 Q12	
Justification for a deep infiltration system	Why are you unable to install a shallow infiltration system? What other options for disposal have been considered? Provide full details of the infiltration tests undertaken plus results	Appendix 1 Q8 if available	Appendix 1 Q10	
Information supplied by the applicant This is additional information we need from you that is not provided elsewhere on the application form. Site data should be given where it is already available. If not, you can submit the relevant literature values quoting the source of the data and justification of the values you have selected. **Please tick the right-hand column to confirm you have provided this essential information.**				
Concentration of relevant substances entering the infiltration system	For discharges of domestic effluent we will routinely assess the concentration of nitrogen species, particularly the ammonium concentration	✓	✓	☐
Length of screened borehole section below the water table (metres)	Depth in metres of the borehole screened section that is below the water table (This applies only to boreholes that have groundwater in the base)	✓	✓	☐
Calculated area of infiltration system (square metres)	Explain how the area of the infiltration system has been calculated – this is especially relevant if a non-circular system is used	✓	✓	☐
Unsaturated zone parameters	The following represent the strata above the water table: • hydraulic conductivity (metres per day) • water-filled porosity (per cent) • bulk density (grammes per cubic centimetre)	✓	✓	☐
Saturated zone parameters	The following represent the strata above the water table: • hydraulic conductivity (metres per day) • water-filled porosity (per cent) • bulk density (grammes per cubic centimetre) • hydraulic gradient of the water table (fraction)	✓	✓	☐

Appendix 1 – Discharges to a borehole or well (or other deep structure), continued

Information	Description	Existing structure	Proposed structure	Information supplied?
Information provided by the Environment Agency where possible You are free to provide this information if you wish, or in some specific cases we may need to ask for this at a later stage. Please tick if you have provided this information (optional).				
Environmental standard	The relevant environmental standard or compliance value against which we will assess your effluent discharge	*	*	☐
Half-life for degradation of the substance (days)	**If you wish to know more about these parameters see 'Groundwater risk assessment for your environmental permit' at www.gov.uk/government/organisations/environment-agency**	*	*	☐
Soil water partition coefficient (litres per kilogramme)		*	*	☐
Mixing zone thickness (metres)		*	*	☐
Distance to compliance point (metres)		*	*	☐

Appendix 2 – Discharges into land

Answer the questions below. Use a separate line for each effluent if more than one effluent discharges using this discharge point. Remember, when linking your effluent to a discharge point you must use the name you gave to your effluent in answer to question 1b in the effluent form.

2.1 Give the discharge point a unique name
For example, 'Outlet 1' (you must use this name to identify the discharge point on the plan)

2.2 Give the national grid reference of the discharge point

2.3 Is your infiltration system new or existing?

New ☐ Now go to question 2.5

Existing ☐ Now go to question 2.4

2.4a When was it built?

2.4b Now answer questions 2.5–2.8 if you are able to, if not leave them blank and go to question 2.9

2.5 Is your infiltration system designed and built to British Standard 6297:2007 + A1:2008 or the British Standards in force at the time of installation?

Yes ☐

No ☐ Please provide details, on a separate sheet, of the design criteria used for your infiltration system

Document reference

2.6 On what date did you carry out a percolation test and dig a trial hole in line with British Standard 6297:2007 + A1:2008? (DD/MM/YYYY)

2.7 What is your percolation value (Vp) result? seconds per millimetre

You must show in Table 6 how you worked out the percolation value. Please also provide your test sheets and any field notes or observations made regarding ground conditions.

Table 6 – Percolation value

	Trial 1	Trial 2	Trial 3	Average
Hole 1				
Hole 2				
Hole 3				
Hole 4				

2.8 Please show us how you have calculated the area (A) of your infiltration system

p ☐ × Vp ☐ × 0.25 for septic tanks = A ☐ square metres

or

p ☐ × Vp ☐ × 0.20 for package treatment plants = A ☐ square metres

p Population based on maximum occupancy

Vp Percolation value in seconds/mm

2.9 If known, mark on the plan you have provided the extent of the infiltration system. Please write on the plan the length and width of the sides in metres.

2.10 Is any part of your infiltration system within 50 metres of a well, spring or borehole?

No ☐

Yes ☐ Identify the location of the well, spring or borehole on the plan you have provided and answer question 2.11

2.11 Is the well, spring or borehole you have identified used to supply water?

No ☐

Yes ☐ You must describe what the water supplied is used for

2.12 Is any part of your infiltration system within 10 metres of a watercourse?

No ☐

Yes ☐ Identify the location of the watercourse on the plan you have provided for section 4 of part C2

Appendix 3 – Discharges onto land

Answer all the questions below. Use a separate line for each effluent if more than one effluent discharges using this discharge point. Remember, when linking your effluent to a discharge point you must use the name you gave to your effluent in answer to question 1b in the effluent form.

3.1 Give the discharge point a unique name
For example, 'Outlet 1' (you must use this name to identify the discharge point on the plan)

3.2 Give the national grid reference of the discharge point

3.3 Select from the table below the type of area where the effluent is disposed of

Area type		
Unlined reed bed	☐	
Unlined grass plot	☐	
Unlined wetland	☐	
Other	☐	Please specify below

3.4 What is the surface area of the land used for your disposal? square metres

3.5 Is any part of your infiltration system within 50 metres of a well, spring or borehole?

No ☐

Yes ☐ Identify the location of the well, spring or borehole on the plan you have provided and answer question 3.6

3.6 Is the well, spring or borehole you have identified used to supply water?

No ☐

Yes ☐ You must describe what the water supplied is used for

3.7 Is any part of your infiltration system within 10 metres of a watercourse?

No ☐

Yes ☐ Identify the location of the watercourse on the plan you have provided for section 4 of part C2

Appendix 4 – Discharges to tidal river, tidal stream, estuary or coastal waters

Answer all the questions below. Use a separate line for each effluent if more than one effluent discharges using this discharge point. Remember, when linking your effluent to a discharge point you must use the name you gave to your effluent in answer to question 1b in the effluent form.

4.1 Give the discharge point a unique name
For example, 'Outlet 1' (you must use this name to identify the discharge point on the plan)

4.2 Give the national grid reference of the discharge point

4.3 Give the name of the tidal river, tidal stream, estuary or area of coastal water if you know it

4.4 Is the discharge into a

Tidal river ☐

Tidal stream ☐

An estuary ☐

Coastal water ☐

4.5 Does the discharge reach the watercourse by flowing through a surface water sewer?

Yes ☐ Give the national grid reference where the discharge enters the surface water sewer

No ☐

4.6 Is the discharge point above the mean low water spring tide mark?

Yes ☐ Please explain, on a separate sheet, why the discharge cannot be made below this point

Document reference

No ☐

4.7 How is the effluent dispersed?
For example, open pipe or diffuser system

If diffuser system go to question 4.8

4.8 Give details, on a separate sheet, of the design of the diffuser system

Document reference

Appendix 5 – Discharges to non-tidal river, stream or canal

Answer all the questions below. Use a separate line for each effluent if more than one effluent discharges using this discharge point. Remember, when linking your effluent to a discharge point you must use the name you gave to your effluent in answer to question 1b in the effluent form.

5.1 Give the discharge point a unique name
For example, 'Outlet 1' (you must use this name to identify the discharge point on the plan)

5.2 Give the national grid reference of the discharge point

5.3 Give the name of the watercourse, canal or the main watercourse it is a tributary of if you know it

5.4 Is the discharge into a

Non-tidal river ☐

Stream ☐

Canal ☐

5.5 Does the discharge reach the watercourse or canal by flowing through a surface water sewer?

Yes ☐ Give the national grid reference where the discharge enters the surface water sewer

No ☐

5.6 Does the watercourse dry up for part of the year?

No ☐

Yes ☐

Appendix 6 – Discharges to a lake or pond

Answer all the questions below. Use a separate line for each effluent if more than one effluent discharges using this discharge point. Remember, when linking your effluent to a discharge point you must use the name you gave to your effluent in answer to question 1b in the effluent form.

6.1 Give the discharge point a unique name
For example, 'Outlet 1' (you must use this name to identify the discharge point on the plan)

6.2 Give the national grid reference of the discharge point

6.3 Give the name of the lake or pond if you know it

6.4 Select from the following table the type of lake or pond you will be discharging to and answer the relevant questions

Type of lake or pond		Relevant questions
Lake or pond which is not connected to a river or watercourse	☐	Permit not required*
Lake or pond which is not connected to a river or watercourse, where you have had a notice served under paragraph 5 of Schedule 21 of the Environmental Permitting (England and Wales) Regulations 2016	☐	6.5, 6.6, 6.7
Lake or pond that discharges into a river or watercourse	☐	6.5, 6.6, 6.7

* Unless a Notice has been served under paragraph 5 of Schedule 21 of the Environmental Permitting (England and Wales) Regulations 2016

6.5 What is the surface area of the lake or pond? square meters

6.6 What is the maximum depth of the lake or pond? meters

6.7 What is the average depth of the lake or pond? meters