



ASiantaeth Yr  
AMGYLCHEDD  
ENVIRONMENT  
AGENCY

## WATER RESOURCES ACT 1991 (schedule 10)

(as amended by the Environment Act 1995)

### Application for variation to consent to discharge

<b>Regional/Area Address:</b>  The Regional Finance Manager Environment Agency Welsh Region PO Box 425 St Mellons Business Park CARDIFF CF3 0LT	<i>Official Use Only</i> <i>Dist/Area Ref:</i> 1303 Wales/ South East <i>Application No.</i> AB0044802 <i>Date Received:</i> 28/11/08 <i>Fee Received:</i> 853.00 - 902368
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Each applicant must complete the main form and may need to complete a separate annexe if appropriate. Please look through the form and read the notes carefully before you complete it. Processing of your application will be aided by full and accurate completion of all relevant sections and provisions of the necessary plans. If you have any queries regarding the form please contact the person given in the notes.

#### NOTE:

All information contained within this application will be made available on the public register unless there is a request to withhold any of it. Any such request should provide a full justification stating why the information needs to be withheld (see note xiii).

## 1 SITE ADDRESS

1.1 Address or other sufficient description of land or premises to which this application applies.

Usk WwTW  
Usk  
Gwent

Post Code:

NP15 1NB



Dŵr Cymr  
Welsh Wat

Application  
- Variation

Pentwyn Road  
Nelson  
Mid Glamorgan  
Treharris CF46 6LY

Tel: +44 (0)1443 452300  
Fax: +44 (0)1443 452323  
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Heol Pentwyn  
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Ffôn: +44 (0)1443 452300  
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Safle gwe: www.dwrcymru.com

SE

Environment Agency  
Water Quality  
Permitting Support Centre  
PO Box 4209  
Sheffield  
S9 9BS

AB0044802

27<sup>th</sup> November 2008

Tel 07766080114

Dear Sir/Madam

**Usk STW Storm Discharge**

Please finds enclosed an application for variation of consent no AB0044802 and a cheque (No.902368) for £853 in payment. This is an AMP4 scheme.

A generic early permit consent was issued for AB0044802 on the 31<sup>st</sup> March 2005 to take effect from the 31st March 2007. I would ask that you now determine a new long-term consent based upon the information provided in the enclosed application form and supporting documentation

Yours faithfully,

Mathew Griffith  
Wastewater Scientist

ENVIRONMENT AGENCY  
QUADRANT TWO  
28 NOV 2008  
SHEFFIELD

glas  
Glas Cymru Cylfyngedig

We welcome correspondence in Welsh and English  
Rydym yn croesawu gohebiaeth yn y Gymraeg neu yn Saesneg

Dŵr Cymru Cyt, a limited company registered in  
Wales no. 2266777. Registered office: Pentwyn Road,  
Nelson, Treharris, Mid Glamorgan CF46 6LY

Dŵr Cymru Cyt, cwmni cyfyngedig wedi'i gofrestru yng  
Nglymru rhif 2266777. Swyddfa gofrestredig: Heol Pentwyn,  
Nelson, Treharris, Morgannwg Ganol CF46 6LY

Welsh Water is owned by Glas Cymru - a 'not-for-profit' company.  
Mae Dŵr Cymru yn eiddo i Glas Cymru - cwmni 'nid-er-elw'

**2 DETAILS OF DISCHARGE(S)**

2.1 State the nature of the discharge(s) (see note i and ii) - tick one or more boxes as appropriate:

- Sewage Effluent - volume of 5 cubic metres per day or less
- Sewage Effluent - volume greater than 5 cubic metres per day (**complete annex 1**)
- Sewage Effluent discharged under storm or emergency conditions (**complete annex 2**)
- Cooling Water (**complete annex 3**)
- Trade Effluent (including site drainage) (**complete annex 3**)
- Others (please specify)

2.2 Please state the maximum quantity it is proposed to discharge in any one day   
Briefly state how this figure was calculated (see note ii).

2.3 a) Indicate proposed means of discharge - tick as appropriate and show on plan: (for 1, 2 & 3 please state dimensions below)

- |            |                                     |             |                          |                                 |                          |
|------------|-------------------------------------|-------------|--------------------------|---------------------------------|--------------------------|
| 1. Pipe    | <input checked="" type="checkbox"/> | 4. Borehole | <input type="checkbox"/> | 7. Sub-Irrigation System        | <input type="checkbox"/> |
| 2. Channel | <input type="checkbox"/>            | 5. Well     | <input type="checkbox"/> | 8. Combination of 6 & 7         | <input type="checkbox"/> |
| 3. Culvert | <input type="checkbox"/>            | 6. Soakaway | <input type="checkbox"/> | 9. Other (please specify below) | <input type="checkbox"/> |

b) National Grid Reference(s) of point(s) of discharge (see note iii).

S	T	3	8	6	8	0	9	9	4	4	9
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*(please indicate on accompanying plans)*

2.4 a) The Agency will normally require adequate provision for the taking of samples of the discharge in a safe and convenient manner at any time. Please indicate the means proposed (see note iv) - tick as appropriate and show on plan:

- At the outlet  At a manhole or sampling chamber

Other (please specify)

b) National Grid Reference(s) of sampling point(s) (if different from 2.3 b) above).

S	T	3	8	9	8	1	9	9	5	5	9
---	---	---	---	---	---	---	---	---	---	---	---

*(please indicate on accompanying plans)*

c) What flow measurement facilities will be provided (see note v)?  
Please give details.

2.5 a) Type of Treatment Plant(s) to be used (please specify make and model) - tick as appropriate:

- Septic Tank  Package Sewage Treatment Works  Other

b) Will the treatment process involve the use of any chemicals (eg ferric salts,

polyelectrolytes). If yes please give details.

- 2.6 a) On what date do you anticipate the discharge will commence?
- b) If you require the consent for a limited time period please give dates; from:
- to:

- c) If the discharge is not continuous please detail the period/circumstances when it will occur.
- NOT APPLICABLE**

- 2.7 a) Are there any existing consents for discharges from the premises (see note vi)?
- If yes, please give the reference numbers *(Any further information should be given in Section 5.3)*.
- AB0044801 (Secondary Treated)

AB0044802 (Storm)

- b) Has any person had a Prohibition Notice serviced on them in respect of this site?
- If yes, please give the reference number.
- 

### 3 SITE DETAILS

- 3.1 Please give the name of the relevant Planning Authority.
- Newport

- 3.2 Please give details of the premises - tick as appropriate:
- |  |                          |                                   |                                     |
|--|--------------------------|-----------------------------------|-------------------------------------|
| 1. Single Dwelling                             | <input type="checkbox"/> | 6. Fish Farm                      | <input type="checkbox"/>            |
| 2. Multiple Dwellings                          | <input type="checkbox"/> | 7. Mineral Workings               | <input type="checkbox"/>            |
| 3. Industrial Premises                         | <input type="checkbox"/> | 8. Water Services plc STW         | <input checked="" type="checkbox"/> |
| 4. Vehicle Parking Area                        | <input type="checkbox"/> | 9. Water Supply                   | <input type="checkbox"/>            |
| 5. Commercial Premises <i>(please specify)</i> | <input type="checkbox"/> | 10. Other <i>(please specify)</i> | <input type="checkbox"/>            |

3.3 Please indicate source of the water supply - tick as appropriate:

- |  |                          |   |                          |
|--|--------------------------|---|--------------------------|
| 1. Well                                      | <input type="checkbox"/> | 5. River (please give name below)         | <input type="checkbox"/> |
| 2. Borehole                                  | <input type="checkbox"/> | 6. Estuary (please give name below)       | <input type="checkbox"/> |
| 3. Precipitation (eg rain or snow)           | <input type="checkbox"/> | 7. Coastal Water (please give name below) | <input type="checkbox"/> |
| 4. Mains (please state water supply company) | <input type="checkbox"/> | <b>NOT APPLICABLE</b>                     |                          |

#### 4 DETAILS OF RECEIVING ENVIRONMENT

4.1 Receiving Medium - tick the category(s) to which the proposed discharge(s) is(are) to be made:

- |  |                                     |                                 |                          |
|--|-------------------------------------|---------------------------------|--------------------------|
| 1. Estuarial Water (tidal river or stream) | <input type="checkbox"/>            | 5. Into Land                    | <input type="checkbox"/> |
| 2. River or Stream (non-tidal)             | <input checked="" type="checkbox"/> | 6. Onto Land                    | <input type="checkbox"/> |
| 3. Canal                                   | <input type="checkbox"/>            | 7. Directly into Groundwater    | <input type="checkbox"/> |
| 4. Lake, Lock or Pond                      | <input type="checkbox"/>            | 8. Coastal Water (see note vii) | <input type="checkbox"/> |

State name of receiving water if known:

River Usk

4.2 In the case of sub-irrigation systems, soakaways or boreholes: **NOT APPLICABLE**

- (a) Is any part of the system within 5 metres of the boundary of the premises? Y/N
- (b) Is any part of the system within 10 metres of a watercourse? Y/N
- (c) Is any part of the system within 50 metres of a borehole or spring? Y/N
- (d) For wells and boreholes state dimension(s) in metres. m
- (e) For sub-irrigation systems, soakaway pits, wells and boreholes, state maximum depth in metres. m
- (f) For boreholes, state details of lining in metres:
- (i) Depth of lining m
- (ii) Depth of perforated lining m
- (iii) Depth of unperforated lining m
- (g) A percolation test must be carried out in accordance with British Standard BS6297:1983.  
Have the results been provided? Y/N

4.3 Is there a foul sewer available to which the discharge(s) could be made (see note viii)?

No

If yes, please give the reasons it is not practical to connect to it (eg distance, flow etc).

**NOT APPLICABLE**

## 5 DETAILS OF APPLICANT AND OTHER INFORMATION

### 5.1 (See general notes and note ix)

(a) Full name and postal address of applicant. This should be the person who will become the consent holder should consent be issued.

- \* Dwr Cymru Cyfyngedig
- \* Pentwyn Road
- \* Nelson
- \* Treharris
- \* Mid Glam

Post Code: CF46 6LY

Daytime Telephone Number:

Company Registration Number (if appropriate): 236677

(b) Agent (if any) - Full name and postal address.

- \*
- \*
- \*
- \*
- \*
- \*

Post Code:

Contact Name and Daytime Telephone Number:

### 5.2

Please give full name and address to which bills should be sent if different to that given above:

- \*
- \*
- \*
- \*
- \*
- \*

Post Code:

Daytime Telephone Number:

5.3 Are there any other factors to be taken into account? Please continue on a separate sheet if necessary.

## DECLARATION

I/We:

1. apply under the Water Resources Act 1991 (as amended by the Environment Act 1995) for consent to discharge, as described in this Application. "This Application" means this page, all the other pages of this form and any attached annexes, the attached plan(s), any other sheets attached, and any other written information supplied to support the application.
2. enclose the required application fee, payable to the Environmental Agency (see note x).
3. enclose 3 copies of the plan(s) and location maps with all relevant information clearly marked (see note xi).
4. will pay required advertising costs (see note xii).
5. confirm that I/we\* will notify the Environment Agency of any changes in the information in this application which might be material to the continuation of the consent.
6. confirm that the information given in this application and any questions which the Environment Agency may have about it is/will\* be true to the best of my/our\* knowledge, information and belief and am/are\* not aware of any other facts or information which might affect the granting of a consent, or conditions which might be put on it (see note xiii).
7. confirm that I/we\* will pay any annual charges due should a consent be granted YES/NO\*. If no please indicate who will be completing section 5.2 above (see note xiv).

(\* Delete as appropriate)

SIGNED: <i>Mathew Griffiths</i>	PRINT NAME: <i>MATHEW GRIFFITHS.</i>
ON BEHALF OF: <i>Dwr Cymru Cyf.</i>	DATED: <i>27/11/08</i>

## CONFIDENTIALITY

I/we apply for commercial confidentiality and enclose a full written justification (see note xv).

SIGNED: .....	DATED: .....
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PLEASE RETURN THIS FORM TO THE ADDRESS GIVEN ON THE FRONT PAGE



ANNEXE 2  
SEWAGE EFFLUENT DISCHARGED IN STORM OR EMERGENCY CONDITIONS

Please complete this annexe if you are proposing to make a discharge of sewage in emergency or storm conditions (if the effluent is to contain a trade component Annexe 3 should also be completed).

Official Use Only  
Application No.

1. Site Name.  
Usk WwTW  
Usk  
Gwent  
NP15 1NB

2. State the type of discharge - tick as appropriate:

Storm tanks

Combined Sewer Overflow from sewerage system

Combined Sewer Overflow from pumping station

Emergency overflow from sewerage system

Emergency overflow from pumping station

Other (please specify)

3. For effluents discharging from sewage treatment works, is the storm/emergency effluent discharged via the same outlet as the treated effluent?

If no please give: a) the National Grid Reference of the treated effluent outlet.

b) the consent or application number covering the treated effluent discharge

If yes please give the National Grid Reference of the storm/emergency sampling point (see notes)  

S	T	3	8	9	8	1	9	9	5	5	9
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4. For effluents discharging from combined sewer overflows, is the discharge via a dedicated pipe?

If no please give the National Grid Reference of the overflow into the sewer.

5. Overflow settings

- |  |        |
|--|--------|
| a) Overflow setting to storm tanks           | 21 l/s |
| b) Maximum flow to storm tanks               | 21 l/s |
| c) Overflow setting to storm sewage overflow | 21 l/s |
| d) Maximum flow to storm sewage overflow     | 21 l/s |

6. Storage capacity

- |  |                    |
|--|--------------------|
| a) Volume of Storm tanks                         | 214 m <sup>3</sup> |
| b) Retention time of storm tanks at maximum flow | 3 hours            |
| c) Storage capacity of sewer/wet well            | NA                 |

7. Please provide full details of the design criteria that have been used to support this application.

Storm tank capacity, 68l/head, based on estimate for 2016 of 3002.  
Estimate of maximum flow based on capacity of Usk town pumping station (42l/s).

8. Will facilities be provided to raise alarms (eg telemetry)?  
If yes, please give details.

Yes

Storm tank level available locally and through telemetry.

9. Will facilities be provided to prevent the discharge of gross solids?  
If yes, please give details (for screens give bar spacing or aperture).

Yes

All incoming flows to the works will be screened (to 6mm in two dimensions) by a mechanical screen situated upstream of the weir spilling flow to the storm tank.

10. What provisions will be made to deal with:

- |   |  |
|---|--|
| a) power failure (eg standby generators)?   | Mobile generator (imported as required)                  |
| b) mechanical breakdown (eg standby pumps)? | Duty/standby pumps available at Usk Town pumping station |
| c) rising main failure?                     | None   |
| d) tanker access?                           | Available.   |

Notes (see also the notes on the main form):

Full details of the design criteria must be provided in order for the application to be determined. If you have any queries about what information is required please contact the person given in notes attached to the main form.



ANNEXE 4  
WELSH REGION SUPPLEMENTARY INFORMATION ANNEXE

Please complete this annexe for every proposed discharge.

*Official Use Only*  
*Application No.*

**For all proposed discharges:**

1. Site Name.

Usk WwTW  
Usk  
Gwent  
NP15 1NB

2. Is this application being made to reinstate a lapsed Consent?

No

If so, please state the Number of the lapsed Consent:

**IMPORTANT: If you are in need of advice on either part of Question 2, please contact the Agency Regional Consents Section on 01222 770088.**

3. If the proposed discharge is to be made down a pipe, channel or culvert (as given in Section 2.3 of the main application form), please state the diameter (including units):

200mm pipe

4. Please indicate the anticipated cost of the proposed scheme, including any alternatives which may have been considered:

Anticipated cost of scheme £425k

5. Is there any trade effluent component in the proposed discharge?

No

If yes, please confirm here that you have completed and enclosed Annex 3:

Tick

6. Will the proposed discharge be pumped or made under gravity? (please circle)  Gravity

If pumped, please state the maximum pump rate in l/sec:  l/s

**For proposed discharges of sewer in storm or emergency conditions:**

7. Please confirm here that you have completed and enclosed both Annexes 1 and 2:  Tick

8. Please state:

Population served (head)	3002
Consumption (l/head/day) default = 180	176
Infiltration (m <sup>3</sup> /day)	53
Industrial effluent flow (m <sup>3</sup> /day)	54 (projected commercial flow, not consented trade effluent)
Dry Weather Flow (m <sup>3</sup> /day)	635
Soc A (l/sec)	40
Predicted spill frequency (per annum)	16

**IMPORTANT NOTES FOR ALL CONSENT APPLICATIONS:**

1. Whoever signs the declaration on the main application form takes responsibility for the discharge, and will become the registered consent holder, if consent is given. In the case of a 'body corporate' (eg a public limited company ('plc'), limited, company, local authority), the 'body corporate' will be the registered consent holder, and the person with the delegated authority to sign on behalf of the 'body corporate' should give their job title.
2. Agents making an application on behalf of a client, must attach their clients written authority.
3. If the name and/or address of the applicant changes after submission of this application to the Environment Agency, the applicant must inform the Agency in writing.

Agreed Solutions

SCHEME NAME: USK WwTW

THE DATA IN THE FOLLOWING TABLE WILL BE TAKEN AS THE INFORMATION EXPECTED ON THE CONSENT APPLICATION, UNLESS AN AMENDMENT IS PROVIDED AND SIGNED OFF BY EA STAFF

DC No	Consent No	Name	NGR	Present		Future		Screens (type & size)	Storage (m <sup>3</sup> )	No. of spills		Emergency provision if PS	Comments (for EA use)
				SOCA (l/s)	CSO setting (l/s)	SOCA (l/s)	CSO setting (l/s)			Current	Future		
31114	AB 004480	Usk WwTW Storm	ST 3893299552	34.58	-	39.86	21	Mechani cal 6mm x 6mm	214	-	16	-	

AMP4 improvement to meet Aesthetic and Formula A requirement. In this case Formula A means Storm Storage, 214m<sup>3</sup> is in excess of the requirement of 68l/h

Accepted by EA



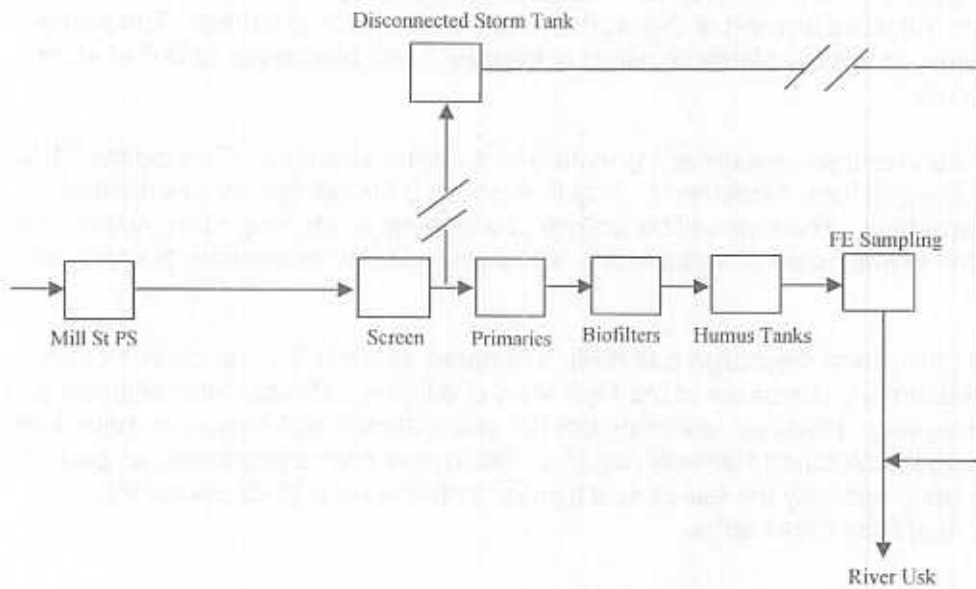
Name:

Date: 18<sup>th</sup> August 2008

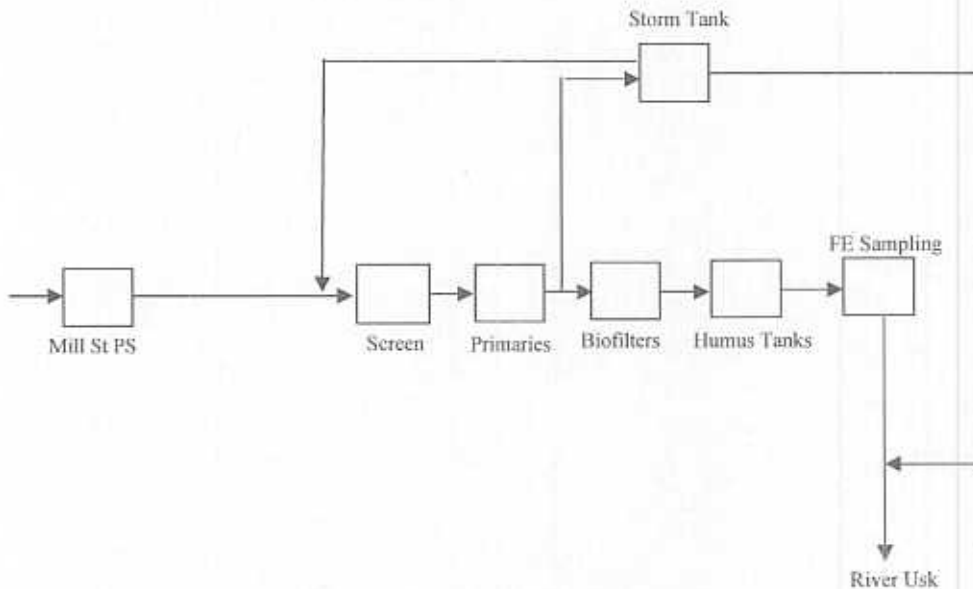
**Individual assets summary of proposed solutions.**

Asset Name	Usk WwTW	DC Number	30822
Driver	UID1	Consent No	AB004480
Receiving Water	River Usk		

**Asset Schematic Existing**



**Asset Schematic Future**



## Narrative of Solution

### **Description of what is there now, and then what is to be in place in the solution (about half a page)**

The works accepts flow from the Mill Street pumping station (serving all of Usk Town) at up to 42l/s. The pumping station is the sole source of influent to the works.

All flows pass through a 6mm x 6mm mechanical screen (maximum capacity 80l/s) and are settled through 2 primary tanks. Settled sewage is passed over 2 biological filters and settled through 3 humus tanks. Final effluent discharges to the River Usk.

The works is hydraulically overloaded. This poses a threat to the final effluent quality and ultimately consent compliance. Therefore it is proposed to take 3DWF to full treatment. All flows arriving at the works will be screened and settled. The primary tank volume, in excess of that required to treat FFT, will contribute 134m<sup>3</sup> of storm tank capacity.

Screened and settled sewage will gravitate to a splitter chamber. Flow below 21l/s will pass forward for full treatment. Any flow above 21l/s will spill to a dedicated, 80m<sup>3</sup>, storm tank. The tank will be equipped with pumps returning storm-water to the head of the works, when flow subsides, and a mechanism for washing the tank after use.

Dilution of the storm discharge has been estimated as >> 188:1 – section 4 of the scoping document. Because of the high level of dilution a Monte Carlo analysis was felt unnecessary. However, estimates of the spill volumes and frequency have been made using the Modified Rational Method. The use of online settlement as part of the storm tank capacity increases spill frequency but is likely to decrease the pollutant load from those spills.

Existing		Future Situation - Post Solution	
SOC A	34.6l/s	SOC A	39.9/s
CSO setting	N/A	CSO setting	21l/s
Existing Storage	0m <sup>3</sup>	Future storage (emergency and/or WQ)	80 m <sup>3</sup> (214m <sup>3</sup> including settlement)

Inland Discharge Analysis U16			
Amenity Rating	H		
RQO	RE1		
Existing		Future Situation - Post Solution	
No. Spills	0		16
Spill Volume m <sup>3</sup>	0		2078m <sup>3</sup>
Annual Spill duration (%) (typical year)	0%		0.2%
Existing Water Quality 99%ile	BOD		
	NH4		

Shellfish Waters Analysis			
Length of dataset (10, 15 or 25yr )	N/A		
No. spills in full dataset		No. spills in full dataset	
Total no. of spills (average per annum)		Total no. of spills (average per annum)	
No. of spills >50m <sup>3</sup> (average per annum)		No. Spills >50m <sup>3</sup> (average per annum)	
Total spill volume for data set (m <sup>3</sup> )		Total spill volume for data set (m <sup>3</sup> )	
Average annual total spill volume (m <sup>3</sup> )		Average annual total spill volume (m <sup>3</sup> )	
Outfall Location (in relation to MLWS etc.)			

Bathing Water Analysis (10, 15 or 25yr bathing season dataset)			
Length of dataset (10, 15 or 25yr )	N/A		
No. spills in full dataset		No. spills in full dataset	
Total no. of spills (average per BS)		Total no. of spills (average per BS)	
No. of spills >50m <sup>3</sup> (average per BS)		No. of spills >50m <sup>3</sup> (average per BS)	
Total spill volume for data set (m <sup>3</sup> )		Total spill volume for data set (m <sup>3</sup> )	
Average BS total spill volume (m <sup>3</sup> )		Average BS total spill volume (m <sup>3</sup> )	
Outfall Location (in relation to MLWS etc.)			

Screening provision (size screen)			
Existing	6x6mm	Future	6x6mm

Emergency Provision @ Pumping Stations			
PFF (l/s)	Not Applicable		
3DWF (l/s)			

Emergency Provision (please make an entry against each item provided)	
Storage (state m <sup>3</sup> <u>and</u> no. of hours at 3DWF)	Not Applicable
Telemetry	
Standby Pumps	
Telemetry	
Standby Generation	
Access for tankers	
Other mitigation	



