





<b>CONSENT NO.</b>	CG0093701
<b>SCHEDULE NO.</b>	CG0093701 01
<b>DATE ISSUED</b>	17 <sup>th</sup> February 2005

## CONDITIONS OF CONSENT TO DISCHARGE

### Secondary Treated Sewage Effluent ("the Discharge")

**FROM:** Llanbedr Waste Water Treatment Works, Access Road Off A496,  
Llanbedr, Gwynedd LL45 2HW

### NATURE

1. The Discharge shall consist solely of secondary treated sewage effluent which has been disinfected at all times by passage through membrane filters. For the purpose of this consent, "disinfection" is defined as the use of a process designed specifically to reduce the number of viable, potentially infectious micro-organisms in the effluent.

### LOCATION

2. The Discharge shall be made in the manner and at the place specified as:
  - (a) discharging via a 400 millimetre diameter pipe;
  - (b) discharging to the Afon Artro;
  - (c) at National Grid Reference SH 58116 27466;
  - (d) shown marked 'Consent Point' on Plan CG0093701 attached as Annex 3.

### SAMPLE POINT

3. An appropriately labelled sample point shall be provided and maintained at National Grid Reference SH 58169 27545, as shown marked 'Discharge Sample Point' on the Plan CG0093701 attached as Annex 3 or some other point as agreed in writing with the Agency, so that a representative spot sample of the Discharge may be obtained. The Consent Holder shall ensure that all constituents of the Discharge pass through the said sampling point at all times and in any legal proceedings it shall, for the purposes of Section 10 of the Rivers (Prevention of Pollution) Act 1961, be presumed, until the contrary is shown, that any sample of the Discharge taken at the said sampling point is a sample of what was being discharged into controlled waters.





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## VOLUME

4. The volume of the Discharge shall not exceed 3024 cubic metres per day.
5. The Dry Weather Flow of the Discharge shall not exceed 1218 cubic metres per day.

For the purpose of this condition Dry Weather Flow shall mean the average daily flow to the treatment works during seven consecutive days without rain (excluding a period which includes public holidays) following seven days during which the rainfall did not exceed 0.25 millimetres on any one day.

6. The rate of discharge shall not exceed 35 litres per second.

## FLOW MEASUREMENT

7. A continuous flow measurement and recording system, to a specification provided by the Agency, shall be provided by 31<sup>st</sup> March 2005 and operated to record the total daily volume and 15-minute instantaneous or integrated flow of the discharge. An on-site visual display from which 15-minute integrated instantaneous or flow readings can be readily obtained by the Agency shall be provided and operated. The Consent Holder shall hold records of the flow readings.
8. As soon as practicable after completion of the flow system installation and subsequently on the expiry of any certificate issued, the Consent Holder shall employ an independent expert to certify that the installation and its quality management system complies with the Agency's specification. The independent expert shall be accredited to a competency scheme approved by the Agency. A copy of the certificate shall be sent to the Agency and the certifier's report shall be provided to the Agency on request. If a certificate issued for a flow system has no expiry date included then the certificate shall be deemed to expire five years after the issue date of the certificate.
9. The Consent Holder shall produce and maintain a documented quality management system, approved by the independent expert and to the satisfaction of the Agency, specifying procedures for the calibration, operation and maintenance of the flow measurement equipment. The flow measurement equipment shall be calibrated, operated and maintained by the Consent Holder in accordance with the provisions of the QMS. The Consent Holder shall keep a record of these procedures available for inspection by the Agency and provide a copy to the Agency on request.





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10. The Consent Holder shall record all failures of the continuous flow measurement system and any other breaks in the flow record. The reasons for all significant failures and breaks, which lead to missing or suspect data, and all steps taken to prevent a re-occurrence shall be recorded and details shall be provided to the Agency on request. A failure or break is significant for the purposes of this condition if it prevents the calculation of the total daily volume to the required level of uncertainty. The Consent Holder shall ensure that as far as possible the recorder remains fully operational at all times. Any failures shall be remedied as soon as possible.
11. Records of the flow readings or the reasons for any breaks in the record, as described in condition 10 above, shall be provided to the Agency when requested, in a format specified by the Agency.
12. Flows of the discharge shall be measured at the discharge sample point NGR SH 58169 27545, or such other point(s) as agreed by the Agency.

## COMPOSITION

13. (a) Subject to paragraph (b) below, the Discharge shall not contain more than;
  - (i) 40 milligrammes per litre of biochemical oxygen demand (measured after 5 days at 20<sup>0</sup> C with nitrification suppressed by the addition of allyl-thiourea)
  - (ii) 60 milligrammes per litre of suspended solids (measured after drying at 105<sup>0</sup>C)
  - (iii) 17 milligrammes per litre of ammoniacal nitrogen (expressed as N);
- (b) The limit for any of the relevant parameters set out in paragraph (a) above may be exceeded where, in any series of samples of the Discharge taken at regular but randomised intervals in any period of twelve consecutive months as listed in Column 1 of the table at Annex 1 to this consent, no more than the relevant number of samples, as listed in Column 2 of the said table, exceed the applicable limit for that relevant parameter.





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14. The Discharge shall not contain more than 80 milligrammes per litre of biochemical oxygen demand (measured after 5 days at 20<sup>o</sup> C with nitrification suppressed by the addition of allyl-thiourea).
15. The Discharge shall not contain more than 46 milligrammes per litre of ammoniacal nitrogen (expressed as N).

### WORKS OPERATION

16. The works shall be operated and the effluent shall be treated in a manner which, so far as reasonably practicable, minimises the polluting effects of the discharge made from the works on controlled waters.

This condition does not require -

- (a) any higher standard to be achieved in relation to any characteristic of the discharge which is specifically regulated by Conditions 13, 14 and 15 than is required by those conditions;
- (b) any alteration of the works or a change in the type of treatment used.

### MAINTENANCE

17. (a) A maintenance programme, including the method and frequency of cleaning and replacement of membrane filters, on-line turbidity meters, and flow meters, shall be undertaken by the Consent Holder. Details of the maintenance programme shall be provided to the Agency for agreement.
- (b) The Consent Holder shall keep records of the maintenance undertaken (both programmed and un-programmed). Copies of these records shall be maintained by the Consent Holder and kept conveniently available for inspection by the Agency's officers at all reasonable times.

### UNUSUAL WEATHER

18. (a) No sample of the discharge, taken at a time when unusual weather conditions are adversely affecting the operation of the sewage treatment works, shall be taken into account in deciding whether or not conditions 13, 14, 15 and 16 of this consent schedule have been complied with.
- (b) For the purpose of this condition "unusual weather conditions" shall include:





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- (i) low ambient temperatures as evidenced by effluent temperatures of 5°C or less, or by the freezing of mechanical equipment in the works;
  - (ii) significant snow deposits;
  - (iii) tidal or fluvial flooding;
  - (iv) weather conditions causing unforeseen loss of power supply to the sewage treatment which could not be ameliorated by the reasonable provision and operation of standby generation facilities.
- (c) On any occasion where unusual weather conditions adversely affect the operation of the sewage treatment works, the Consent Holder shall use its best endeavours to mitigate that adverse affect.
- (d) For a sample of the discharge to be considered for the purposes of (a) above, the Consent Holder shall notify the Agency by telefax or telephone as soon as unusual weather conditions are known to have adversely affected operations and shall confirm the circumstances in writing as soon as possible thereafter (and in any event within 14 days of the occurrence of such conditions). That notification shall include a full description of the unusual weather conditions and their impact on the operation of the works.

## RECORDING AND REPORTING

19. (a) The Consent Holder shall maintain the outfall pipe in an efficient operational condition, so as to minimise the probability of blockages or other failures, and shall implement periodic inspections of the integrity and performance of the outfall pipe.
- (b) On request the Consent Holder shall supply the Agency with a written report on the maintenance and all non-routine actions undertaken.
20. The Consent Holder shall notify the Agency in writing if any known or planned introduction or material change in respect of discharges from trade premises to the environment occurs, that may increase or introduce into the effluent any "dangerous substance" (set out in Annex 2 to this notice as updated from time to time and notified to the Consent Holder in writing), and any other substance considered by the Consent Holder as having or likely to have a significant effect on the receiving waters.





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## 21. Process Monitoring and Reporting

Continuous recorders, with on-site visual display from which readings may be readily obtained, shall be provided and maintained by the Consent Holder enabling:

- (a) the instantaneous effluent flow rate to be recorded at hourly, or more frequent intervals to be agreed in writing with the Agency ;
- (b) the instantaneous effluent turbidity after membrane filtration to be measured and recorded at hourly, or more frequent intervals to be agreed in writing with the Agency ;
- (c) Copies of the records shall be maintained by the Consent Holder for a minimum of 2 years and be kept at a nominated place available for inspection by the Agency's officers at all reasonable times.
- (d) The Consent Holder shall supply to the Agency, on a three-monthly basis, records of the turbidity and flow readings, in a format agreed with the Agency.

## 22. Records of Maintenance and Incidents of failure

The Consent Holder shall supply to the Agency, on a three-monthly basis, records of the maintenance undertaken, including any details and an explanation of the circumstances where the agreed maintenance programme was not met.

The Consent Holder shall supply to the Agency, on a three-monthly basis, a written report detailing all occurrences when:

- there were any failures of any measurement system used to control the membrane filtration system,
- the external power supply to the membrane filtration system was interrupted
- where effluent turbidity exceeded 30 NTU (nephelometric turbidity units)
- A discharge of sewage effluent was made which had not been subjected to treatment by membrane filtration as specified in condition 1 of this consent.
- The report shall detail the reasons why the situation occurred, and the actions taken by the Consent Holder. The report shall include an assessment of what measures can be adopted in the future to minimise such occurrences.





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### SUBSTANTIAL CHANGE

23. (a) A discharge shall not be made from the works if it would cause a significant increase in the polluting effects of the discharge on controlled waters as a result of a new or altered discharge of trade effluent into the works.
- (b) A discharge of trade effluent into the works is new if -
- (i) it is made by the sewerage undertaker and is of a kind not made into the works by the undertaker immediately before the date of effect of this consent; or
  - (ii) it is made by a third party and the discharge is authorised on or after that date.
- (c) A discharge of trade effluent into the works is altered if -
- (i) it is made by the sewerage undertaker and its composition or quantity changes significantly on or after date of variation of this consent ; or
  - (ii) it is made by a third party and the alteration of the discharge is authorised on or after that date.
- (d) An increase in the polluting effects of the discharge on controlled waters is not significant for the purposes of this condition if it relates to any characteristics of the discharge which are specifically regulated by conditions 13, 14 and 15 of this consent schedule but it may be significant if it is caused by a change in some other characteristic of the discharge.
- (e) For the purposes of this condition “trade effluent” means -
- (i) any discharge by the sewerage undertaker other than
    - (1) domestic sewage from premises connected directly or indirectly to the works; or
    - (2) surface water run-off;
  - (ii) any discharge by a third party which is authorised under Chapter III of Part IV of the Water Industry Act 1991 or which is only accepted as a result of a contract with the sewerage undertaker.





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### **UNAUTHORISED DISCHARGE**

24. (a) A discharge made from the works shall not contain any poisonous, noxious or polluting matter or solid waste matter which is attributable to any unauthorised discharge into the works.
- (b) A discharge into the works is unauthorised if it is made by a third party and either there is no obligation to receive it or conditions subject to which there is an obligation to receive it are not observed
- (c) Nothing in this, or any other, condition of this consent prevents anyone from relying on any defence available to them under Section 87 of the Water Resources Act 1991.

### **TELEMETRY**

25. A telemetry alarm system connected to a 24-hour manned station shall be provided and maintained by the Consent Holder to provide a warning in the event that:
- (a) the external power supply to the treatment system has been interrupted;
- (b) there has been a mechanical or control system breakdown;
- (c) the effluent turbidity exceeds 30 NTU (nephelometric turbidity units).

### **EMERGENCY NOTIFICATION**

26. The Consent Holder shall notify the Agency in the event of a Discharge of sewage effluent which has not been subjected to the required membrane filtration process as specified in condition 1 of this consent. Such notification must be made as soon as practicable and no later than 24 hours after the event.

### **POWER**

27. Full stand-by power generation facilities shall be provided and maintained by the Consent Holder in good working order to enable automatic resumption of power to the membrane filtration system in the event of external power supply failure.





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## EFFICACY MONITORING PROGRAMME

28. The Consent Holder shall carry out the monitoring programme as detailed below during the commissioning period and for the duration of the period as specified in condition 1 of this consent, when the effluent undergoes membrane filtration. The results of the monitoring programme are to be supplied to the Agency in an agreed format every three months.

### I. Sample points

- A Crude influent to sewage treatment works NGR SH 58145 27536
- B Biologically treated sewage effluent after membrane filtration NGR SH 58169 27545.

### II. Microbiological determinands and frequencies

(Agency Standard Analytical Methods to be employed, including AQC)

- (a) Faecal Coliforms - fortnightly, at sample points A and B;
- (b) Total Coliforms - fortnightly, at sample points A and B;
- (c) Faecal Streptococci - fortnightly, at sample points A and B;
- (d) Salmonella - fortnightly, at sample point B;
- (e) Representative enteroviruses - fortnightly, at sample point B;
- (f) F-specific bacteriophage - fortnightly, at sample point B.

Following two consecutive years of full consent compliance, the Agency will review the data annually and notify in writing the Consent Holder of any resulting change in the monitoring regime.

### III. Other determinands and frequencies

The measurement of all determinands below shall coincide with the measurement of microbial determinands.

#### *Flow*

The flow shall be measured at sample point B

#### *Suspended solids*

Suspended solids shall be measured at sample point B.

#### Reporting

Results of the monitoring programme shall be reported to the Agency in an agreed format at three-monthly intervals.





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#### **START DATE**

29. There shall be no discharge under the terms of this consent until the 31<sup>st</sup> March 2005 or the end of commissioning of the works whichever is the sooner. The Consent Holder shall give the Agency at least 28 days written notice before making the discharge.





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## CONDITIONS OF CONSENT TO DISCHARGE

Urban Waste Water Treatment Regulations 1994 ("the Discharge")

**FROM:** Llanbedr Waste Water Treatment Works, Access Road Off A496,  
Llanbedr, Gwynedd LL45 2HW

- U0**
- (a) The Consent Holder shall comply with the Urban Waste Water Treatment (England and Wales) Regulations 1994 ("the Regulations").
  - (b) For the purpose of conditions U1 and U2 below, interpretations and references to a numbered regulation or Schedule shall have the meaning as in the Regulations, unless otherwise indicated.
- U1**
- (a) The Discharge derives from an agglomeration with a population equivalent of between 2,000 and 10,000, discharging to freshwaters.
  - (b) The Consent Holder shall inform the Agency in writing of any change, or proposed change, to the population equivalent such as would make a material change to the application of the Regulations and shall, on request, inform the Agency in writing of the actual population equivalent.
  - (c) The Discharge shall be subject to Regulation 5(1) and shall satisfy the relevant requirements of Part I of Schedule 3.
- U2**
- (a) The Consent Holder shall provide apparatus for the purpose of:
    - (i) measuring or recording the volume, rate of flow, nature, composition or temperature,
    - and (ii) collecting samples of any waste water as is necessary to ensure compliance with paragraph (b) below.
  - (b) The Consent Holder shall monitor the Discharge to verify compliance with the requirements of condition U1(c) above in accordance with control procedures as set out in Part II of Schedule 3.
  - (c) The Consent Holder shall provide to the Agency any information collected in complying with paragraph (b) above in a manner agreed with the Agency.



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ANNEX 1

TABLE

<u>Column 1</u>	<u>Column 2</u>
Number of samples taken in any period of 12 months	Maximum number of samples permitted to exceed limit for given determinand
4-7	1
8-16	2
17-28	3
29-40	4
41-53	5
54-67	6
68-81	7
82-95	8
96-110	9
111-125	10
126-140	11
141-155	12
156-171	13
172-187	14
188-203	15
204-219	16
220-235	17
236-251	18
252-268	19
269-284	20
285-300	21
301-317	22
318-334	23
335-350	24
351-365	25





## ANNEX 2

- |                                                                        |                              |
|------------------------------------------------------------------------|------------------------------|
| 1. Mercury and its compounds                                           | 2. Cadmium and its compounds |
| 3. Hexachlorocyclohexane<br>(lindane and related compounds)            | 4. Carbon tetrachloride      |
| 5. DDT (the isomers of 1,1,1-trichloro-2,2 bis{p-chlorophenyl} ethane) |                              |
| 6. Pentachlorophenol (PCP)                                             | 7. Aldrin                    |
| 8. Dieldrin                                                            | 9. Endrin                    |
| 10. Isodrin                                                            | 11. Hexachlorobenzene (HCB)  |
| 12. Hexachlorobutadiene (HCBd)                                         | 13. Chloroform               |
| 14. Polychlorinated biphenyls                                          | 15. Dichlorvos               |
| 16. 1,2-Dichloroethane                                                 | 17. Trichlorobenzene         |
| 18. Atrazine                                                           | 19. Simazine                 |
| 20. Tributyltin compounds                                              | 21. Triphenyltin compounds   |
| 22. Trifluralin                                                        | 23. Fenitrothion             |
| 24. Azinphos-methyl                                                    | 25. Malathion                |
| 26. Endosulfan                                                         | 27. Lead                     |
| 28. Chromium                                                           | 29. Zinc                     |
| 30. Copper                                                             | 31. Nickel                   |
| 32. Arsenic                                                            | 33. *Iron                    |
| 34. *pH if outside the range 5.5 to 9.0                                | 35. *Boron                   |
| 36. Vanadium                                                           | 37. PCSD'S                   |
| 38. Cyfluthrin                                                         | 39. Sulcofuron               |
| 40. Flucifuron                                                         | 41. Permethrin               |
| 42. 4-Chloro-3-methyl-phenol                                           | 43. 2-Chlorophenol           |
| 44. 2,4-Dichlorophenol                                                 | 45. 2,4-D (ester)            |
| 46. 2,4-D (non ester)                                                  | 47. 1,1,1-Trichloroethane    |
| 48. 1,1,2-Trichloroethane                                              | 49. Bentazone                |
| 50. Benzene                                                            | 51. Biphenyl                 |
| 52. Chloronitrotoluenes                                                | 53. Demeton                  |
| 54. Dimethoate                                                         | 55. Linuron                  |
| 56. MCPA                                                               | 57. Mecoprop                 |
| 58. Mevinphos                                                          | 59. Napthalene               |
| 60. Omethoate                                                          | 61. Toluene                  |
| 62. Triazophos                                                         | 63. Xylene                   |
| 64. Cyanide                                                            | 65. Azinphos-ethyl           |
| 66. Fenthion                                                           | 67. Parathion                |
| 68. Parathion-methyl                                                   | 69. Trichloroethylene        |
| 70. Tetrachloroethylene                                                | 71. Dioxins                  |
| 72. PAHs                                                               | 73. Nonyl phenol             |
| 74. Nonyl phenyl ethoxylate                                            | 75. Di-ethylhexyl phthalate  |
| 76. Bisphenol-A                                                        | 77. Diazinon                 |
| 78. Chlorfenvinphos                                                    | 79. Chlorotoluron            |
| 80. Isoproturon                                                        | 81. Diuron                   |
| 82. Propetamphos                                                       | 83. Flumethrin               |
| 84. Amitraz                                                            | 85. High-Cis Cypermethrin    |
| 86. Cyromazine                                                         | 87. Deltamethrin             |
| 88. Cypermethrin                                                       |                              |

This list is applicable as at 1 December 1998 and will be updated as and when changes to the relevant legislative requirements occur.

\*Notification to the Agency by the Consent holder is only required in respect of changes to trade effluents likely to cause significant changes to the pH value, and/or iron or boron concentrations, of the crude sewage.



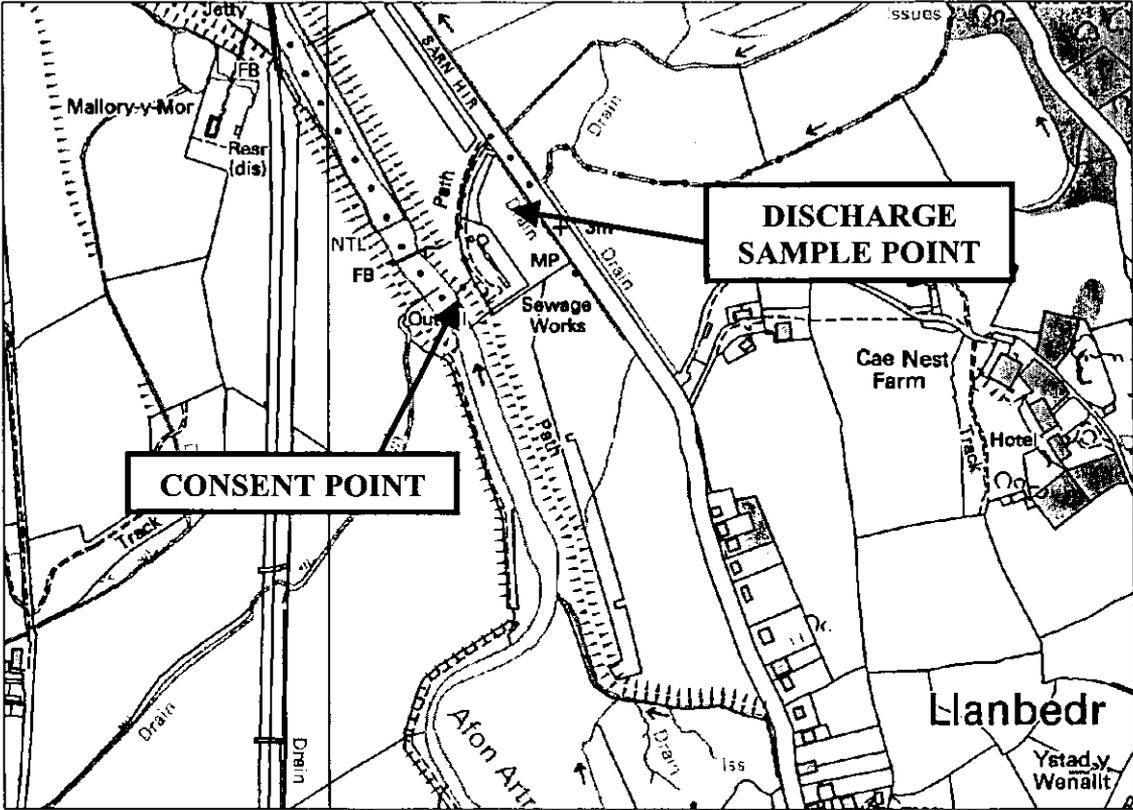
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ANNEX 3

PLAN No CG0093701



NOT TO SCALE

