

## REFERENCE

2425377

## RELEASE DATE

November 2024

## SUBJECT

Greenisland Wastewater Treatment Works & Greenisland Wastewater Pumping Station

## REQUESTS

I attach the NI Water Consultation response for this scheme. NI Water have noted the following:

1. Wastewater Treatment Capacity is not available at Greenisland WWTW
2. Unsatisfactory Intermittent Discharge (UID) at Greenisland Two WWPS.

As part of a Freedom of Information Request can you please provide us with the following information:

### Greenisland WWTW

- A. A copy of the Discharge Consent issued to NIW by DAERA for the Greenisland WWTW
- B. Full Details of all recorded breaches of this discharge consent within the last 5 years (Dates, Durations and associated volumes)

### Greenisland Two WWPS

- C. A copy of the Discharge Consent under Emergency Conditions issued to NIW by DAERA for the WWPS
- D. Full Details of all recorded breaches of this discharge consent within the last 5 years. (Dates, Durations and associated volumes)

## RESPONSES

- a) A copy of the Discharge Consent issued to NIW by DAERA for the Greenisland WwTW*

Annex A attached refers.

- b) Full Details of all recorded breaches of this discharge consent within the last 5 years (Dates, Durations and associated volumes)*

No breaches were recorded. Please note that flow compliance does not form part of the regulatory compliance assessment at this time.

*c) A copy of the Discharge Consent under Emergency Conditions issued to NIW by DAERA for the WwPS*

Annex B attached refers.

*d) Full Details of all recorded breaches of this discharge consent within the last 5 years. (Dates, Durations and associated volumes).*

Clicking on the relevant asset within NI Water's Storm Overflow webpage details that Greenisland WwPS spilled 27 times for a duration of 41 hours between January 1, 2023 – December 31, 2023, as recorded by the asset Event Duration Monitor (EDM). EDMs do not provide actual, recorded volumes spilled; they provide evidence of spill frequency and duration.

Regulation 12(4)(a) (Information not held) provides that a public authority may refuse to disclose information to the extent that it does not hold that information when an applicant's request is received. All exceptions under the Regulations are qualified and so, in deciding whether or not to disclose the requested information, NI Water must consider the public interest. NI Water does not retain a measured record of the actual volumes of releases into public waterways from its sewerage system.

NI Water's modelled data (row 366 refers) does however predict that Greenisland WwPS had a predictive spill volume of 2,106 m<sup>3</sup> in 2023.

DEPARTMENT OF THE ENVIRONMENT

Water (Northern Ireland) Order 1999

Consent for a Waste Water Treatment Works Discharge

TO Northern Ireland Water (The Consent Holder)  
Head Office  
Westland House  
40 Old Westland Road  
Belfast  
BT14 6TE

Source of discharges

**GREENISLAND WASTE WATER TREATMENT WORKS**

Nature of discharges

Name of receiving waterway

Discharge A: Secondary treated waste water	Belfast Lough
Discharge B: Settled storm waste water	Belfast Lough
Discharge C: Screened storm waste water	Belfast Lough
Discharge D: Screened storm waste water	Belfast Lough

***The Department of the Environment in pursuance of the powers conferred on it by the Water (Northern Ireland) Order 1999 HEREBY CONSENTS to your making the discharges stated above to the named receiving waterways in accordance with the application dated 9 September 2005 in respect of discharges from the above named waste water treatment works.***

***SUBJECT TO the following conditions:***

**1. LOCATION**

- 1.1. The discharge (A) shall consist only of secondary treated waste water from an outlet at grid reference 339240 385780.
- 1.2. The discharge (B) shall consist only of settled storm waste water from an outlet at grid reference 339240 385780.

Water (Northern Ireland) Order 1999  
Consent for a Waste Water Treatment Works Discharge

- 1.3. The discharge (C) shall consist only of screened storm waste water from an outlet at grid reference 339240 385780.
- 1.4. The discharge (D) shall consist only of screened storm waste water from, an outlet at grid reference 339240 385780.

**2. CONDITIONS**

**SECONDARY TREATED WASTE WATER (Discharge A)**

- 2.1. The volume of secondary treated waste water discharged shall not exceed 9500 m<sup>3</sup>/day.
- 2.2. The average Daily Dry Weather Flow (DWF) of secondary treated waste water shall not exceed 4750 m<sup>3</sup>/day.
- 2.3. Subject to the condition 5.1 spot samples of tertiary treated waste water shall comply with the following limits for the parameters stated below. Each parameter shall be considered individually.

(a) PARAMETER	<u>95 PERCENTILE</u> <u>LIMIT</u>	<u>UPPER TIER</u> <u>LIMIT</u>
Biochemical Oxygen Demand in 5 days at 20 °C (nitrification suppressed with allylthiourea)	30 mg/l O <sub>2</sub>	65 mg/l O <sub>2</sub>
Suspended Solids (measured after drying at 105 °C)	50 mg/l	125 mg/l

(b) In addition to (a):

- (i) The twelve monthly mean concentration of total nitrogen (expressed as N) shall not exceed 15 mg/l.
- 2.4. For the purpose of determining compliance with the conditions in 2.3.  
(a) 24 (twenty four) spot samples of the effluent at regular but randomised intervals over a 12 month period in accordance with an agreed sampling programme.  
Note sampling requirements of informative B.
  - 2.5. For conditions 2.3.(b) (i), 12 (twelve) samples shall be taken at regular but randomised intervals over a 12 month period in accordance with an

Water (Northern Ireland) Order 1999

Consent for a Waste Water Treatment Works Discharge

agreed sampling programme and analysed for the parameters stated in these conditions. Note sampling requirements of informative B.

- 2.6. Compliance with the 95 percentile limits in condition 2.3.(a) will be assessed using the look-up table in Annex 1. The number of samples exceeding the 95 percentile limit for any parameter in any 12 month period shall not exceed the maximum number of permitted exceedences stated in the look-up table, for the given number of samples taken.
- 2.7. During any period of less than 12 months for which this Consent applies, compliance with the 95 percentile standards in condition 2.3.(a) shall be assessed using the number of samples taken within that period.
- 2.8. No spot sample shall at any time exceed the upper tier limits specified in condition 2.3.(a).
- 2.9. No sequential set of spot samples in any 12 month period shall exceed the 12 monthly mean standards contained in condition 2.3.(b) (i).
- 2.10. The Consent Holder shall forward the analysis results for the parameters stated in condition 2.3.(a) and 2.3.(b)(i) to Northern Ireland Environment Agency on a monthly basis, within two weeks following the end of month in which the samples were taken. (See informative B).
- 2.11. In as far as is reasonably practicable, the works shall be operated so as to prevent the discharge from containing any significant trace of visible oil or grease.

**3. URBAN WASTE WATER TREATMENT REGULATION REQUIREMENTS**

- 3.1. The Consent Holder shall comply with the Urban Waste Water Treatment Regulations (Northern Ireland) 2007 (hereafter referred to as the "Regulations").
- 3.2. For the purpose of conditions 3.3 to 3.4, interpretations and references to a numbered regulation or schedule shall have the meaning as in the Regulations, unless otherwise indicated.
- 3.3. The discharge derives from an agglomeration with a population equivalent between 10000 and 15000 discharging to coastal waters in a sensitive area (eutrophic) as identified under Part I (a) of Schedule 1.
- 3.4. The Consent Holder shall inform Northern Ireland Environment Agency in writing of any change, or proposed change, to the population

**Water (Northern Ireland) Order 1999**  
**Consent for a Waste Water Treatment Works Discharge**

equivalent such as would make a material change to the application of the Regulations and shall, on request, inform Northern Ireland Environment Agency in writing of the actual population equivalent.

- 3.5. The discharge shall be subject to Regulation 7(1) (b) and shall satisfy the requirements of Part I of Schedule 3.
- 3.6.
- (a) The Consent Holder shall provide apparatus for the purpose of:
    - (i) measuring and recording the volume, rate of flow, nature, composition and 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 in order that Northern Ireland Environment Agency can assess compliance with the requirements of condition 3.4 of this consent, in accordance with the control procedures set out in Part II of Schedule 3 of the Regulations. Note the sampling requirements of informative B.
  - (c) The Consent Holder shall provide Northern Ireland Environment Agency with the information collected in complying with paragraph (b) above, in a manner agreed with Northern Ireland Environment Agency.

**4. WORKS OPERATION CONDITION**

- 4.1. The works shall be operated and effluent shall be treated in a manner, which, so far as is reasonably practicable, minimises the polluting effects of the discharge made from the works to the receiving waterway.
- 4.2. Condition 4.1 does not require:
- (a) any higher standard to be achieved in relation to any characteristic of the discharge which is specifically regulated by conditions 2.3 and 3.4 than is required by those conditions;
  - (b) any alteration of the works or a change in the type of treatment used.

Water (Northern Ireland) Order 1999  
Consent for a Waste Water Treatment Works Discharge

**5. UNUSUAL WEATHER CONDITIONS**

- 5.1. No sample of secondary treated waste water taken at a time when unusual weather conditions are adversely affecting the operation of the waste water treatment works shall be taken into account in determining compliance with the conditions contained in condition 2.3 and 3.4 of this Consent.
- 5.2. For the purpose of this condition "unusual weather conditions" shall include:
- (i) low ambient temperature as evidenced by effluent temperature 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 to the works which could not be ameliorated by the reasonable provision and operation of standby generator facilities.
- 5.3. On each occasion where unusual weather conditions adversely affect the operation of the waste water treatment works, the Consent Holder shall use its best endeavours to mitigate the adverse effect.
- 5.4. For an effluent sample to be considered for the purposes of condition 5.1. the Consent Holder shall notify Northern Ireland Environment Agency 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 working days of the occurrence of such conditions). The notification shall include a full description of the unusual weather conditions and their impact on the operation of the works. The information shall be entered on the public register.

**6. DISCHARGE OF SETTLED STORM WASTE WATER (Discharge B)**

- 6.1. The volume of settled storm waste water discharged shall be limited to that which overflows when the storm tanks are full. The discharge of storm waste water to the storm tanks shall only occur when the flow at the storm overflow weir exceeds 165 l/sec due to rainfall and/or snow melt, except in an emergency as consented under condition 7.

**Consent No: 6489/2007**

**File No: WU 1490/2007**

**Discharger Ref No: 263**

**Water (Northern Ireland) Order 1999**

**Consent for a Waste Water Treatment Works Discharge**

- 6.2. The Consent Holder shall provide, when requested by Northern Ireland Environment Agency, flow monitoring information to verify the flow at which the storm overflow operates.
- 6.3. The contents of the storm tanks shall be automatically returned for full treatment as soon as practicable after the overflow to the storm tanks has ceased.
- 6.4. The capacity of the storm tanks shall be at least 990 m<sup>3</sup>.
- 6.5. The discharge shall not contain a significant quantity of solid matter having a size greater than 6 millimetres in more than one dimension and the discharge shall not be comminuted or macerated to achieve this standard.

## **7. DISCHARGE OF SCREENED STORM WASTE WATER (Discharge C)**

- 7.1. The volume of screened storm waste water discharged shall be limited to that which overflows when the flow at the 6DWF storm overflow weir exceeds 330 l/sec (28500 m<sup>3</sup> per day) due to rainfall and/or snow melt.
- 7.2. The Consent Holder shall provide, when requested by Northern Ireland Environment Agency, flow monitoring information to verify the flow at which the storm overflow operates.
- 7.3. The discharge shall not contain a significant quantity of solid matter having a size greater than 6 millimetres in any one dimension and the discharge shall not be comminuted or macerated to achieve this standard.
- 7.4. Where the discharge results in unsatisfactory solid matter being visible in the receiving watercourse or on its banks, the Consent Holder shall take all reasonable steps to collect and remove such matter as soon as practicable after the discharge has taken place.

## **8. DISCHARGE OF SECONDARY STORM WASTE WATER (Discharge D)**

- 8.1. The volume of secondary storm waste water discharged shall be limited to that which overflows when the flow at the boundary storm overflow weir exceeds 550 l/sec (47500 m<sup>3</sup> per day) due to rainfall and/or snow melt.
- 8.2. The Consent Holder shall provide, when requested by Northern Ireland Environment Agency, flow monitoring information to verify the flow at which the storm overflow operates and transfers storm waste water to the additional secondary treatment plant.



- 8.3. The additional treatment plant shall be operated in a manner that provides a secondary treated discharge, which, so far as is reasonably practicable, minimises the polluting effects of the discharge on the receiving water.

## 9. GENERAL DISCHARGE CONDITIONS

### Power

- 9.1. A permanent stand-by power generator shall be provided and maintained in good working order. The generator shall activate automatically in the event of a failure of the mains power supply. The generator shall be tested on a regular basis to ensure that it is functioning satisfactorily. Records of tests of the generator should be kept for a minimum of 2 years and made available to Northern Ireland Environment Agency on request.
- 9.2. Where there is not a permanent generator on site, provision must exist for the connection of a portable generator. The Consent Holder must hold an adequate supply of portable generators that fulfil the requirements of condition 9.1.

### Sampling

- 9.3. Facilities shall be provided, maintained and labelled so that representative samples of the following can be safely obtained at the stated sample point location:

<u>Type of sample</u>	<u>Easting and Northing</u>
Secondary treated effluent before discharge	339100 385910

### Flow Measurement

- 9.4. Continuous flow recording equipment such that a reading can be readily obtained, shall be provided and operated to enable the daily volume and instantaneous flows as detailed in condition 9.5. to be recorded. See informative D.
- 9.5. Facilities shall be provided to enable the flow to be measured at the following locations.

**Consent No: 6489/2007**

**File No: WU 1490/2007**

**Discharger Ref No: 263**

**Water (Northern Ireland) Order 1999  
Consent for a Waste Water Treatment Works Discharge**

<u>Monitoring location</u>	<u>Easting and Northing</u>
Inlet flow (before 6 DWF overflow)	339010 385951
Inlet flow (before 3 DWF overflow)	339024 385968

- 9.6. By the 31 December 2007 the Consent Holder shall provide a permanent flow recorder to measure the flow passed forward for treatment or the final effluent flow discharged. In the interim period the Consent Holder shall provide a portable flow measuring device to record the final effluent flow discharged when requested by Northern Ireland Environment Agency.
- 9.7. Flow readings recorded by the Consent Holder shall be retained for a period of 2 years and made available to Northern Ireland Environment Agency upon request in a format specified.

**Records**

- 9.8. All records shall be:
- true and accurate;
  - comprehensible and legible;
  - recorded as soon as practicable after each relevant event;
  - amended in such a way, when amendments are necessary, so as to leave the original entry clear and legible and that the person who has made the amendment is identified.

**Access**

- 9.9. The Consent Holder shall permit duly authorised representatives of Northern Ireland Environment Agency to enter the premises at all reasonable times under article 25 of the Water (NI) Order 1999 in order to undertake the functions conferred on Northern Ireland Environment Agency by the Order and to ensure that the conditions of this consent are complied with.

**Priority Pollutants**

- 9.10. The Consent Holder shall notify the Northern Ireland Environment Agency in writing if it becomes known that a material change or planned change in the nature of the waste water received has

occurred, in respect of discharges from trade premises to the sewerage system, that may increase or introduce into the effluent any 'Priority Pollutant' (as listed in Annex 2 of this Consent and updated from time to time and notified to the Consent Holder in writing), or any other substance considered by the Consent Holder as having or likely to have a significant effect on the receiving waters.

### **Substantial Change Condition**

- 9.11. A discharge shall not be made from the works if it would cause a significant increase in the polluting effects of the discharge on the receiving waterway as a result of a new or altered discharge of trade effluent into the works. See informative E.
- 9.12. An increase in the polluting effects of the discharge on the receiving waterway is not significant for the purposes of condition 9.11 if it relates to any characteristic of the discharge which is specifically regulated by condition 2.3, 2.9 and 3.4 of this consent but it may be significant if it is caused by a change in some other characteristic of the discharge.

### **Unauthorised Discharge Condition**

- 9.13. 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.
- 9.14. 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.
- 9.15. Nothing in this, or any other condition of this Consent, prevents anyone from relying on any defence available under the Water and Sewerage Services (Northern Ireland) Order 2006 and any amendment thereof.

### **Review of Discharge Conditions**

- 9.16. This consent may be subject to review in line with the conditions in paragraphs 6 (1) to (5) of Schedule 1 of The Water (NI) Order 1999 subject to the requirements of paragraphs 5 (1) to (7).
- 9.17. In respect of condition 9.16. Northern Ireland Environment Agency may alter any of the conditions of this Consent at any time within 4 years of the date of issue for the purposes of meeting the requirements of the Water Framework Directive or any other European Union Directives as implemented into Northern Ireland legislation or where the formally

**Consent No: 6489/2007**

**File No: WU 1490/2007**

**Discharger Ref No: 263**

**Water (Northern Ireland) Order 1999**

**Consent for a Waste Water Treatment Works Discharge**

agreed sewerage system upgrade indicates additional requirements at the waste water treatment works.

### **Telemetry**

- 9.18. A 24 hour response telemetry alarm system shall be provided to give notification of failure of treatment facilities or pumps. The telemetry alarm system shall be maintained and tested on a regular basis. The Consent Holder shall keep a record of the test results for a period of 2 years and during that time they shall be made available to Northern Ireland Environment Agency upon request.

**Consent No: 6489/2007**

**File No: WU 1490/2007**

**Discharger Ref No: 263**

**Water (Northern Ireland) Order 1999**

**Consent for a Waste Water Treatment Works Discharge**

## **CONSENT INFORMATIVES**

### **A Dry Weather Flow**

For the purpose of this Consent 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.

### **B Sampling**

The Consent Holder shall arrange for spot or composite samples to be taken (depending upon the standards to be assessed in the Consent) at regular but randomised intervals over a 12 month period. The sampling days shall be varied across all days of the week and all months during the 12 month period. In the case of spot samples the time of sampling shall be varied across normal working hours. Any failure to take a sample shall be notified to Northern Ireland Environment Agency as soon as practical and confirmed in writing, providing details of the reason for the failure and what action was taken to address the situation.

The Consent Holder shall arrange for the effluent samples to be analysed for the parameters stated in this Consent by laboratories that have been accredited by a nationally recognised quality accreditation body, such as UKAS. The parameter analysis shall employ the methods contained in the appropriate Blue Book (or its equivalent) and shall be carried out to the accuracy and precision stipulated in the selected method and shall as a minimum comply with the requirements set out in Annex 10 of the Guidance Note to the Urban Waste Water Treatment Directive (August 1999) and the associated appendices.

The Consent Holder shall take into account the requirements of Annex 10 of the Guidance Note to the Urban Waste Water Treatment Regulations (Northern Ireland) 2007 in developing their sampling and analysis programme.

### **C Population Equivalent**

The Consent Holder shall inform Northern Ireland Environment Agency in writing of any change, or proposed change, to the population equivalent and shall, upon request, inform Northern Ireland Environment Agency in writing of the actual population equivalent.

**Water (Northern Ireland) Order 1999  
Consent for a Waste Water Treatment Works Discharge**

**D Flow Recording**

The Consent Holder shall produce and maintain a quality control manual approved by an independent expert and to the satisfaction of Northern Ireland Environment Agency, specifying procedures for the calibration, operation and maintenance of the flow recording system. The flow recording equipment shall be calibrated, operated and maintained by the Consent Holder in accordance with the provisions of the manual. The Consent Holder shall keep a record of these procedures available for inspection for a minimum period of 24 months and provide a copy to Northern Ireland Environment Agency upon request.

The Consent Holder shall record all failures of the continuous flow recording system and any breaks in the flow record. The reasons for these failures and breaks shall be recorded and all steps taken to prevent a re-occurrence. The Consent Holder shall ensure that as far as possible the recorded remains operational at all times. Any failures shall be remedied as soon as practicable.

The use of portable flow measurement equipment at this works may be acceptable to Northern Ireland Environment Agency by agreement in writing.

The Consent Holder shall take into account the requirements section 4.6 Appendix 10(i) of Annex 10 of the Guidance Note to the Urban Waste Water Treatment Regulations (Northern Ireland) 2007 in meeting the flow requirements.

**E Substantial Change Condition**

A discharge of trade effluent into the works is new if:

- (a) it is made by the Consent Holder and is of a kind not made into the works by the Consent Holder immediately before the date this consent takes effect; or
- (b) is made by a third party and the discharge is authorised on or after that date.

A discharge of trade effluent into the works is altered if:

- (a) it is made by the Consent Holder and its composition or quantity changes significantly on or after the date of this consent; or
- (b) it is made by a third party and the alteration of the discharge is authorised on or after that date.

Consent No: 6489/2007

File No: WU 1490/2007

Discharger Ref No: 263

Water (Northern Ireland) Order 1999  
Consent for a Waste Water Treatment Works Discharge

For the purposes of this condition "trade effluent" means:

- (a) any discharge by the Consent Holder other than:
  - (i) domestic waste water from premises connected directly or indirectly to the works; or
  - (ii) surface water run-off;
- (b) any discharge by a third party which is only accepted as a result of an authorisation by the Sewerage Undertaker.

**F Sewerage Undertaker**

For the purposes of this Consent, Sewerage Undertaker shall mean Northern Ireland Water Ltd.

**G Additional Informatives**

Any transfer of waste to or from this works by tanker shall comply with the requirements of The Controlled Waste (Duty of Care) Regulations (Northern Ireland) 2002.

The Department considers that bunds should be provided around oil storage or bulk chemical storage tanks and that any chemical should be stored safely in order to reduce the risk of pollution of neighbouring watercourses and groundwater from accidental spillage or leakage.

The drainage of the site should be designed so as to contain any spillages within the site and not discharge such spillages direct to a watercourse.

**COMMENCEMENT DATE**

**This Consent shall take effect from the date of issue.**

First issued 30<sup>th</sup> day of March 2007.

[Re-issued on this 12<sup>th</sup> day of February 2008 to take into account items listed by NIW on 20 March 2007.

[Re-issued on this 1st day of January 2017]

  
..... Authorised Officer

Consent No: 6489/2007

File No: WU 1490/2007

Discharger Ref No: 263

Water (Northern Ireland) Order 1999  
Consent for a Waste Water Treatment Works Discharge

ANNEX 1

### Urban Waste Water Treatment Directive Look-up Table

Number of samples taken in any twelve month period	Maximum number of allowed exceedences for any parameter
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



Consent No: 6489/2007

File No: WU 1490/2007

Discharger Ref No: 263

Water (Northern Ireland) Order 1999

Consent for a Waste Water Treatment Works Discharge

ANNEX 2

### Priority Pollutant Listing

<b>DANGEROUS SUBSTANCES LIST I</b>	
1	Cadmium (total and dissolved) and its compounds
2	Carbon Tetrachloride (CTC)
3	Chloroform (CF) (Trichloromethane)
4	DDT Isomers (pp-DDE, pp-TDE, op-DDT, pp-DDT)
5	The 'Drins' (Aldrin, Dieldrin, Endrin, Isodrin)
6	1,2-Dichloroethane (EDC)
7	Hexachlorobenzene (HCB)
8	Hexachlorobutadiene (HCBd)
9	hexachlorocyclohexane (a-HCH, b-HCH, g-HCH (Lindane))
10	Mercury (total and dissolved) and its compounds
11	Pentachlorophenol (PCP)
12	Tetrachloroethene (PER)
13	Trichlorobenzene (1,2,3-TCB, 1,2,4-TCB, 1,3,5-TCB)
14	Trichloroethene (TRI)
<b>DANGEROUS SUBSTANCES LIST II</b>	
15	Boron (total)
16	Chromium (total and dissolved)
17	Copper (total and dissolved)
18	Cyanide
19	Cyfluthrin
20	Iron (total and dissolved)
21	Lead (total and dissolved)
22	Nickel (total and dissolved)
23	Permethrin
24	Vanadium
25	Zinc (total and dissolved)
26	pH (if <5.5 and >9.0)
27	PCSD
28	Sulcofuron
29	Flucofuron
30	Azinphos-ethyl
31	Azinphos-methyl
32	Dichlorovos
33	Endosulphan
34	Fenitrothion
35	Fenthion
36	Malathion
37	Parathion (including parathion Methyl)
38	Simazine
39	Tributyltin
40	Trifuralin
41	Triphenyltin Acetate (Fentin Acetate)
42	Triphenyltin Chloride (Fentin Chloride)
43	Triphenyltin Hydroxide (Fentin Hydroxide)
44	Atrazine
45	2-Amino-4-Chlorophenol
46	Anthracene
47	Arsenic and its mineral compounds
48	Benzene

Consent No: 6489/2007

File No: WU 1490/2007

Discharger Ref No: 263

Water (Northern Ireland) Order 1999

Consent for a Waste Water Treatment Works Discharge

ANNEX 2

49	Benzidine
50	Benzylchloride (Alpha-chlorotoluene)
51	Benzylidenechloride (Alpha,alpha-dichlorotoluene)
52	Biphenyl
53	Chloral Hydrate
54	Clordane
55	Chloroacetic Acid
56	2-Chloroaniline
57	3-Chloroaniline
58	4-Chloroaniline
59	Mono-Chlorobenzene
60	1-Chloro-2,4-Dinitrobenzene
61	2-Chloroethanol
62	4-Chloro-3-Methylphenol
63	1-Chloronaphthalene
64	Chloronaphthalenes (technical mixture)
65	4-Chloronitroaniline
66	1-Chloro-2-Nitrobenzene
67	1-Chloro-3-Nitrobenzene
68	1-Chloro-4-Nitrobenzene
69	4-Chloro-2-Nitrotoluene
70	Chloronitrotoluenes (other than 4-Chloro-2-Nitrotoluene)
71	2-Chlorophenol
72	3-Chlorophenol
73	4-Chlorophenol
74	Chloroprene (2-Chloro-1,3-Butadiene)
75	3-Chloropropene (Allylchloride)
76	2-Chlorotoluene
77	3-Chlorotoluene
78	4-Chlorotoluene
79	2-Chloro-p-Toluidine
80	Chlorotoluidines (Other than 2-Chloro-p-Toluidine)
81	Coumaphos .
82	Cyanuric Chloride (2,4,6-Trichloro-1,3,5-Triazine)
83	2,4,D (Including 2,4-D Salts and 2,4-D Esters)
84	Demeton (Including D-O, D-S, D-S-Methyl & D-S-Methyl Sulphone)
85	1,2-Dibromoethane
86	Dibutyltin Dichloride
87	Dibutyltin Oxide
88	Dibutyltin Salts (Other than Dibutyltin Dichloride & Dibutyltin Oxide)
89	Dichloroanilines
90	1,2-Dichlorobenzene
91	1,3-Dichlorobenzene
92	1,4-Dichlorobenzene
93	Dichlorobenzidines
94	Dichloro-Di-Isopropyl Ether
95	1,1-Dichloroethane
96	1,1-Dichloroethylene (Vinylidene Chloride)
97	1,2-Dichloroethylene
98	Dichloromethane
99	Dichloronitrobenzenes
100	2,4-Dichlorophenol
101	1,2-Dichloropropane

Consent No: 6489/2007

File No: WU 1490/2007

Discharger Ref No: 263

Water (Northern Ireland) Order 1999

Consent for a Waste Water Treatment Works Discharge

ANNEX 2

102	1,3-Dichloropropan-2-ol
103	1,3-Dichloropropene
104	2,3-Dichloropropene
105	Dichlorprop
106	Diethylamine
107	Dimethoate
108	Dimethylamine
109	Disulfoton
110	Epichlorohydrin
111	Ethylbenzene
112	Heptaclor (Including Heptachlorepoxyde)
113	Hexachloroethane
114	Isopropyl Benzene
115	Linuron
116	MCPA
117	Mecoprop
118	Methamidophos
119	Mevinphos
120	Monolinuron
121	Napthalene
122	Omethoate
123	Oxy-Demeton-Methyl
124	PAH (With special ref to 3,4-Benzopyrene & 3,4-Benzofluoranthene)
125	PCB (Including PCT)
126	Phoxime
127	Propanil
128	Pyrazon
129	2,4,5-T (Including 2,4,5-T Salts & 2,4,5-T Esters)
130	Tetrabutyltin
131	1,2,4,S-Tetrachlorobenzene
132	1,1,2,2- Tetrachloroethane
133	Toluene
134	Triazophos
135	Tributyl Phosphate
136	Trichlorfon
137	1,1,1-Trichloroethane
138	1,1,2-Trichloroethane
139	Trichlorophenols
140	1,1,2-Tri-Chloro-Tri-Fluoro-Ethane
141	Vinyl Chloride (Chloroethylene)
142	Xylenes (Technical Mixture of Isomers)
143	Bentazone
	<b>Water Framework Directive 2000/60/EC Annex X</b>
	<b>(Other than those pollutants on List I &amp; II above)</b>
144	Alachlor
145	BDEs: Pentabromodiphenylether
146	BDEs: Octabromodiphenylether
147	BDEs: Decabromodiphenylether
148	C10-C13-Chloroalkanes
149	Chloropyrifos
150	Di-(2-ethylhexyl) Phthalate (DEHP)
151	Diuron

Consent No: 6489/2007

File No: WU 1490/2007

Discharger Ref No: 263

Water (Northern Ireland) Order 1999  
Consent for a Waste Water Treatment Works Discharge

ANNEX 2

152	Isoproturon
153	Nonylphenols: 4-(para)-nonylphenol
154	Octylphenols: Para-tert-Octylphenol
155	PAH: Fluoroanthene
156	PAH: Benzo(a)pyrene
157	PAH: Benzo(b)fluoroanthene
158	PAH: Benzo(g,h,i)perylene
159	PAH: Benzo(k)fluoroanthene
160	PAH: Indeno(1,2,3-cd)pyrene
161	Chlorfenvinfos
162	Diazinon
163	Propetamphos
164	Pentachlorobenzene
	<b>Metals/Metaloids DSD 76/464/EEC</b>
	<b>(Other than those pollutants on List I &amp; II above)</b>
165	Selenium
166	Antimony
167	Molybdenum
168	Titanium
169	Barium
170	Beryllium
171	Uranium
172	Cobalt
173	Thallium
174	Tellurium
175	Silver

This list is applicable as at the 1st August 2004 and will be updated as and when changes to the requirements of the relevant legislation occur.

Department of the Environment

Water (Northern Ireland) Order 1999

Consent for Discharges from a Wastewater Collection System

**TO:**  
**The Department for Regional Development**  
**Water Service (The Consent Holder)**  
NORTHLAND HOUSE  
3 FREDERICK STREET  
BELFAST  
BT1 2NS

## **DISCHARGES FROM GREENISLAND COLLECTION SYSTEM.**

**The Department of the Environment in pursuance of the power conferred on it by the Water (Northern Ireland) Order 1999 HEREBY CONSENTS all the discharges stated in Column B of the attached Schedule 1 to the named receiving waterways in Column C of schedule 1 in accordance with your application(s) on the date(s) in Column D of schedule 1 subject to the following conditions:**

### **1 Improvement Programme**

- 1.1 The drainage area plan for the sewer network shall be employed to establish an improvement programme by 1<sup>st</sup> of April 2011 that will ensure that the pollution of receiving waters due to storm water overflows are limited.
- 1.2 The improvement programme shall be agreed with Environment and Heritage Service and shall be attached as an annex to this consent.
- 1.3 Failure to meet the agreed improvement programme may result in action being taken by Environment and Heritage Service.

### **Combined Sewer Overflow (CSO) Discharges**

### **2 LOCATION**

- 2.1 The discharge shall consist of storm sewage from an outlet at the Irish Grid Reference stated in **column F** of schedule 1 where a CSO function is identified at **column G**.

### 3 CONDITIONS

- 3.1 The discharge of storm sewage from network CSOs and pumping stations with a CSO function, listed in **column B** of schedule 1 as identified in column G, shall be limited to that which overflows when the rate of flow entering a pumping station or the pass forward flow at a network CSO is in excess of the pass forward flow at Column H and the level rises above the overflow weir or outlet, due to rainfall and /or snow melt.
- 3.2 The discharge of storm sewage shall only occur when, and only for as long as, the capacity of the storage facility listed in **column K** is fully utilised and the rate of flow exceeds the pass forward flow. The storm sewage storage facility (where provided) shall return its contents to the pass forward flow channel as soon as practicable after cessation of the overflow.
- 3.3 The overflow shall be maintained in an efficient operational condition, which, so far as is reasonably practicable, minimises the polluting effects of the overflow discharge on the receiving water.
- 3.4 There shall be no deterioration in the performance of the overflow in relation to:
- The volume or frequency of discharge;
  - The visible impact on surface waters due to the presence of oil or grease;
  - The deposition of sewage related debris on banks, bed or shore of the receiving waters;
  - The growth of sewage fungus in the receiving water;
  - The number of verified pollution incidents.

#### Pumping Station Discharges

### 4 LOCATION

- 4.1 The discharges shall consist only of sewage discharged in an emergency from the outlets at the Irish Grid References in **Column F** of schedule 1 where an emergency overflow (EO) function is identified at **column G**.

### 5 CONDITIONS

- 5.1 The discharge shall consist of sewage discharged in an emergency, when a sewage pumping station listed in **column B** of schedule 1 is inoperative as a result of one or more of the following:

**DOE Water (NI) Order 1999**  
**Consent for a Wastewater Collection System**

- a electrical power failure not due to the act or default of Water Service or its agents;
- b mechanical breakdown of duty and standby pumps;
- c rising main failures;
- d blockage of the downstream sewers not due to the act or default of Water Service or its agents;

and it is not reasonably practicable to dispose of the sewage otherwise. There shall be no undue delay in remedying any such failure or breakdown.

**Telemetry**

- 5.2 Where a 24 hour response telemetry alarm system is identified at **column O** to give notification of failure of operation of a pumping station. The telemetry alarm system shall be maintained and tested on a regular basis. Records of the test results for a period of 24 months and during that time they shall be made available to Environment and Heritage Service upon request.
- 5.3 All reasonable measures shall be taken, as soon as is practicable after receipt of warning of failure of operation of a pumping station, to prevent or limit any discharge and return the station to normal operation.
- 5.4 Environment and Heritage Service shall be notified as soon as practicable when there is the potential for operation of an emergency overflow in the event of failure of operation of a listed pumping station.
- 5.5 Telemetry records shall be kept for a minimum of 10(5) years and Environment and Heritage Service shall be supplied with a written report on the operation of the emergency overflows on request.
- 5.6 A recording system shall be provided and maintained to record the frequency and duration of emergency overflow events and the records shall be:
  - true and accurate;
  - comprehensible and legible;
  - recorded as soon as practicable after each relevant event;
  - amended in such a way, when amendments are necessary, so as to leave the original entry clear and legible and that the person who made the amendment is identified.

**Power**

- 5.7 Where facilities are provided so that a mobile stand-by generator can readily be installed in the event of an electrical failure, the generator shall be installed and operated as soon as practicable after such an electrical failure, when this is necessary to prevent or limit the discharge of sewage.

**Pumps**

- 5.8 The duty pump(s) shall be maintained in good working order, and at least one stand-by pump shall be provided and maintained at all times. The stand-by pump(s) shall automatically activate should the duty pump(s) become inoperative for reasons other than power failure. The duty pump(s) shall reactivate automatically after power has been restored following interruption to the supply.

**Tankering**

- 5.9 Where tanker access facilities are available these shall be maintained to enable disposal of sewage by tanker(s) when necessary to prevent or limit the discharge of sewage.

**6 GENERAL**

**Screening**

- 6.1 The screening facilities provided as stated in **column N** shall be operated and maintained to minimise the discharge of sewage related debris.

- 6.2 Overflow discharges shall not be comminuted or macerated.

**6.3 Clean-Up**

Where discharges result in unsatisfactory solid matter being visible in the receiving waterways or on their banks or on the sea shore, Water Service shall take all reasonable steps to collect and remove such matter as soon as practicable after the discharge has been reported.

**Access**

- 6.4 Duly authorised representatives of Environment and Heritage Service shall be permitted to enter the Consent Holders facilities at all reasonable times in order to undertake their regulatory duties.

**Change of Characteristics of Discharge**

- 6.5 Environment and Heritage Service shall be notified in writing if any known introduction of trade effluent or other change occurs, that may increase or introduce into the discharges any 'Dangerous Substance' included on Lists I or II of the EC Dangerous Substances Directive 76/464/EEC (a list of the



relevant substances is included in the annex to this agreement), or any other substance considered to have or likely to have a significant effect on the receiving water.

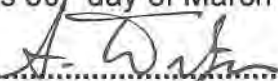
**Review of Discharge Conditions**

- 6.6 The discharge conditions contained in this Consent shall be reviewed, at the request of the Consent Holder when the Consent Holder is aware of, any additional overflows on the system not listed in Schedule 1 or a change in the operating conditions of any overflow listed, that affects the accuracy of the information in Schedule 1, or if Environment and Heritage Service is required to do so in order to comply with statutory duties.

**DATE OF COMMENCEMENT**

- 6.7 The conditions in this Consent referring to each individual CSO and pumping station shall apply from the date this Consent is issued.

Issued this 30<sup>th</sup> day of March 2007.

.......... **Authorised Officer**

**DOE Water (NI) Order 1999  
Consent for a Wastewater Collection System**

**Consent No: 5055/2007  
File No: WU 955/2007**

**SCHEDULE 1  
Greenisland Collection System Intermittent Discharges**

Column A	Column B	Column C	Column D	Column E	Column F	Column G	Column H	Column I	Column J	Column K	Column L	Column M		Column N	Column O	Column P
Ref	Source of Discharge	Receiving Waterway	Date of Application	Grid Reference of Overflow	Grid Reference of Discharge Point	Overflow Function #	Consented Pass Forward Flow (m <sup>3</sup> /day)	Dry Weather Flow (m <sup>3</sup> /day)	Formula A Flow (m <sup>3</sup> /day)	Storage Capacity Volume m <sup>3</sup>	Soffit Depth (m)	No. Pumps		Screening mm	Telemetry (Y/N)	EHS REF
												Duty	Standby			
PS 01	Greenisland No. 2	Belfast Lough	09/10/06	337686-384554	337686-384554	CSO	2505.60		4691.52			1	1	Y	Y	P1C1
PS 02	Greenisland No. 3	Belfast Lough	09/10/06	338651-385368	338647-385336	CSO	345.60		5486.40			1	1	Y	Y	P2C2
SPS 3A	Greenisland No.4	Un-named tributary of Belfast Lough	09/10/06	338162-386668	338157-386666	CSO						1	1			P3C3
SPS 5A	Lower Woodburn	Belfast Lough	09/10/06	340014-386760	340030-386721	CSO						1	1		Y	P4C4

# EO = emergency overflow, CSO = combined sewer overflow, EO & CSO = emergency overflow that also operates as a storm overflow

DOE Water (NI) Order 1999  
Consent for a Wastewater Collection System

Consent No: 5055/201  
File No: WU 955/2007

IMPROVEMENT PROGRAMME

Asset to be Improved	Unsatisfactory Conditions Driving Improvements	Agreed Improvements to be Carried Out	Date for Completion

## Key

- DAP Catchment Boundary
  - Modelled Manhole
  - Modelled Outfall Discharge Point
  - Modelled Sewer
  - Modelled Flaming Man
  - WWTW (Operational)
- Recommended Option CSO Status**
- Unmodified
- Recommended Option ERO Status**
- Unmodified
- Recommended Option PS Status**
- Unmodified
  - Draft to Rivers Agency Asset
  - Future Development Medium Term
- Water Course
  - Total Non-tidal Estuary
  - Water Course Flow Direction
  - General Sewer Flow Direction

Note:  
The continuation flow of first spill shown on the table is the continuous flow generated by the relevant hydraulic model at first spill for the 1 in 2 year design rainfall event with a catchment specific duration of 60 mins.

Reproduced from the OSM 1:2500 map of 2005 with the permission of the Director and Chief Executive. Crown Copyright reserved.

A	First Issue	06	07-08	JD	JD
---	-------------	----	-------	----	----

# DRAFT

Prepared By: [Name] Date: [Date]

### Northern Ireland Drainage Area Studies Eastern Division Stage II

Prepared for:  
**Greenisland (GIS) Overflow Spill Details (CSO & ERO) Recommended Solution (Continuous Typical Year Belfast TSR Series)**

Proposed Solution	DS	JD	JD	JD
N.T.S	07-06	07-06	07-06	07-06
Implementation	DS	NO	RR1	RR2
GIS	N/A	008	004	A

The 'Existing' system represents the July 2005 sewerage network with the existing WWTW (FT  $100 \text{ t/d}$ ) and assumed population equivalent (PE) of 7,729.

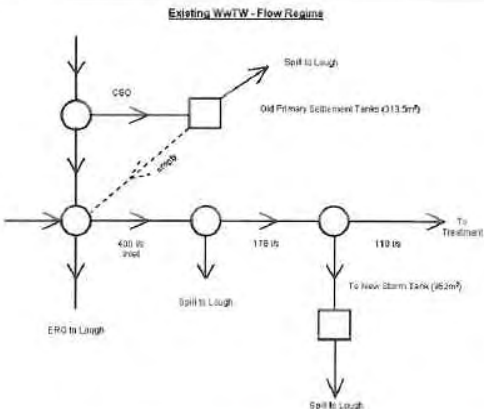
Medium Term developments include all development types excluding speculative. These areas are assumed to be fully developed with a rationed PE of 10,314. The WWTW is assumed to have a full flow to treatment FFT  $110 \text{ t/d}$ .

The 'Recommended Option' system represents the upgraded sewerage network and the recommended option FFT (to be determined at Options Stage).

The 'Proposed WWTW' Flow Regime is based on an assumed PE of xxxx and a Design Flow to full treatment of 3 DWT.

The Spill Frequency Analysis was undertaken using Belfast Design One Year Continuous Rainfall data set provided by the Project Manager.

## Greenisland



**DEPARTMENT OF THE ENVIRONMENT**  
This map relates to consent no. J055/2007 File WU 955/2007 granted under the Water (Northern Ireland) Order 1999

Signed [Signature]  
Authorised Officer  
Map reproduced from the Ordnance Survey with the permission of HMSO & Crown Copyright

### COMBINED SEWER OVERFLOWS

A CSO is defined as an overflow at a Catchment or Primary Treatment system

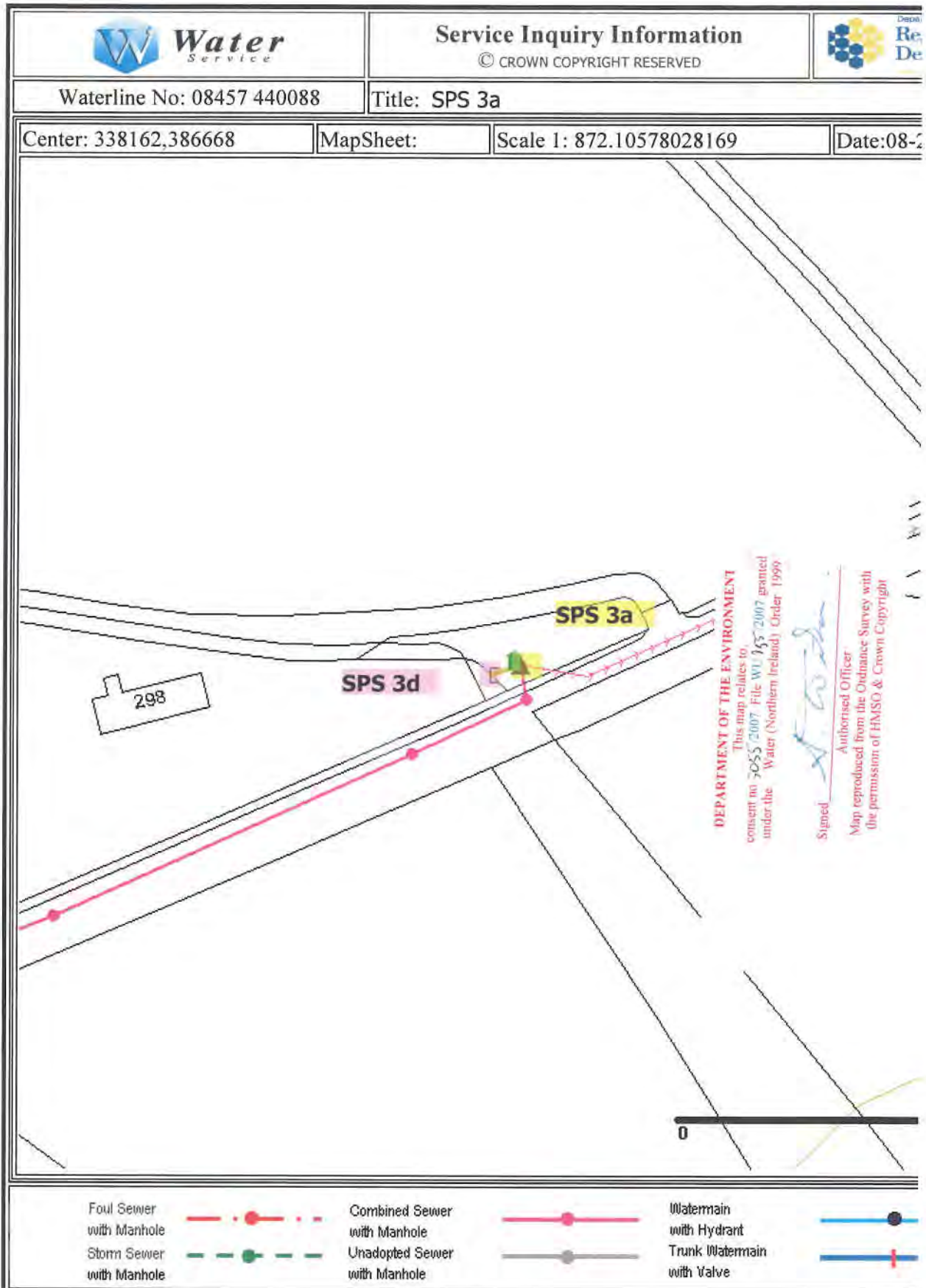
CSO No	CSO Name	BMS Code Ref	Sewer Block Reference	Main Inlet Sewer Diameter	Overflow Type	Flanking Water Type	Receiving Water Name	Existing CSO Sewer Network				Existing Sewer System (with medium term developments included)				Recommended Sewer System Option (with medium term developments included)				Existing SMI (m³/s)	Proposed SMI (m³/s)
								Existing Exposed Flow @ 1st Spill	Spill Frequency	Annual Spill m³/d	Frequency A @ 1st Spill	Existing Exposed Flow @ 1st Spill	Spill Frequency	Annual Spill m³/d	Frequency A @ 1st Spill	Existing Exposed Flow @ 1st Spill	Spill Frequency	Annual Spill m³/d	Frequency A @ 1st Spill		
CSO 01	Greenisland WWTW (CSO 1)	01	100	200	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
CSO 02	Greenisland WWTW (CSO 2)	02	100	200	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
CSO 03	Greenisland WWTW (CSO 3)	03	100	200	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
CSO 04	Greenisland WWTW (CSO 4)	04	100	200	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
CSO 05	Greenisland WWTW (CSO 5)	05	100	200	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
CSO 06	Greenisland WWTW (CSO 6)	06	100	200	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
CSO 07	Greenisland WWTW (CSO 7)	07	100	200	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
CSO 08	Greenisland WWTW (CSO 8)	08	100	200	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
CSO 09	Greenisland WWTW (CSO 9)	09	100	200	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
CSO 10	Greenisland WWTW (CSO 10)	10	100	200	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		

Note: (1) CSC 21 and CSC 01 assumed as these will be new (as per the Lough)

(2) CSC 21 and CSC 01 are part of Catchment area treatment (as per the table) but has been included in the spill frequency analysis

### EMERGENCY RELIEF OVERFLOWS

None



**Disclaimer:**  
 The position of the Department's Services shown on this plan should be regarded as approximate and should not be relied upon. The Department does not accept