Comhairle Contae Mhuineacháin
Monaghan County Council

Acmhainní Daonna
Human Resources
047 30586

Airgeadas
Finance
047 30589

Na Bóithre
Roads
047 30597

Clár na dToghthóirí
Register of Electors
047 30547

Comhshaol
Environment
047 30593

Deontais Ardoideachais
Higher Education Grants
047 30550

Na hEalaíona
Arts
047 71114

Iasachtaí /Deontais Tithíochta
Housing Loans/Grants
047 30527

Leabharlann an Chontae
County Library
047 74700

Mótarcháin
Motor Tax
047 81175

Músaem an Chontae
County Museum
047 82928

Pleanáil
Planning
047 30532

Pobal & Fiontar
Community & Enterprise
047 73719

Rialú Dóiteáin/Foirgnimh
Fire/Building Control
047 30521

Seirbhísí Uisce
Water Services
047 30504

Administration, Environmental Licensing Programme,
Office of Climate, Licence and Resource Use,
Environmental Protection Agency,
Headquarters,
P.O. Box 3000,
Johnstown Castle Estate,
Co. Wexford.

2nd October 2013

Re: Annual Environmental Return (AER) 2012 for the agglomeration Inniskeen D0348, revised ELRA attached.

Dear Sir/Madam,

I refer to the above licensed agglomeration in County Monaghan.
Enclosed is the revised Annual Environmental Return paper copy as required for 2012 for the Inniskeen agglomeration, with an amended signed ELRA attached.

Yours Sincerely,

Mark Johnston,
Senior Executive Engineer,
Water Services Section,
Monaghan County Council.
047 30513

Comhairle Contae Mhuineacháin
Monaghan County Council

Acmhainní Daonna
Human Resource
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047 30550

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047 71114

Iasachtaí /Deontais Tithíochta
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047 30527

Leabharlann an Chontae
County Library
047 51143

Mótarcháin
Motor Tax
047 81175

Músaem an Chontae
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047 82928

Pleanáil
Planning
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Pobal & Fiontar
Community & Enterprise
047 30500

Rialú Dóiteáin/Foirgnimh
Fire/Building Control
047 30521

Seirbhísí Uisce
Water Services
047 30504

Administration, Environmental Licensing Programme,
Office of Climate, Licence and Resource Use,
Environmental Protection Agency,
Headquarters,
P.O. Box 3000,
Johnstown Castle Estate,
Co. Wexford.

7th February 2013

Re: Annual Environmental Return (AER) 2012 for the agglomeration Inniskeen D0348.

Dear Sir/Madam,

I refer to the above licensed agglomeration in County Monaghan.
Enclosed is the Annual Environmental Return paper copy as required for 2012 for the Inniskeen agglomeration.

Yours Sincerely,

Mark Johnston,
Senior Executive Engineer,
Water Services Section,
Monaghan County Council.
047 30513

MONAGHAN COUNTY COUNCIL

WASTE WATER DISCHARGE LICENCE REGISTER NUMBER: D0348 AGGLOMERATION: Inniskeen Town ANNUAL ENVIRONMENTAL REPORT 1st JANUARY 2012 - 31st DECEMBER 2012

A/County Manager: D Fallon
Director of Services: D Fallon
Senior Engineer: M Murray

Inniskeen Waste Water Treatment Plant – Annual Environmental Report 2012

Document Amendment Record

Client: Monaghan County Council
Plant: Inniskeen Waste Water Treatment Plant
Title: Annual Environmental Report 2012

Ref No. : D0348

DATE	Issue Purpose:	originated	Checked:	Authorised:
January 2013	A Document for Submission:	S. Mallon A.E.	M. Johnston S.E.E.	M. Murray S.E./D. Fallon D.O.S.

Table of Contents

Section 1. Introduction & background to 2012 AER

1.1 Introduction.

This is the third Annual Environmental Report (AER) for Inniskeen Town WasteWater Treatment Plant.

The Environmental Protection Agency granted a Waste Water Discharge Licence (Register No. D0348) in respect of the agglomeration named, to Monaghan County Council on the 10th Feb 2010.

The purpose of this Annual Environmental Report (AER) is to provide a summary of activities relevant to the discharges from 1st January 2012 to the 31st December 2012 as required by Condition 6.11. The Annual Environmental Report (AER) for Inniskeen Agglomeration includes the information specified in Schedule D of the Wastewater Discharge Licence D0348.

The AER content and has been prepared in accordance with the Environmental Protection Agency (EPA) publications: -
"Guidance on the Preparation & Submission of the Annual Environmental Report (AER) for Waste Water Discharge Licences"
And .....
'A Step-by-Step Guide to reporting by EPA licensed facilities of AER/PRTR Emissions Data and the Annual Environmental Report'.

1.2 Site Information.

Inniskeen is located near the County Louth border in the extreme south eastern corner of County Monaghan. It is approximately 10.5 km from the nearest large town of Carrickmacross and is 16 km west of Dundalk in County Louth. The population equivalent of Inniskeen village was last estimated at approximately 1,010 persons. This figure is based Census 2011 data. The domestic population growth rate and population projection over the period of the licences are based on the population change between 2006 and 2011 (Census 2011) of 3.2%. The duration of the licence is 6 years therefore based on the latter; a growth rate of 4.8% is predicted, giving a predicted population of 1058 (excluding pending planning permissions).

1.3 Description of Wastewater Treatment Works

The Waste Water Works comprises a network of gravity sewers, a pumping station and associated rising main and a Waste Water Treatment Works with a design capacity of 1750 P.E. The current load is approximately 1,010 PE (based on Census data 2011). The plant provides tertiary treatment with nutrient removal (phosphorus reduction) for the effluent. The Waste Water Treatment Plant (WWTP) which provides treatment for a design load of 1,750 population equivalent comprises aeration by mechanical aerators followed by settlement and clarification and tertiary treatment to reduce phosphate levels. The plant is designed to produce a fully nitrified effluent of 10:10mg/l BOD:

Suspended Solids. Sludge dewatering is provided by thickening the sludge in a picket fence thickener followed by dewatering on a sludge belt press.

1.4 Brief summary of monitoring results

For the year 2012, the treated effluent had an average BOD concentration of 3.43mg/l and average suspended solids concentration of 6.2mg/l. Average concentrations of nutrients are as follows; Total Phosphorus 1.953mg/l (P) and Total Nitrogen 15.95mg/l (N), (refer table 2.1, appendix 1) the plant is therefore operating efficiently producing effluent under the 10:10mg/l BOD:SS parameter design limits. There were 7 exceedances of ELV's throughout the year which will be discussed in more detail under section 2.2. It should be noted that the results for Ortho P prior to March 2012 are considered to be inaccurate (limits of detection not low enough) as they were being reported by the external laboratory as <6 values, a different laboratory was employed after March 2012 for analyses and results are accurate from then. Exceedances were reported to the EPA as incidents since March 2012. The exceedance of the ELV's were primarily for total phosphorus and Ortho Phosphorus and can be attributed to the malfunction of a dissolved oxygen sensor in the aeration unit and dosing pump failure, remedial works were carried out at the time and there were no further exceedances since May 2012.

The outfall from the Inniskeen Waste Water Plant discharges to the River Fane at National Grid Reference 293963E 306678N in the Town land of Lacklom, Co Monaghan. The associated Waste Water Treatment Plant is located at 293924E 306661N also in the town land Lacklom, Co Monaghan. The River Fane is not designated Salmonid water (under the European Communities (Quality of Salmonid Waters) Regulations, 1988) nor is it identified as sensitive water in terms of the Urban Waste Water Treatment Regulations 2001. The river is not designated as an SPA, SAC or NHA. However, it is a valuable salmonid river and contains good stocks of wild brown trout and salmon throughout. The river Fane is in the Neagh Bann river basin district with it's overall status classified as poor and at risk of not meeting good status by 2015, with overall objective to restore it to good status by 2021, however, the 'point risk source' and potential for impact from the Inniskeen WWTP discharge on the river is categorised as '2b – not at risk' it is therefore not identified as impacting on the poor river quality status, (ref: WFD Ireland maps/website & reports.).

Monaghan County Council's upstream monitoring results for 2012 (refer table 2.3, appendix 1) for the receiving river Fane, indicate relatively good quality water in the river Fane with average BOD levels of 1.322mg/l, average Ortho Phosphorus levels at 0.03mg/l and average ammonia level at 0.016mg/l. The downstream monitoring results (refer table 2.4, appendix 1) detail slightly higher results of average BOD levels at 1.478mg/l, average Ortho Phosphorus levels at 0.046mg/l and average ammonia level at 0.023mg/l. These results concur with the 'poor' status of the river Fane for Ortho P. A new proposed downstream monitoring location for the Inniskeen WWTP has been submitted to the EPA for approval, (by email 11th December 2012) as the existing one is too close to the effluent discharge point and therefore not achieving an adequate mixing zone for the effluent in the river.

There are no specified improvement requirements under schedule C of the licence required, there are therefore no major projects or improvements planned for the Inniskeen WWTP.

Section 2. Monitoring Reports Summary

2.1 Summary report on monthly influent monitoring

Monaghan County Council's summary on influent monitoring for Inniskeen WWTP is tabulated in table 1 attached in appendix 1. As required under condition 4.15 of the licence, monthly monitoring of the influent stream to the WWTP for BOD, COD, Total Nitrogen and Total Phosphorus measuring mass loadings and removal efficiencies has been calculated and tabulated in the aforementioned table. The removal efficiencies for BOD and COD within the treatment plant are adequate achieving averages over 86% for both parameters. There is one set of influent results considered erroneous (laboratory error) as the values are too low for influent wastewater, they are therefore omitted from consideration. There are some results missing for Ortho P and TSS for both influent and effluent in 2012, these were not reported by the laboratory. There are variations in the percentage removal efficiencies for Total Nitrogen and Total Phosphorus within the treatment plant, some of these can be attributed to the replacement of a faulty dissolved oxygen unit in the aeration unit and malfunction of the ferric dosing pump in April and May 2012.

2.2 Discharges from the agglomeration

A summary presentation of monitoring results for the primary discharge (National Grid Reference 293963E 306678N) is tabulated in table 2.1 attached in appendix 1. The ELV's where applicable are included in the heading columns. Under Schedule B of the licence, sampling is required bi-monthly, there were 11 sample analyses carried out in 2012 for the effluent, some parameters were not tested due to laboratory error with each sample analyses, however there are 6 or more results for all parameters. The parameters, flow, temperature, PH and conductivity are being monitored on site and recorded. As stated in section 1.4, the results for Ortho P prior to March 2012 are considered to be inaccurate (limits of detection not low enough) as they were being reported by the external laboratory as <6 values, a different laboratory was employed after March 2012 for analyses and results are accurate from then. These < than values were not reported as incidents to the EPA, an EPA audit in April 2012 highlighted these values and a different laboratory has been employed since then to undertake sample analyses.
From April to the end of May 2012, there were 9 no. exceedances of ELV's in the effluent as highlighted in table 2.1 in red text. These 9 exceedances were reported as incidents to the EPA (2 incident reports) on the 10/05/2012 and 20/08/2012.
The causes of these exceedances for Ortho P, Total P and Ammonia are attributed to malfunction of the dissolved Oxygen unit in the aeration tank and dosing pump failure (as reported to EPA). Corrective actions were undertaken to replace the dissolved Oxygen unit membrane and service the dosing pump

There has been no further exceedances of ELV's since May 2012 in the effluent.
The impact of these failures on the receiving waters appeared to be negligible from examining the downstream results in the river on the date and subsequent dates, for ammonia and Ortho P, with no increase from previous downstream results prior to the exceedances.

2.3 Ambient monitoring summary
A summary presentation of the ambient monitoring results for the upstream (National grid reference 293947E 306689N) and downstream (National grid reference 293979E 306669N) receiving waters is tabulated in tables 2.3 and 2.4 attached in appendix 1. Under Schedule B of the licence, 10 samples are required per year, there were 9 sample analysis carried out in 2012, with only 7 results for Total Nitrogen. This is attributed to a mix up with licence requirements as effluent is required bi monthly and ambient 10 times per year, from 2013, all monitoring will be carried out 10 times per year to avoid any confusion. Laboratory changes were made in March 2012, it appears Total Nitrogen was omitted from the first few samples with the new laboratory. From 2013, all parameters will be monitored and reported as per licence requirements. A report on an SSRS assessment carried out by the Environment Section of Monaghan County Council is tabulated in appendix 1.The river Fane is not a designated Salmonid water (under the European Communities (Quality of Salmonid Waters) Regulations, 1988) nor is it identified as sensitive water in terms of the Urban Waste Water Treatment Regulations 2001. The river is not designated as an SPA, SAC or NHA. The impact of the discharge from the agglomeration on the river Fane is assessed with regard to the Environmental Quality Standards (EQS), (Surface Water Regulations 2009) for BOD and total Ammonia in the following calculations:

Assimilative Capacity of Receiving Water:
The nearest flow monitoring data available on the Fane River is at the Moyles Mill (NGR 292049E, 307808N) (OPW Station 06011) located upstream of the discharge point. The OPW 95-percentile flow of 0.2m3/s from the Moyles Mill Station is used in these calculations. The river Fane's overall status is classified as poor and at risk of not meeting good status by 2015, with overall objective to restore it to good status by 2021.
The assessment has been undertaken on the basis of an average discharge flow to the receiving water from the Wastewater Treatment Plant and the measured average upstream BOD and Total Ammonia concentrations from Monaghan County Council results.

BOD Assimilative Capacity

95-percentile Flow Conditions

The BOD assimilative capacity of the river under 95-percentile flow conditions is calculated by:

AC = $(C_{max} - C_{back}) \times 86.4 \times F$

where,

AC = Assimilative capacity
$\mathbf{C_{max}}$ = maximum permissible concentration (EQS) in the river (mg/l) (in this case taken as a maximum of 2.6mg/l) (SW Reg's 2009 – good status (use good status as river is poor status))
$\mathbf{C_{back}}$ = background upstream concentration (mg/l) (1.322mg/l – M.C.C. Upstream 2012 data)
86.4 = constant to correct units to kg/day
F = flow in the river (m^3/s) 95%ile flow (0.2m^3/s or 17,280,000l/d)

Therefore,

AC = (2.6-1.322) x 86.4 x 0.2

AC = 22.08kg/day

Total Amount Discharge to River:

With an average effluent discharge volume of 211m^3/day, and average BOD 3.427mg/l (refer table 2, appendix 1), the total amount of BOD discharged to the Fane River:

(211,000l/day x 3.427mg/l)/1,000,000 (mg to Kg) = **0.723kg/day**

This constitutes **3.27%** of the assimilative capacity of the Fane River.

The Mass balance formula is used to calculate the **resulting BOD concentration in the river** resulting from the effluent discharge:

$$T = \frac{FC + fc}{F + f}$$

Where;
T = resultant concentration due to the discharge (mg/l)
F = 95%ile flow of receiving water (m^3/s) (95% flow of 0.2m^3/s = 17,280,000l/d)
c = average concentration in discharge (3.427mg/l)
C = mean background concentration in receiving water u/s of discharge (1.322mg/l – M.C.C. Upstream 2012 data)
f = discharge volume 211,000l/d

1m^3/s = 86,400,000 l/d
Therefore:

T = [(17,280,000 x 1.322) + (211,000 x 3.427)] / [17,280,000 + 211,000]

T = 1.347mg/l

Summary Result - BOD

BOD	95-Percentile Flow
Assimilative Capacity of River	22.08kg/day
Total Amount Discharged	0.723kg/day
% of Assimilative Capacity Absorbed	3.27%
Existing Average Background Upstream	1.322mg/l – M.C.C. Upstream 2012 data, (table 2.3 app. 1)
Resultants Conc in River	**1.347mg/l**
Standard EQS – S.W. Regs 2009	2.6mg/l (Good Status)

Headroom (mg/l) = Cmax –C

Cmax = maximum permissible concentration (EQS) (mg/l)
C = background upstream concentration (mg/l)

Headroom = 2.6 – 1.322 = **1.278mg/l**
Percentage Headroom utilised (%) = $\frac{\text{(T-C) x 100}}{\textit{Headroom}}$

T = resultant concentration due to the discharge (mg/l)

Percentage Headroom utilised = $\frac{(1.347 - 1.322) \times 100}{1.278}$ = **1.96%**

The discharge alone is using <25% of the headroom available.

The above calculations indicate the discharge, in terms of BOD concentration, is not impacting on the water quality of the river and the resultant concentration is within the EQS of <2.6mg/l for 95%ile flow conditions (Surface water regs 2009) and using less than 25% of the headroom available in the river for BOD assimilation.

Total Ammonia Assimilative Capacity

95-percentile Flow Conditions

The Total Ammonia assimilative capacity of the river under 95-percentile flow conditions is calculated by:

AC = $(C_{max} - C_{back}) \times 86.4 \times F$

where,

AC = Assimilative capacity
$\mathbf{C_{max}}$ = maximum permissible concentration (EQS) in the river (mg/l) (in this case taken as a maximum of 0.14mg/l) (SW Reg's 2009 – good status (use good status as river is poor status))
$\mathbf{C_{back}}$ = background upstream concentration (mg/l) (0.016mg/l – M.C.C. Upstream 2012 data)
86.4 = constant to correct units to kg/day
F = flow in the river (m^3/s) 95%ile flow (0.2m^3/s or 17,280,000l/d)

Therefore,

AC = (0.14-0.016) x 86.4 x 0.2

AC = 2.142kg/day

Total Amount Discharge to River:

With an average effluent discharge volume of 211m^3/day, and average total ammonia of 0.737mg/l (refer table 2, appendix 1), the total amount of ammonia discharged to the Fane River:

(211,000l/day x 0.737mg/l)/1,000,000 (mg to Kg) = **0.155kg/day**

This constitutes **7.26%** of the assimilative capacity of the Fane River.

The Mass balance formula is used to calculate the **resulting Total Ammonia concentration in the river** resulting from the effluent discharge:

$$T = \frac{FC + fc}{F + f}$$

Where;
T = resultant concentration due to the discharge (mg/l)
F = 95%ile flow of receiving water (m^3/s) (95% flow of 0.2m^3/s = 17,280,000l/d)
c = average concentration in discharge (0.737mg/l)

C = mean background concentration in receiving water u/s of discharge (0.016mg/l – M.C.C. Upstream 2012 data)

f = discharge volume 211,000l/d

1m^3/s = 86,400,000 l/d
Therefore:

T = [(17,280,000 x 0.016) + (211,000 x 0.737)] / [17,280,000 + 211,000]

T = 0.025mg/l

Summary Result – Total Ammonia

Total Ammonia	95-Percentile Flow
Assimilative Capacity of River	2.142kg/day
Total Amount Discharged	0.155kg/day
% of Assimilative Capacity Absorbed	7.26%
Existing Average Background Upstream	0.016mg/l (MCC upstream 2012 data)
Resultants Conc in River	**0.025mg/l**
Standard EQS – S.W. Regs 2009	**0.14mg/l (Good Status)**

Headroom (mg/l) = Cmax –C

Cmax = maximum permissible concentration (EQS) (mg/l)
C = background upstream concentration (mg/l)

Headroom = 0.14 – 0.016 = **0.124mg/l**
Percentage Headroom utilised (%) = $\frac{(T-C) \times 100}{Headroom}$

T = resultant concentration due to the discharge (mg/l)

Percentage Headroom utilised = $\frac{(0.025 - 0.016) \times 100}{0.124}$ = **7.25%**

The discharge alone is using <25% of the headroom available.

The above calculations indicate the discharge, in terms of Total Ammonia concentration, is not impacting on the water quality of the river and the resultant concentration is within the EQS of <0.14mg/l for 95%ile flow conditions (Surface water regs 2009) and using less than 25% of the headroom available in the river for Total Ammonia assimilation.

2.4 Data Collection and reporting requirements under the UWWT Directive.

This information will be submitted separately to the EPA through EDEN.

2.5 Pollutant Release and Transfer Register (PRTR) – report for 2012.

This information is submitted electronically via the EPA website. Both the AER/PRTR Emissions Data information and the Excel calculation toolset are printed out and included at the end of this AER in Appendix 2.

Section 3. Operational Reports Summary

3.1 Complaints Summary

There were no complaints of an environmental nature related to the discharge from Inniskeen WWTP in 2012.

3.2 Reported Incidents Summary

A summary presentation of monitoring results for the primary discharge (National Grid Reference 293963E 306678N) is tabulated in table 2.1 attached in appendix 1. The ELV's where applicable are included in the heading columns. Under Schedule B of the licence, sampling is required bi-monthly, there were 11 sample analyses carried out in 2012 for the effluent, some parameters were not tested due to laboratory error with each sample analyses, however there are 6 or more results for all parameters. The parameters, flow, temperature, PH and conductivity are being monitored on site and recorded. As stated in section 1.4, the results for Ortho P prior to March 2012 are considered to be inaccurate (limits of detection not low enough) as they were being reported by the external laboratory as <6 values, a different laboratory was employed after March 2012 for analyses and results are accurate from then. These < than values were not reported as incidents to the EPA, an EPA audit in April 2012 highlighted these values and a different laboratory has been employed since then to undertake sample analyses.

From April to the end of May 2012, there were 9 no. exceedances of ELV's in the effluent as highlighted in table 2.1 in red text. These 9 exceedances were reported as incidents to the EPA (2 incident reports) on the 10/05/2012 and 20/08/2012.
The causes of these exceedances for Ortho P, Total P and Ammonia are attributed to malfunction of the dissolved Oxygen unit in the aeration tank and dosing pump failure (as reported to EPA). Corrective actions were undertaken to replace the dissolved Oxygen unit membrane and service the dosing pump in April and May 2012. There has been no further exceedances of ELV's since May 2012 in the effluent.
The impact of these failures on the receiving waters appeared to be negligible from examining the downstream results in the river on the date and subsequent dates, for ammonia and Ortho P, with no increase from previous downstream results prior to the exceedances.

Section 4. Infrastructural Assessment & Programme of Improvements

4.1 Treatment Capacity

As per condition 1.7 of the licence, an annual assessment of the remaining hydraulic and organic treatment capacities of the waste water works is required. This assessment is tabulated in table 1.2, appendix 1, as stated in the table there is hydraulic remaining capacity of 33% and Organic remaining capacity of 82% at the treatment works based on the current loading, it is therefore concluded that the capacity will not be exceeded in the next three years, based on the predicted population growth rate as outlined in section 1.2 of this report.

4.2 Storm water overflow identification and inspection report

As per condition 4.12.1 of the licence, a report on the investigation and assessment of storm water overflows was submitted as part of the second AER for Inniskeen in January 2012. An assessment of the storm water overflows in therefore not required as part of this AER (further assessment to be submitted by 2015).

4.3 Report on progress made and proposals being developed to meet the improvement programme requirements.

As per condition 5 of the licence, a programme of infrastructural improvements to maximise the efficiency and effectiveness of the licence is required as part of the second AER.
There is no specified improvement programmes required under schedule A3 or C of the Inniskeen licence.
Under condition 5.1 and 5.2(a) of the licence, there are no infrastructural improvement works planned for the Inniskeen WWTP as the quality of the discharges are within the licence ELV's for 2012 with the exception of some exceedances during April and May when plant/pumps malfunctioned, as outlined in section 3.2. Total Phosphorus loadings in the discharge are meeting the ELV of <2 mg/l with the exception of pump malfunction of the Ferric Sulphate dosing unit at the plant during April/May 2012. The obligations of condition 1.7 are being met as outlined in section 4.1 and table 1.2, (appendix 1) of this AER, concluding that there is adequate remaining hydraulic and organic treatment capacities within the Inniskeen treatment plant.
The designation and water quality objective of the receiving waters are previously discussed in section 2.3 of this AER, with assimilative capacity calculations concluding that the discharge from the WWTP can be assimilated into the river. There is a drinking water abstraction point downstream (approx. 10km) of the discharge point at Stephenstown bridge (30115E 301607N), EPA water quality monitoring data for 2001-2003 at Castlering Bridge (d/s of discharge point & u/s of abstraction point) would indicate that the discharge does not significantly impact on the water environment. The assimilative capacity calculations also conclude that the discharge can be assimilated into the river over long distances.
There are no industries licensed to discharge to the waste water works.

Under condition 5.2(b) of the licence there are no infrastructural improvements planned with regard to an assessment of the integrity of the waste water works as the capacity of the plant is adequate as outlined in section 4.1, repair works were carried to the network in 2010. A CCTV of the Inniskeen agglomeration network was carried out in 2010 by a private contractor, there were a number of leaks in the network repaired to prevent infiltration of surface water into pipes and 14 manholes were sealed and repaired over a period of months in 2010 by the same contractor. There are no misconnections between foul sewers and surface water drains.
Under condition 5.2(c) the storm water overflow within the waste water works does not require any improvements.

Section 5. Environmental liability and Financial Provisions

5.1 Statement of measures
Appendix 2 details this item.

5.2 Environmental Liabilities Risk Assessment
Appendix 2 details this item.

Section 6. Licence Specific Reports
There are two licence specific reports required under the Inniskeen licence:

Priority Substance Assessment
Under condition 4.11 of the licence, *a representative sample from the effluent shall be screened for the presence of organic compounds and metals as required by the Agency.* This assessment was submitted as part of the previous 2011 AER to the Agency.

Drinking Water Abstraction Point Risk Assessment
Under condition 4.17 of the licence '*a risk assessment for the protection of the downstream drinking water abstraction point*' is required. This risk assessment is assessing the impact of the Inniskeen waste water treatment plant and it's discharges on the receiving water, the River Fane, as there is a drinking water abstraction point (Cavan Hill water supply scheme) approximately 10km downstream of the primary discharge supplying Dundalk town and parts of County Louth.
Cavan Hill water supply scheme abstracts water from the River Fane at Stephenstown in County Louth and treats the water at a treatment plant located approximately 2km from the intake at 'Cavan Hill'. Cavan Hill water treatment plant is a large modern treatment plant using rapid gravity filtration. Dundalk Town Council have a Water Order for abstraction of 36,400m3/day

from the River Fane, they are presently abstracting half of this amount producing an average of 18,000m3/day treated water for it's consumers.

Inniskeen WWTP discharge has the potential to impact on the downstream water abstraction point at Stephenstown in relation to pollutant loading into the River Fane. The risk from the Inniskeen WWTP will be assessed under four separate headings with an overall risk ranking applied in a conclusion:

(1) Level of treatment and capacity of WWTP.
(2) Discharge compliance.
(3) River Fane quality and monitoring data.
(4) Discharges impact during periods of normal and abnormal operation and control measures.

(1) Level of treatment and capacity of WWTP:
Inniskeen WWTP provides tertiary treatment with nutrient removal (phosphorus reduction). The plant is operated and maintained to a good standard with a caretaker 8 hours per day Monday to Friday and 2 hours Saturdays and Sundays. The plant runs automatically with monitors and meters linked to a SCADA system on site. The design P.E. of the plant is 1750, with it currently treating 1,010 P.E. An assessment of the remaining capacities at the plant is outlined in section 4.1 of this AER, (tabulated in table 1.2, appendix 1). The conclusion of this is that there is remaining hydraulic capacity of 33% and Organic capacity of 82% at the treatment works based on the current loading.
The level of treatment and capacity of the treatment works is adequate to cater for the loading into the plant and to produce effluent compliant with licence requirements, thus the risk ranking for this element of the WWTP is applied as ***low risk***.

(2) Discharge Compliance:
Under Schedule B and condition 2 of the licence (ref. table 2.1, appendix 1 and section 2.2 of this AER report) the Inniskeen WWTP discharge is compliant for the majority of parameters. A regular monitoring and sampling program is in place for analysis of the discharge at the Inniskeen WWTP thus minimising the risk of pollution to the River Fane. There were 2 reported incidents to the EPA in 2012 in relation to exceedances of Phosphorus and ammonia parameters, the causes of the failures are attributed to equipment breakdown/malfunction as outlined in section 3.2 of this report. The impact of these failures on the receiving waters appeared to be negligible from examining the downstream results in the river on that date and subsequent dates and no increase from previous downstream results before the exceedances. For assimilative capacity calculations for the impact of the 2012 discharge on the receiving River Fane, the existing status of the River Fane is 'poor' (WFD website and reports) Monaghan County Council's recorded average BOD upstream levels in the river Fane were used in the assimilative calculations to assess the impact of the BOD loading from the plant effluent on the receiving water. The assimilative capacity calculations for BOD and total Ammonia from the plant to the receiving River Fane (ref. section 2.3 of this AER report) conclude that they are under the EQS applicable for each

parameter in the river and are therefore not impacting upon the existing river Fane quality. There are other factors causing pollution to the river Fane upstream of Inniskeen WWTP such as agricultural activities.
The risk ranking for this element of the discharge from the WWTP is therefore applied as ***'low risk'***.

(3)River Fane quality and monitoring data.
The River Fane is not designated Salmonid water (under the European Communities (Quality of Salmonid Waters) Regulations, 1988) nor is it identified as sensitive water in terms of the Urban Waste Water Treatment Regulations 2001. The river is not designated as an SPA, SAC or NHA. The river Fane is in the Neagh Bann river basin district with it's overall status classified as poor and at risk of not meeting good status by 2015, with overall objective to restore it to good status by 2021, however, the 'point risk source' and potential for impact from the Inniskeen WWTP discharge on the river is categorised as '2b – not at risk' therefore it is not identified as impacting on the poor river quality status, (ref: WFD Ireland maps/website & reports.).
Monaghan County Council's upstream monitoring results for 2012 (refer table 2.3, appendix 1) indicate relatively good quality water in the river with average BOD levels of 1.322mg/l, average Ortho Phosphorus levels at 0.03mg/l and average ammonia level at 0.016mg/l. The downstream monitoring results (refer table 2.4, appendix 1) detail slightly higher results of average BOD levels at 1.478mg/l, average Ortho Phosphorus levels at 0.046mg/l and average ammonia level at 0.023mg/l. These results concur with the 'poor' status of the river Fane for Ortho P. A new proposed downstream monitoring location for the Inniskeen WWTP has been submitted to the EPA for approval, (by email 11th December 2012) as the existing one is too close to the effluent discharge point and therefore not achieving an adequate mixing zone for the effluent in the river.
Assimilative capacity calculations for BOD and total Ammonia from the plant to the receiving River Fane (ref. section 2.3 of this AER report) conclude that they are under the EQS applicable for each parameter in the river and are therefore not impacting upon the existing river Fane quality.
EPA monitoring designates the river Fane as Q3-4 downstream of Inniskeen discharge location near the abstraction point at Stephenstown indicating 'good status' in the river at this location. The quality of the River Fane water downstream and the distance downstream of the drinking water abstraction point from the discharge point would indicate that the river can assimilate the discharge adequately and will not have a pollution effect over long distances.
The risk ranking for this element of the discharge from the WWTP is therefore applied as ***'low risk'***.

(4) Discharges impact during periods of normal and abnormal operation and control measures.
The impact of the Inniskeen discharge to the drinking water abstraction point at Stephenstown is considered minimal as discussed in points 1 to 3 above.
Periods of abnormal operation at the plant would be considered to occur due to extreme storm conditions, equipment malfunction or breakdown, Power cut, or dumping of toxic waste e.g. diesel wash into the network. The impact to the treatment plant and discharge to the River Fane from these events occurring

is minimised by having a plant operator on site every day at the plant, therefore identifying any abnormal events that occur and implementing control measures as necessary to alleviate them. There are is a storm tank on site, which has a storage capacity of 1.1 times the DWF of the plant, this means that the storm water overflow rarely activates, once per year or less which minimises the risk of any untreated effluent entering the River Fane. The controls and monitors at the treatment works are linked to a SCADA system on site, which is continually monitored by the plant operator, which would highlight any problem with the treatment plant equipment or treatment process. The risk of a chemical spill or overdose into the treatment system at the plant is minimised as the storage tanks for all chemicals are bunded and regular maintenance and calibration of the dosing pumps is undertaken. The dosing pumps setting are reviewed by the plant operators and technician over the plant in conjunction with assessment of the effluent parameters. Regular monitoring of the effluent also ensures that any deviations in the effluent parameters resulting from problems with the treatment process are addressed. In the event of a power cut, the electricity supply company will be contacted and a diesel generator on standby at the WWTP will be employed to enable the treatment plant to continue to operate. From past experience a power cut occurs twice per year and usually lasts 2 to 3 hours. There has been no incidents of illegal waste being dumped into the sewer network at Inniskeen, however given the proximity of the plant to the border of Northern Ireland and that the dumping of illegal diesel wash is prevalent in the Monaghan/Louth border area, consideration is given to this event occurring. If this event occurred, it may lead to a worst case scenario of the Inniskeen WWTP being effectively 'shut down' while a clean up of the treatment plant is undertaken and removal of the toxic material and effected plant media to a licensed disposal facility in Germany. While the WWTP is unable to operate and treat the influent from the agglomeration, the influent could be tankered by a licensed haulier to a WWTP elsewhere in Monaghan with available capacity to treat it, until the WWTP is up and running again.
If there is an event at the plant that leads to a pollution incident in the River Fane, Monaghan County Council will immediately notify the downstream drinking water source, Dundalk town council who are responsible for the downstream water abstraction water supply scheme, the EPA and the Inland Fisheries Board and implement any control measures and necessary works to address the incident.
From the occurrence of these periods of abnormal operation and the control measures in place to deal with them should they occur, the risk ranking for this element of the discharge from the WWTP is applied as ***'low risk'***.

Conclusion:
From the risk ranking applied to the impacts of the Inniskeen WWTP discharge on the downstream drinking water abstraction point in county Louth in the four situations addressed previously in this section, it is concluded that the **overall risk is low**.

Appendix 1

Table 1 & 1.1	Influent monthly monitoring summary
Table 1.2	Remaining Hydraulic & Organic treatment capacities
Table 2	Monitoring results for Inniskeen WWTP
Table 2.1	Effluent monitoring results
Table 2.2	Influent monitoring results
Table 2.3	Upstream monitoring results
Table 2.4	Downstream monitoring results

SSRS Assessment on River Fane at Inniskeen Bridge

Table 1

Inniskeen Influent monthly monitoring template - as per condition 4.15 of licence.

Location	Daily Flow M3	Influent/ Effluent	Date of Sampling	Sample Type (C or G)	cBOD mg/l	cBOD Loading (Kg/day)	cBOD Removal Efficiency %	COD mg/l	COD Loading (Kg/day)	COD Removal Efficiency %	Total P mg/l P	Total P Loading (Kg/day)	Total P Removal Efficiency %	Total N mg/l N	Total N Loading (Kg/day)	Total N Removal Efficiency %
Inniskeen	397.00	Influent	02/02/2012	G	49.00	19.45		90.00	35.73		1.81	0.72		19.49	7.74	
	306.00	Effluent	02/02/2012	C	4.00	1.22	93.71	11.00	3.37	90.58	1.00	0.31	57.42	7.00	2.14	72.32
Inniskeen	154.00	Influent	24/02/2012	G	23.00	3.54		51.00	7.85		1.79	0.28		18.25	2.81	
	206.00	Effluent	24/02/2012	C	2.00	0.41	88.37	13.00	2.68	65.90	1.01	0.21	24.52	12.49	2.57	8.45
Inniskeen	59.00	Influent	30/03/2012	G	320.00	18.88		570.00	33.63		11.97	0.71		92.91	5.48	
	79.00	Effluent	30/03/2012	C	5.00	0.40	97.91	28.00	2.21	93.42	3.69	0.29	58.72	33.02	2.61	52.41
Inniskeen	70.00	Influent	18/04/2012	G		0.00			0.00			0.00			0.00	
	77.00	Effluent	18/04/2012	C	9.00	0.69		37.00	2.85			0.00			0.00	
Inniskeen	64.00	Influent	30/05/2012	G	275.00	17.60		700.00	44.80			0.00		96.32	6.16	
	110.00	Effluent	30/05/2012	C	1.40	0.15	99.13	36.00	3.96	91.16		0.00		37.01	4.07	33.96
Inniskeen	229.00	Influent	20/07/2012	G	0.60	0.14		5.00	1.15		0.79	0.18		9.10	2.03	
	324.00	Effluent	20/07/2012	C	0.30	0.10		5.00	1.62		1.12	0.36		9.19	2.93	
Inniskeen	232.00	Influent	21/08/2012	G	70.00	16.24		113.00	26.22		1.96	0.46		18.48	4.29	
	321.00	Effluent	21/08/2012	C	5.00	1.61	90.12	10.00	3.21	87.76	0.95	0.31	32.76	10.44	3.35	21.83
Inniskeen	214.00	Influent	27/09/2012	G	44.00	9.42		167.00	35.74		1.60	0.38		19.60	4.19	
	258.00	Effluent	27/09/2012	C	4.00	1.03	89.04	25.00	6.45	81.95	0.80	0.21	46.52	10.93	2.82	32.77
Inniskeen	179.00	Influent	01/11/2012	G	30.00	5.37		91.00	16.29		1.44	0.26		16.24	2.91	
	165.00	Effluent	01/11/2012	C	2.00	0.33	93.85	15.00	2.48	84.81	0.64	0.11	58.82	9.79	1.62	44.43
Inniskeen	404.00	Influent	21/11/2012	G	55.00	22.22		67.00	27.07		1.03	0.42		8.39	3.39	
	460.00	Effluent	21/11/2012	C	3.00	1.38	93.79	5.00	2.30	91.50	0.64	0.30	28.95	7.50	3.45	-1.76
Inniskeen	181.00	Influent	11/12/2012	G	50.00	9.05		43.00	7.78		1.73	0.31		18.22	3.30	
	133.00	Effluent	11/12/2012	C	2.00	0.27	97.06	5.00	0.67	91.46	1.07	0.14	54.55	10.43	1.39	57.94

Table 1.1

Influent monitoring summary table

	BOD mg/l	COD mg/l	Total P mg/l P	Total N mg/l N	Volumetric Loading m3/day	Loading PE/day
Number of samples	10	10	9	10	n/a	n/a
Maximum result	320.00	700.00	11.97	96.32	404.00	2244.44
Annual Mean	91.66	169.70	2.70	31.70	211.00	1172.22

Note: Storm conditions on this date - heavy rainfall.

Table 1.2

Remaining Hydraulic & Organic treatment capacities - as per condition 1.7.1 of licence.

	Design capacity of plant	Current Flowloading to plant 2012	Current PE equiv.		Remaining capacity of plant	Remaining capacity of plant %
Design PE	1750					
Hydraulic loading M3/day	315.00	211.00	1172	PE equiv.	104.00	33.02
Organic loading BOD kg/day	105.00	19.34	322	PE equiv.	65.66	61.58

Monaghan County Council predict a domestic population growth rate and population projection over the period of the licence based on the population change between 2006 and 2011 (Census 2011) of 3.2%. The duration of the licence is 6 years therefore based on the latter, a growth rate of 4.8% is predicted, giving a predicted population of 1058 (excluding pending planning permissions), the remaining capacity of the treatment works is more than adequate to cope with this growth rate

Table 2 Monitoring Results for Inniskeen WWTP

Location	Flow M³/day	Location	Date of Sampling	Sample Type (C or G)		cBOD mg/l	COD mg/l	Suspended Solids mg/l	Ammonia (as N)	Total Phosphorus mg/l (as P)	Ortho P mg/l (as P)	Total Nitrogen mg/l (as N)	Nitrate (as N)	Nitrite (as N)	Faecal Coliforms cfu/100ml	E Coli mpn/100ml	Enterococci mpn/100ml
Inniskeen		Effluent	02/02/2012	G		43 000	90 000	21 000	15 960	1 810	<2	19 490					
Inniskeen		Effluent	02/02/2012	C		<4	11 000	2 000	<1	<1	<2	<7					
Inniskeen		Up Stream Of Works	02/02/2012	G		<2	N/A	N/A	<0 1	N/A	<0 5						
Inniskeen		Down Stream of Works	02/02/2012	G		2 000	N/A	N/A	<0 1	N/A	<0 5	<7	N/A	N/A	N/A	N/A	N/A
Inniskeen		Effluent	24/02/2012	G		23 000	51 000	7 600		1 780		16 250					
Inniskeen		Effluent	24/02/2012	C		<2	13 000	2 000	<1	1 010	<2	12 490					
Inniskeen		Up Stream Of Works	24/02/2012	G		<2	18 000		<1		<6						
Inniskeen		Down Stream of Works	24/02/2012	G		<2	22 000		<1		<6						
Inniskeen		Effluent	30/03/2012	G		320 000	570 000	169 000	N/A	11 970	N/A	92 910	N/A	N/A	N/A	N/A	N/A
Inniskeen		Effluent	30/03/2012	C		5 000	23 000	6 000	<1	3 690	3 600	33 020	<31 55	<0 01	11000	9350	410 6
Inniskeen		Up Stream Of Works	30/03/2012	G		2 000	N/A	N/A	<1	N/A	<2	<7	N/A	N/A	N/A	N/A	N/A
Inniskeen		Down Stream of Works	30/03/2012	G		2 000	N/A	N/A	<1	N/A	<2	<7	N/A	N/A	N/A	N/A	N/A
Inniskeen		Effluent															
Inniskeen		Effluent	18/04/2012	C		9 000	37 000	9 000	3 950	4 760	4 400	27 690					
Inniskeen		Up Stream Of Works															
Inniskeen		Down Stream of Works															
Inniskeen		Effluent	30/05/2012	G		275 000	700 000	173 000				95 320					
Inniskeen		Effluent	30/05/2012	C		1 400	35 000	15 000	<0 01	5 794	5 652	37 010	34 710	<0 003			
Inniskeen		Up Stream Of Works	30/05/2012	G		1 000			0 023		0 022	4 900					
Inniskeen		Down Stream of Works	30/05/2012	G		1 000			0 020		0 118	4 110					
Inniskeen		Effluent	26/07/2012	G		0 600	<5	2 000		0 760		9 100					
Inniskeen		Effluent	26/07/2012	C		0 300	<5	5 000	<0 01	1 123	1 013	9 150	7 600	<0 003			
Inniskeen		Up Stream Of Works	26/07/2012	G		0 200			<0 01		0 027	3 330					
Inniskeen		Down Stream of Works	26/07/2012	G		0 200			<0 01		0 028	1 670					
Inniskeen		Effluent	21/08/2012	G		70 000	113 000	34 000	18 090	1 953	1 665	18 450					
Inniskeen		Effluent	21/08/2012	C		5 000	10 000	3 000	0 019	0 954		10 440	8 760	<0 003			
Inniskeen		Up Stream Of Works	21/08/2012	G		0 600			0 017		0 017	2 160					
Inniskeen		Down Stream of Works	21/08/2012	G		0 600			0 017		0 023	1 660					
Inniskeen		Effluent	27/09/2012	G		44 000	167 000	34 000	18 350	1 799	0 135	19 600					
Inniskeen		Effluent	27/09/2012	C		4 000	25 000		0 920	0 793		10 930	9 760	0 034			
Inniskeen		Up Stream Of Works	27/09/2012	G		2 000			0 011		0 045	1 260					
Inniskeen		Down Stream of Works	27/09/2012	G		1 600	25 000	6 000		0 058		1 210					
Inniskeen		Effluent	01/11/2012	G		33 000	91 000	27 000		1 435		16 240					
Inniskeen		Effluent	01/11/2012	C		2 000	15 000	3 000	0 093	0 641	0 605	9 760	8 670	<0 003	270 00	30 00	193 00
Inniskeen		Up Stream Of Works	01/11/2012	G		0 700			0 019		0 038	1 570					
Inniskeen		Down Stream of Works	01/11/2012	G		1 000			0 031		0 039	2 130					
Inniskeen		Effluent	21/11/2012	G		55 000	67 000	23 000		1 032		8 390					
Inniskeen		Effluent	21/11/2012	C		3 000	<5	8 000	<0 01	0 644	0 638	7 500	6 350	<0 003			
Inniskeen		Up Stream Of Works	21/11/2012	G		2 900			<0 01		0 046	2 000					
Inniskeen		Down Stream of Works	21/11/2012	G		3 100			0 015		0 044	2 010					
Inniskeen		Effluent	11/12/2012	G		50 000	43 000	77 000		1 733		18 220					
Inniskeen		Effluent	11/12/2012	C		<2	5 000	9 000	0 072	1 072	1 068	10 430	9 870	<0 003			
Inniskeen		Up Stream Of Works	11/12/2012	G		1 200			0 018		0 040	1 220					
Inniskeen		Down Stream of Works	11/12/2012	G		1 200			0 043		0 025	1 310					

Table 2.1
Effluent monitoring results: Note ELV's in red text

Location	Daily Flow M³/day	Effluent	Date of Sampling	Sample Type (C or G)	PH	cBOD mg/l	COD mg/l	TSS mg/l	Ammonia (as N) mg/l	Total Phosphorus (as P) mg/l	Ortho P mg/l (as P)	Total Nitrogen mg/l (as N)	Nitrate (as N)	Nitrite (as N)	Faecal Coliforms cfu/100ml	E.Coli mpn/100ml	Enterococci mpn/100ml
Inishkeen	306	Effluent	02/02/2012	C		<4	11 000	2 000	<1	<1	<2 ?	7.000	not tested	not tested			
Inishkeen	206	Effluent	24/02/2012	C		<2	13 000	2 000	<1	1 010	<6 ?	12 490	not tested	not tested			
Inishkeen	79	Effluent	30/03/2012	C		5 000	28 000	6 000	<1	3 650	3 500	33 020	31 650	<0 01	11000	9350	410 6
Inishkeen Split Sample	77	Effluent	18/04/2012	C		9 000	37 000	9 000	3 653	4 769	4 420	27 690	20 600	2 690			
Inishkeen	110	Effluent	30/05/2012	C		1 400	36 000	15 000	0 010	5 784	5 652	37 010	34 710	0 003			
Inishkeen	324	Effluent	20/07/2012	C		0 300	<5	5 000	< 01	1 123	1 013	9 190	7 500	<0 003			
Inishkeen	321	Effluent	31/08/2012	C		5 000	10 000	3 000	0 019	0 954	Not tested	10 440	8 760	<0 003			
Inishkeen	259	Effluent	27/09/2012	C		4 000	25 000	Not tested	0 920	0 793	Not tested	10 930	9 760	0 034			
Inishkeen	165	Effluent	01/11/2012	C		2 000	15 000	3 000	0 090	0 841	0 605	9 790	8 670	<0 003	270 00	30 00	193 00
Inishkeen	460	Effluent	21/11/2012	C		3 000	<5	8 000	<0 01	0 844	0 638	7 500	6 350	<0 003			
Inishkeen	133	Effluent	11/12/2012	C		<2	5 000	9 000	0 072	1 072	1 058	10 430	9 870	<0 003			
Average						3.427	17.273	6.200	0.737	1.953	2.411	15.954	15.313	0.309			
Condition 3 Licence: interpretation						Compliance analysis - 8-12 samples taken - max. no. samples that may exceed ELV = 2 no. Sched.7a B.3												
Condition 3 Licence: interpretation					No allowable failures. No deviation allowed	1 allowable failure provided under 100% of ELV (20mg/l)	1 allowable failure provided under 100% of ELV (250mg/l)	1 allowable failure provided under 150% of ELV (25mg/l)	8 out of 10 consecutive samples shall not exceed ELV, no result shall exceed ELV by >20% = 2.4mg/l	8 out of 10 consecutive samples shall not exceed ELV, no result shall exceed ELV by >20% = 2.4mg/l	8 out of 10 consecutive samples shall not exceed ELV, no result shall exceed ELV by >20% = 1.8mg/l							
Total Incidents:																	

Table 2.2
Influent monitoring results

Location	Flow M3/day	Location	Date of Sampling	Sample Type (C or G)		cBOD mg/l	COD mg/l	Suspended Solids mg/l	Ammonia (as N)	Total Phosphorus mg/l (as P)	Ortho P mg/l (as P)	Total Nitrogen mg/l (as N)	Nitrate (as N)	Nitrite (as N)	Faecal Coliforms cfu/100ml	E.Coli mpn/100ml	Enterococci mpn/100ml
Inishkeen	397	Influent	02/02/2012	G		49 000	90 000	21 000	15 950	1 810	<2	19 490					
Inishkeen	154	Influent	24/02/2012	G		23 000	51 000	7 000		1 760		18 250					
Inishkeen	59	Influent	30/03/2012	G		320 000	570 000	168 000	N/A	11 970	N/A	92 910					
Inishkeen	64	Influent	30/05/2012	G		275 000	700 000	173 000				66 320					
Inishkeen	229	Influent	23/07/2012	G		0 600	<5	2 000		0 760		9 100					
Inishkeen	232	Influent	31/08/2012	G		70 000	113 000	34 000	18 090	1 563	1 665	18 480					
Inishkeen	214	Influent	27/09/2012	G		44 000	167 000	34 000	18 390	1 799	0 135	19 600					
Inishkeen	179	Influent	01/11/2012	G		30 000	91 000	27 000		1 435		15 240					
Inishkeen	404	Influent	21/11/2012	G		55 000	67 000	23 000		1 032		8 350					
Inishkeen	181	Influent	11/12/2012	G		50 000	43 000	77 000		1 733		18 220					
Average						91.660	169.70			2.702		31.769					

Table 2.3
Upstream monitoring results

Location	Flow M3/day	Location	Date of Sampling	Sample Type (C or G)		cBOD mg/l	COD mg/l	Suspended Solids mg/l	Ammonia (as N)	Total Phosphorus mg/l (as P)	Ortho P mg/l (as P)	Total Nitrogen mg/l (as N)	Nitrate (as N)	Nitrite (as N)	Faecal Coliforms cfu/100ml	E.Coli mpn/100ml	Enterococci mpn/100ml
Inishkeen		Up Stream of Works	01/02/2012	G		<2			<0.1		<0.5						
Inishkeen		Up Stream of Works	24/02/2012	G		<2	18 000		<1		<6						
Inishkeen		Up Stream of Works	30/03/2012	G		2 000			<1		<2	<7					
Inishkeen		Up Stream of Works	30/05/2012	G		1 000			0.023		0.022	4 900					
Inishkeen		Up Stream of Works	25/07/2012	G		0 200			<0.01		0.027	3 330					
Inishkeen		Up Stream of Works	31/08/2012	G		0 600			0.017		0.017	2 160					
Inishkeen		Up Stream of Works	27/09/2012	G		2 000			0.011		0.045	1 280					
Inishkeen		Up Stream of Works	01/11/2012	G		0 760			0.019		0.033	1 570					
Inishkeen		Up Stream of Works	11/12/2012	G		1 200			0.018		0.040	1 280					
Average						1.322			0.016		0.030						

Table 2.4
Downstream monitoring results

Location	Flow M3/day	Location	Date of Sampling	Sample Type (C or G)		cBOD mg/l	COD mg/l	Suspended Solids mg/l	Ammonia (as N)	Total Phosphorus mg/l (as P)	Ortho P mg/l (as P)	Total Nitrogen mg/l (as N)	Nitrate (as N)	Nitrite (as N)	Faecal Coliforms cfu/100ml	E.Coli mpn/100ml	Enterococci mpn/100ml
Inishkeen		Down Stream of Works	01/02/2012	G		2 000	N/A	N/A	<0.1	N/A	<0.5	<7					
Inishkeen		Down Stream of Works	24/02/2012	G		<2	22 000		<1		<6						
Inishkeen		Down Stream of Works	30/03/2012	G		2 000	N/A	N/A	<1	N/A	<2	<7					
Inishkeen		Down Stream of Works	30/05/2012	G		1 000			0.020		0.118	4 110					
Inishkeen		Down Stream of Works	25/07/2012	G		0 200			<0.01		0.028	1 670					
Inishkeen		Down Stream of Works	31/08/2012	G		0 600			0.017		0.023	1 660					
Inishkeen		Down Stream of Works	01/11/2012	G		1 600			0.031		0.039	2 130					
Inishkeen		Down Stream of Works	21/11/2012	G		3 100			0.015		0.044	2 010					
Inishkeen		Down Stream of Works	11/12/2012	G		1 200			0.043		0.025	1 310					
Average						1.478			0.023		0.045						

SSRS 2012 River Fane
Env. Section M.C.C.

RWB_ Code	River Catchment	Location	Sampled By	Date	X	Y	Score	Category	Map Info Factor	Notes	Livestock Access	Degree of Siltation	Substratum
XB_06_08	Fane	Fane ~50m d/s of Magoney Br.: STN. 500	LB/JPMcE	24/04/2012	290934	309581	11.2	Probably not at risk	1	Slurry spreading on left bank on high ground above scrub area	N	Moderate	Stoney Bottom
XB_06_08	Fane	D/s of Fane Br.	LB/DMcE	18/04/2012	292036	307809	9.6	Probably not at risk	1	Gammurus present. Fast flow. Algae on rocks and weed growth.	N	Slight	Stoney Bottom
XB_06_08	Fane	~200m d/s of Br., Inniskeen Village: STN.650	LB/JPMcE	24/04/2012	293248	306942	9.6	Probably not at risk	1	Gammarus & leeches present.Stones slippy with algae. Cases of larvae found but empty. Weed growth.	N	Slight - Moderate	Stoney Bottom

Appendix 2

Pollutant Release and Transfer Register
Excel calculation toolset
Flow weighted Mass emission calculations
Environmental Liabilities Risk Assessment

| PRTR# : D0348 | Facility Name : Inniskeen Waste Water Treatment Plant | Filename : D0348_2012.xls | Return Year : 2012 |

Environmental Protection Agency

Guidance to completing the PRTR workbook

AER Returns Workbook

Version 1.1.15

REFERENCE YEAR	2012

1. FACILITY IDENTIFICATION

Parent Company Name	Monaghan County Council
Facility Name	Inniskeen Waste Water Treatment Plant
PRTR Identification Number	D0348
Licence Number	D0348-01

Waste or IPPC Classes of Activity

No.	class_name
30.4	General

Address 1	Water Services
Address 2	County Offices
Address 3	The Glen
Address 4	County Monaghan
	Monaghan
Country	Ireland
Coordinates of Location	-6.56698 54.0007
River Basin District	GBNIIENB
NACE Code	3700
Main Economic Activity	Sewerage
AER Returns Contact Name	Siobhan Mallon
AER Returns Contact Email Address	smallon@monaghancoco.ie
AER Returns Contact Position	Assistant Engineer
AER Returns Contact Telephone Number	047 30574
AER Returns Contact Mobile Phone Number	087 6679454
AER Returns Contact Fax Number	047 82739
Production Volume	211.0
Production Volume Units	m3/day
Number of Installations	1
Number of Operating Hours In Year	8736
Number of Employees	1
User Feedback/Comments	
Web Address	

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
5(f)	Urban waste-water treatment plants

3. SOLVENTS REGULATIONS (S.I. No. 543 of 2002)

Is it applicable?	No
Have you been granted an exemption ?	
If applicable which activity class applies (as per Schedule 2 of the regulations) ?	
Is the reduction scheme compliance route being used ?	

4. WASTE IMPORTED/ACCEPTED ONTO SITE

Guidance on waste imported/accepted onto site

Do you import/accept waste onto your site for on-site treatment (either recovery or disposal activities) ?	

4.1 RELEASES TO AIR Link to previous years emissions data | PRTR# : D0348 | Facility Name : Inniskeen Waste Water Treatment Plant | Filename : D0348_2012.xls | Return Year : 2012 | 06/02/2013 12:23

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
01	Methane (CH4)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
02	Carbon monoxide (CO)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
03	Carbon dioxide (CO2)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	4445.0	0.0	4445.0
05	Nitrous oxide (N2O)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
07	Non-methane volatile organic compounds (NMVOC)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
08	Nitrogen oxides (NOx/NO2)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	1.0	0.0	1.0
11	Sulphur oxides (SOx/SO2)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (As required in your Licence)

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

Additional Data Requested from Landfill operators

For the purposes of the National Inventory on Greenhouse Gases, landfill operators are requested to provide summary data on landfill gas (Methane) flared or utilised on their facilities to accompany the figures for total methane generated. Operators should only report their Net methane (CH4) emission to the environment under T(total) KG/yr for Section A: Sector specific PRTR pollutants above. Please complete the table below:

Landfill: Inniskeen Waste Water Treatment Plant

Please enter summary data on the quantities of methane flared and / or utilised

	T (Total) kg/Year	M/C/E	Method Used: Method Code	Method Used: Designation or Description	Facility Total Capacity m3 per hour	
Total estimated methane generation (as per site model)	0.0				N/A	
Methane flared	0.0				0.0	(Total Flaring Capacity)
Methane utilised in engine/s	0.0				0.0	(Total Utilising Capacity)
Net methane emission (as reported in Section A above)	0.0				N/A	

4.2 RELEASES TO WATERS Link to previous years emissions data [PRTR# : D0348] Facility Name : Inniskeen Waste Water Treatment Plant] Filename : D0348_2012.xls] Return Year : 2012] 6/2/2013 12:23

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS Data on ambient monitoring of storm/surface water or groundwater, conducted as part of your licence requirements, should NOT be submitted under AER / PRTR Reporting as this on

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT			Method Used		QUANTITY			
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
34	1,2-dichloroethane (EDC)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
25	Alachlor	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
26	Aldrin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
61	Anthracene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
17	Arsenic and compounds (as As)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.044	0.044	0.0	0.0
27	Atrazine	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.001	0.001	0.0	0.0
62	Benzene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.001	0.001	0.0	0.0
91	Benzo(g,h,i)perylene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
63	Brominated diphenylethers (PBDE)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
18	Cadmium and compounds (as Cd)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.021	0.021	0.0	0.0
28	Chlordane	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
29	Chlordecone	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
30	Chlorfenvinphos	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
79	Chlorides (as Cl)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	4168.052	4168.052	0.0	0.0
31	Chloro-alkanes, C10-C13	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.016	0.016	0.0	0.0
32	Chlorpyrifos	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
19	Chromium and compounds (as Cr)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.062	0.062	0.0	0.0
20	Copper and compounds (as Cu)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.231	0.231	0.0	0.0
82	Cyanides (as total CN)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.226	0.226	0.0	0.0
33	DDT	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
70	Di-(2-ethyl hexyl) phthalate (DEHP)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.071	0.071	0.0	0.0
35	Dichloromethane (DCM)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.004	0.004	0.0	0.0
36	Dieldrin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
37	Diuron	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.002	0.002	0.0	0.0
38	Endosulphan	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
39	Endrin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
65	Ethyl benzene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.001	0.001	0.0	0.0
88	Fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0

83	Fluorides (as total F)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	18.099	18.099	0.0	0.0
40	Halogenated organic compounds (as AOX)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.184	0.184	0.0	0.0
41	Heptachlor	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
80	Hexabromobiphenyl	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
42	Hexachlorobenzene (HCB)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
43	Hexachlorobutadiene (HCBD)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
89	Isodrin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
67	Isoproturon	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.001	0.001	0.0	0.0
23	Lead and compounds (as Pb)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.234	0.234	0.0	0.0
45	Lindane	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
21	Mercury and compounds (as Hg)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
46	Mirex	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
68	Naphthalene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
22	Nickel and compounds (as Ni)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.328	0.328	0.0	0.0
64	Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.006	0.006	0.0	0.0
87	Octylphenols and Octylphenol ethoxylates	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
69	Organotin compounds (as total Sn)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
48	Pentachlorobenzene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
49	Pentachlorophenol (PCP)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
71	Phenols (as total C)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.07	0.07	0.0	0.0
50	Polychlorinated biphenyls (PCBs)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
72	Polycyclic aromatic hydrocarbons (PAHs)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.001	0.001	0.0	0.0
51	Simazine	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.001	0.001	0.0	0.0
52	Tetrachloroethylene (PER)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.005	0.005	0.0	0.0
53	Tetrachloromethane (TCM)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
73	Toluene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.038	0.038	0.0	0.0
12	Total nitrogen	M	OTH	SOP 151 by automated discrete analyser	1228.389	1228.389	0.0	0.0
76	Total organic carbon (TOC) (as total C or COD/3)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	710.061	710.061	0.0	0.0
13	Total phosphorus	M	OTH	SOP 166 by automated discrete analyser	150.41	150.41	0.0	0.0
59	Toxaphene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
74	Tributyltin and compounds	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
54	Trichlorobenzenes (TCBs)(all isomers)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0

57	Trichloroethylene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
77	Trifluralin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
75	Triphenyltin and compounds	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
60	Vinyl chloride	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
78	Xylenes	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.009	0.009	0.0	0.0
24	Zinc and compounds (as Zn)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	3.802	3.802	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT					QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT					QUANTITY			
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
370	Selenium	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
205	Antimony (as Sb)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.012	0.012	0.0	0.0
368	Molybdenum	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
358	Tin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.011	0.011	0.0	0.0
373	Barium	E	ESTIMATE	EPA UWWTP Tool Version 5.0	1.02	1.02	0.0	0.0
374	Boron	E	ESTIMATE	EPA UWWTP Tool Version 5.0	4.706	4.706	0.0	0.0
356	Cobalt	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.014	0.014	0.0	0.0
380	Vanadium	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.21	0.21	0.0	0.0
388	Dichlobenil	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
383	Linuron	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
385	Mecoprop Total	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.008	0.008	0.0	0.0
380	2,4 Dichlorophenol (2,4 D)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.004	0.004	0.0	0.0
384	MCPA	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.007	0.007	0.0	0.0
382	Glyphosate	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.118	0.118	0.0	0.0
389	Benzo[a]pyrene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
390	Benzo[b]fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
391	Benzo[k]fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
392	Indeno[1,2,3-c,d]pyrene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0

393	Carbon tetrachloride	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
394	2,6-Dichlorobenzamide	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.006	0.006	0.0	0.0
395	Dicofol	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
396	Hexabromocyclododecane (HBCD)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
397	PFOS	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
238	Ammonia (as N)	M	OTH	SOP 114 by automated discrete analyser	56.76	56.76	0.0	0.0
303	BOD	M	OTH	SOP 113	263.93	263.93	0.0	0.0
306	COD	M	OTH	SOP 107	1330.049	1330.049	0.0	0.0
362	Kjeldahl Nitrogen	M	OTH	SOP 151 by automated discrete analyser	1228.389	1228.389	0.0	0.0
327	Nitrate (as N)	M	OTH	SOP 103 by automated colorimetry	1179.331	1179.331	0.0	0.0
372	Nitrite (as N)	M	OTH	SOP 118 by automated discrete analyser	23.798	23.798	0.0	0.0
332	Ortho-phosphate (as PO4)	M	OTH	SOP 117 by automated discrete analyser	185.683	185.683	0.0	0.0
240	Suspended Solids	M	OTH	SOP 105 by gravimetry	477.493	477.493	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

4.3 RELEASES TO WASTEWATER OR SEWER

Link to previous years emissions data

SECTION A : PRTR POLLUTANTS

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

4.4 RELEASES TO LAND

Link to previous years emissions data

| PRTR# : D0348 | Facility Name : Inniskeen Waste Water Treatment Plant | Filename : D0348_2012.xls | Return Year : 2012 |

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SECTION A : PRTR POLLUTANTS

RELEASES TO LAND					Please enter all quantities in this section in KGs		
POLLUTANT		METHOD			QUANTITY		
			Method Used				
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year
					0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

RELEASES TO LAND					Please enter all quantities in this section in KGs		
POLLUTANT		METHOD			QUANTITY		
			Method Used				
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year
					0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

[PRTR# : D0348] Facility Name : Inniskeen Waste Water Treatment Plant | Filename : D0348_2012.xls | Return Year : 2012]

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5

Please enter all quantities on this sheet in Tonnes

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
Within the Country	19 08 01	No	0.941	screenings	D5	M	Weighed	Offsite in Ireland	Euromox Ltd T/A McElvaney's Waste & Recycling,WCP/MH/2005/89 B	Corcaghan,Co. Monaghan,,,,,,Ireland		
Within the Country	19 08 05	No	60.0	sludges from treatment of urban waste water	R10	M	Weighed	Offsite in Ireland	BioCore Environmental Ltd. ,WCP-DC-11-1342-01	Clarity House,Belgard Road,Tallaght,Dublin 24,Ireland		

* Select a row by double-clicking the Description of Waste then click the delete button

Air Emission - Inputs

NEXT

CELL COLOUR KEY

	INPUT - type in your facility value in cell
	OUTPUT - automatically generated cell value

RELEASES TO AIR

Air: Emissions from WWTP Works

Data Entry Table: Characteristics of the WWTP

For use where no data from on-site monitoring of air emissions from the plant are available.
Nitrous Oxide (N2O) calculated directly for actual p.e. data

1 Loadings and Works	
A Facility Loadings Data for Reporting Year	Value
Total p.e. served	979
Design p.e.	1,750
Total Influent BOD kg/annum (measured)	7,059
Total Sludge removed off-site kg Dry Matter/annum	9,000
Total Sludge digested on-site kg Dry Matter/annum	0

Enter Actual Population Equivalent of catchment
Enter Design Population Equivalent of facility
Enter total annual quantity, NB note units: kg/annum
Enter total annual quantity, NB note units: kg/annum
Enter total annual quantity, NB note units: kg/annum

For information only:
Calculated Values (see Calculations Worksheet)

TOW kg BOD/annum	TOW = "Total Organically Biodegradable material in domestic (municipal) Wastewater"
21,455	Total p.e. served TOW equivalent
38,351	Design p.e. TOW equivalent
322	Quality check: p.e. of Influent BOD kg/annum
3,600	BOD content of sludge removed kg/annum
0	BOD content of sludge digested kg/annum
3,459	Residual BOD net of sludge removed/digested kg/annum

B Characteristics of the Works		Status
B1 Aerobic plant		
Does the aerobic section of the plant contain dissolved oxygen?		Y
All tanks covered and extracted to on-site flare?		N
% of Headspace biogas utilised on site (0 - 100)		0
% of Headspace biogas flared (0 - 100)		0
Total % biogas utilised or flared on site		

Y/N (default is "Y") Methane Conversion factor for the aerobic plant will be determined by this answer
Y/N (default is "N") Releases will be reported as "Fugitive"
Only required if Headspace extraction on site. Calculate by % operation of engine. Default assumption is Zero utilisation
Only required if Headspace extraction on site. Calculate by % operation of flare. Default assumption is Zero flaring

B2 Onsite Anaerobic Digestion for sludge treatment	Status
Anaerobic digestion on site?	N
% of Digester biogas utilised on site (0 - 100)	0
% of Digester biogas flared (0 - 100)	0
Total % biogas utilised or flared on site	

Y/N (default is "N") Releases will be reported as "Emission Point 1"
Only required if Anaerobic digestion on site. Calculate by % operation of engine. Default assumption is Zero utilisation
Only required if Anaerobic digestion on site. Calculate by % operation of flare. Default assumption is Zero flaring

2 Estimated Fuel use at the WWTP	Diesel Usage Tonnes/annum
Total Diesel Use on site in the year	0.038

Tonne/annum Releases will be reported as "Fugitive"

The output data is presented on this worksheet in the precise format for transfer directly into the "Releases to Air" Worksheet of your AER/PRTR Emissions Reporting Workbook

PRTR No. Annex II	Name	ESTIVATED QUANTITIES: Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
1	Methane (CH4)	0	0	0	0
2	Carbon Monoxide (CO)	0	0	0	0
3	Carbon Dioxide (CO2)	0	4,445	0	4,445
5	Nitrous oxide (N2O)		0	0	0
7	Non-methane volatile organic compounds (NMVOC)		0	0	0
8	Nitrogen oxides (NOx/NO2)	0	1	0	1
11	Sulphur oxides (SOx/SO2)		0	0	0

Wastewater Treatment Data Input

CELL COLOUR KEY:
- INPUT - Select value from drop down list
- INPUT - type in your facility value in cell
- OUTPUT - automatically generated cell value

Facility Name	Inniskeen Waste Water Treatment Works
Address	Lackiom, Inniskeen, Co. Monaghan.
Reporting Year	2012
Licence Reg. No.	D0348

Enter Facility Details

P.E. (Actual Treated)	<10000 p.e.
Saline Intrusion	No saline intrusion
Type of Treatment	Tertiary Treatment - Filtration
Nutrient Removal	Phosphorus Removal Only - Biological/Chemical/Wetland

These parameters are required to generate estimated PRTR mass emission values.
Click on the cell and select from the drop down menu.
Refer to the Definitions below for further information.

Please enter Total Annual Flow (m³/annum):

Treated (Predominant/Main Emission):	77015 m3/annum
Fugitive Emissions:	0 m3/annum
TOTAL:	77015 m3/annum

Final effluent volume released via the main emission point
Additional estimated volume released in storm bypasses

Definition of Input Requirements

P.E. (Actual Treated): P.E. (population equivalent) is a measurement of the average organic biodegradable load received daily at the treatment plant. A population equivalent of 1 (1 p.e.) means the organic biodegradable load having a five-day biochemical oxygen demand (BOD5) of 60g of oxygen per day. Select a P.E. band (<10,000 p.e., 10,000 - 50,000 p.e., >50,000 p.e.) into which the actual operating P.E. of the treatment plant falls. (Please note: the operating P.E. is based on the existing population served and not the design population size of the UWWTP)

Saline Intrusion: Identify whether saline intrusion is known to occur within the sewage network serving the treatment plant. This will be the case for some coastally located UWWTPs.

Type of Treatment: Identify the type of treatment provided at the plant. Treatment options are "No Treatment", "Primary Treatment Only", "Secondary Treatment - Activated Sludge", "Secondary Treatment - Attached Growth", "Tertiary Treatment - Filtration", and "Tertiary Treatment - Disinfection".

Nutrient Removal: Identify whether nutrient removal is employed at the treatment plant. Nutrient removal options are "Phosphorus Removal Only - Biological/Chemical/Wetland", "Nitrogen Removal Only", "Phosphorous and Nitrogen Removal", and "No Nutrient Removal".

Measured Values

NEXT

CELL COLOUR
INPUT - type in your facility value in cell
OUTPUT - automatically generated cell value

Enter all measured values in this sheet

Note: If you do not have measured values then LEAVE THE CELL BLANK

Measured values reported in this worksheet should be the average concentration of the pollutant measured over the previous reporting year. Measured values should be used when they are available rather than estimated values from the Toolset. Measured values relate to parameters that are analysed in a laboratory. Please enter the measured values to the orange cells in mg/l for the year.

Note: the unit of measurement must be in mg/l for all parameters entered on this sheet.

Where measured values are reported, the Method Code must be indicated in the "Method of Measurement" column. The method code used shall be in accordance with the internationally approved measurement methods - please refer to the UWW PRTR Electronic Toolset Guidance Document on the EPA website. The method description should also be provided as indicated below.

Note: Wastewater licensed pollutants such as BOD and COD, Ortho- P are included at the bottom of this sheet - please enter annual measured data in mg/l for these.

Method Codes

ISO/CEN Standard - If the laboratory is working to an ISO/CEN standard that is on the approved list of standards, you should use this as the method code. Example for Total Nitrogen is EN ISO 11905-1:1998. Leave the Description Field Blank in the PRTR Workbook.	Example for Total Nitrogen	EN ISO 11905-1:1998	Method Description: Blank
OTH - If the method you are using is not an ISO/CEN standard or does not fall under any of the other method codes then use OTH. This method code would apply when using methods from the Standard Methods for the Analysis of Water and Wastewater series or when using a Hach Spectrophotometric Method for Total Nitrogen, for example. Use the method code OTH and please put a description of the method in the method description field in the PRTR Emissions Reporting Workbook.	Example for Total Phosphorus	OTH	Method Description: Standard Methods for the Analysis of Water and Wastewater - Total P Analysis

UWW Facility Details:	<10000 p.e., No saline intrusion, Tertiary Treatment - Filtration, Phosphorus Removal Only - Biological Chemical Wetland

Enter your measured values in these two columns

Double click the cells below to select the Method Code

Enter your method description in this column

PRTR Substances:

PRTR Nr.	CAS No.	Parameter	Treated Effluent Concentration (mg/l)	Fugitive Emission Concentration (mg/l)	Treated Effluent Mass emission (kg/annum)	Fugitive Emission Mass emission (kg/annum)	Method of Measurement (Method Code)	Method Description (Analytical Method)
12		Total nitrogen (as N)	15 950	0 000	1229 383	0 000	OTH	51 by automated discrete analyser
13		Total phosphorus (as P)	1 953	0 000	150 410	0 000	OTH	56 by automated discrete analyser
76		Total organic carbon			0 000	0 000		
78		Chlorides (as total Cl)			0 000	0 000		
82		Cyanides (as total CN)			0 000	0 000		
83		Fluorides (as total F)			0 000	0 000		
17		Arsenic and compounds (as As)			0 000	0 000		
18		Cadmium and compounds (as Cd)			0 000	0 000		
19		Chromium and compounds (as Cr)			0 000	0 000		
20		Copper and compounds (as Cu)			0 000	0 000		
21		Mercury and compounds (as Hg)			0 000	0 000		
22		Nickel and compounds (as Ni)			0 000	0 000		
23		Lead and compounds (as Pb)			0 000	0 000		
24		Zinc and compounds (as Zn)			0 000	0 000		
31	85535-84-8	Chloroalkanes (C10-C13)			0 000	0 000		
25	15972-60-8	Alachlor			0 000	0 000		
26	309-00-2	Aldrin			0 000	0 000		
34	60-57-1	Dieldrin			0 000	0 000		
35	72-20-8	Endrin			0 000	0 000		
41	76-44-8	Heptachlor			0 000	0 000		
28	57-74-9	Chlordane			0 000	0 000		
29	143-50-0	Chlordecone			0 000	0 000		
43	2385-85-5	Mirex			0 000	0 000		
36	115-29-7	Endosulphan			0 000	0 000		
45	58-89-9	Lindane (1,2,3,4,5,6-hexachlorocyclohexane)			0 000	0 000		
63	465-73-6	Isodrin			0 000	0 000		
33	50-29-3	DDT - sum of all isomers			0 000	0 000		
77	1582-09-8	Trifluralin			0 000	0 000		
42	118-74-1	Hexachlorobenzene (HCB)			0 000	0 000		
43	87-68-3	Hexachlorobutadiene (HCBD)			0 000	0 000		
30	470-90-6	Chlorfenvinphos			0 000	0 000		
32	2921-88-2	Chlorpyrifos			0 000	0 000		
27	1912-24-9	Atrazine			0 000	0 000		
51	122-34-9	Simazine			0 000	0 000		
37	330-54-1	Diuron			0 000	0 000		
67	34123-59-6	Isoproturon			0 000	0 000		
75		Triphenyltin			0 000	0 000		
69		Organotin			0 000	0 000		
74		Tributyltin			0 000	0 000		
72		PAH, Total			0 000	0 000		
91	191-24-2	Benzo(ghi)perylene			0 000	0 000		
61	120-12-7	Anthracene			0 000	0 000		

63	91-20-3	Naphthalene			0.000	0.000		
63	206-44-0	Fluoranthene			0.000	0.000		
50	1336-36-3	Polychlorinated biphenyls (PCBs) - sum of 11 congeners			0.000	0.000		
43		Halogenated organic compounds (as AOX)			0.000	0.000		
52	127-18-4	Tetrachloroethylene (PER)			0.000	0.000		
53	56-23-5	Tetrachloromethane (TCM)			0.000	0.000		
57	79-01-6	Trichloroethylene			0.000	0.000		
60	75-01-4	Vinyl chloride			0.000	0.000		
34	107-06-2	1,2-dichloroethane (EDC)			0.000	0.000		
35	75-09-2	Dichloromethane (DCM)			0.000	0.000		
71	108-95-2	Phenols (as total C)			0.000	0.000		
87	1806-26-4	Octylphenols and Octylphenol Ethoxylates			0.000	0.000		
64		Nonylphenol and Nonylphenol ethoxylates (NP,NPEs)			0.000	0.000		
54	12002-48-1	Trichlorobenzenes (TCBs) (all isomers)			0.000	0.000		
42	87-86-5	Pentachlorophenol (PCP)			0.000	0.000		
41	608-93-5	Pentachlorobenzene			0.000	0.000		
62	71-43-2	Benzene as BTEX			0.000	0.000		
72	108-88-3	Toluene as BTEX			0.000	0.000		
74	1330-20-7	Xylenes (total mass of ortho, para and meta xylene) BTEX			0.000	0.000		
65	100-41-4	Ethylbenzene (BTEX)			0.000	0.000		
70	117-81-7	Di(2-ethylhexyl)phthalate			0.000	0.000		
69	8001-35-2	Toxaphene			0.000	0.000		
60	36355-1-8	Hexabromobiphenyl			0.000	0.000		
63		Brominated diphenylethers (PBDE)			0.000	0.000		

Non-PRTR Substances:

PRTR Nr.	CAS No.	Parameter	Treated Effluent Concentration (mg/l)	Fugitive Emission Concentration (mg/l)	Treated Effluent Mass emission (kg/annum)	Fugitive Emission Mass emission (kg/annum)	Method of Measurement (Method Code)	Method Description (Analytical Method)
370		Selenium			0.000	0.000		
206		Antimony (as Sb)			0.000	0.000		
368		Molybdenum			0.000	0.000		
358		Tin			0.000	0.000		
373		Barium			0.000	0.000		
374		Boron			0.000	0.000		
356		Cobalt			0.000	0.000		
336		Vanadium			0.000	0.000		
333		Dichlobenil			0.000	0.000		
331		Linuron			0.000	0.000		
355		Mecoprop Total			0.000	0.000		
350		2,4 Dichlorophenol (2,4 D)			0.000	0.000		
334		MCPA			0.000	0.000		
332		Glyphosate			0.000	0.000		
389		Benzo[a]pyrene			0.000	0.000		
390		Benzo[b]fluoranthene			0.000	0.000		
391		Benzo[k]fluoranthene			0.000	0.000		
392		Indeno[1,2,3-c,d]pyrene			0.000	0.000		
393		Carbon tetrachloride			0.000	0.000		
394		2,6-Dichlorobenzamide			0.000	0.000		
395		Diuron			0.000	0.000		
396		Hexabromocyclododecane (HBCD)			0.000	0.000		
397		PFOS			0.000	0.000		
203		Ammonia (as N)	0.737		68.760	0.000	OTH	14 by automated discrete analyser
305		BOD	3.427		263.930	0.000	OTH	SOP 113
306		COD	17.270		1330.043	0.000	OTH	SOP 107
332		Kjeldahl Nitrogen	15.950		1228.389	0.000	OTH	51 by automated discrete analyser
327		Nitrate (as N)	15.313		1179.331	0.000	OTH	P 103 by automated colorimetry
374		Nitrite (as N)	0.309		23.798	0.000	OTH	18 by automated discrete analyser
332		Ortho-phosphate (as PO4)	2.411		185.633	0.000	OTH	17 by automated discrete analyser
240		Suspended Solids	6.200		477.493	0.000	OTH	SOP 106 by gravimetry
		Licensed Pollutants listed above						

Note: There are no user input requirements in this worksheet

These values are generated in the Toolset based on the data filled in on the Waste Water Treatment Data Input Sheet (i.e. Generated by the Estimation Toolset)

UWWT Facility Details:	<10000 p.e., No saline intrusion, Tertiary Treatment - Filtration, Phosphorus Removal Only - Biological/Chemical/Wetland

PRTR substances estimated by tool:

PRTR Nr.	CAS No.	Parameter	Treated Effluent Concentration (mg/l)	Fugitive Emission Concentration (mg/l)	Treated Effluent Mass emission (kg/annum)	Fugitive Emission Mass emission (kg/annum)	Total Mass Emission (kg/annum)
12		Total nitrogen (as N)	14.455	23.480	1113.252	0.000	1113.252
13		Total phosphorus (as P)	0.878	4.295	67.606	0.000	67.606
76		Total organic carbon	9.220	13.102	710.061	0.000	710.061
79		Chlorides (as total Cl)	54.120	64.800	4168.052	0.000	4168.052
82		Cyanides (as total CN)	0.003	0.003	0.226	0.000	0.226
83		Fluorides (as total F)	0.235	0.221	18.099	0.000	18.099
17		Arsenic and compounds (as As)	0.001	0.001	0.044	0.000	0.044
18		Cadmium and compounds (as Cd)	0.000	0.000	0.021	0.000	0.021
19		Chromium and compounds (as Cr)	0.001	0.000	0.062	0.000	0.062
20		Copper and compounds (as Cu)	0.003	0.006	0.231	0.000	0.231
21		Mercury and compounds (as Hg)	0.000	0.000	0.000	0.000	0.000
22		Nickel and compounds (as Ni)	0.004	0.004	0.328	0.000	0.328
23		Lead and compounds (as Pb)	0.003	0.011	0.234	0.000	0.234
24		Zinc and compounds (as Zn)	0.049	0.122	3.802	0.000	3.802
31	85535-84-8	Chloroalkanes (C10-C13)	0.000	0.000	0.016	0.000	0.016
25	15972-60-8	Alachlor	0.000	0.000	0.000	0.000	0.000
26	309-00-2	Aldrin	0.000	0.000	0.000	0.000	0.000
36	60-57-1	Dieldrin	0.000	0.000	0.000	0.000	0.000
39	72-20-8	Endrin	0.000	0.000	0.000	0.000	0.000
41	76-44-8	Heptachlor	0.000	0.000	0.000	0.000	0.000
28	57-74-9	Chlordane	0.000	0.000	0.000	0.000	0.000
29	143-50-0	Chlordecone	0.000	0.000	0.000	0.000	0.000
46	2385-85-5	Mirex	0.000	0.000	0.000	0.000	0.000
38	115-29-7	Endosulphan	0.000	0.000	0.000	0.000	0.000
45	58-89-9	Lindane (1,2,3,4,5, 6 -hexachlorocyclohexane)	0.000	0.000	0.000	0.000	0.000
69	465-73-6	Isodrin	0.000	0.000	0.000	0.000	0.000
33	50-29-3	DDT - sum of all isomers	0.000	0.000	0.000	0.000	0.000
77	1582-09-8	Trifluralin	0.000	0.000	0.000	0.000	0.000
42	118-74-1	Hexachlorobenzene (HCB)	0.000	0.000	0.000	0.000	0.000
43	87-68-3	Hexachlorobutadiene (HCBD)	0.000	0.000	0.000	0.000	0.000
30	470-90-6	Chlorfenvinphos	0.000	0.000	0.000	0.000	0.000
32	2921-88-2	Chlorpyrifos	0.000	0.000	0.000	0.000	0.000
27	1912-24-9	Atrazine	0.000	0.000	0.001	0.000	0.001
51	122-34-9	Simazine	0.000	0.000	0.001	0.000	0.001
37	330-54-1	Diuron	0.000	0.000	0.002	0.000	0.002
67	34123-59-6	Isoproturon	0.000	0.000	0.001	0.000	0.001
75		Triphenyltin	0.000	0.000	0.000	0.000	0.000
69		Organotin	0.000	0.000	0.000	0.000	0.000
74		Tributyltin	0.000	0.000	0.000	0.000	0.000
72		PAH, Total	0.000	0.000	0.001	0.000	0.001
91	191-24-2	Benzo[ghi]perylene	0.000	0.000	0.000	0.000	0.000
61	120-12-7	Anthracene	0.000	0.000	0.000	0.000	0.000
68	91-20-3	Naphthalene	0.000	0.000	0.000	0.000	0.000
88	206-44-0	Flouranthene	0.000	0.000	0.000	0.000	0.000
50	1336-36-3	Polychlorinated biphenyls (PCBs) - sum of 11 cong	0.000	0.000	0.000	0.000	0.000
40		Halogenated organic compounds (as AOX)	0.002	0.002	0.184	0.000	0.184
52	127-18-4	Tetrachloroethylene (PER)	0.000	0.000	0.005	0.000	0.005
53	56-23-5	Tetrachloromethane (TCM)	0.000	0.000	0.000	0.000	0.000
57	79-01-6	Trichloroethylene	0.000	0.000	0.000	0.000	0.000
60	75-01-4	Vinyl chloride	0.000	0.000	0.000	0.000	0.000
34	107-06-2	1,2-dichloroethane (EDC)	0.000	0.000	0.000	0.000	0.000
35	75-09-2	Dichloromethane (DCM)	0.000	0.000	0.004	0.000	0.004

71	108-95-2	Phenols (as total C)	0.001	0.031	0.070	0.000	0.070
87	1806-26-4	Octylphenols and Octylphenol Ethoxylates	0.000	0.000	0.000	0.000	0.000
64		Nonylphenol and Nonylphenol ethoxylates (NP/NPE	0.000	0.001	0.006	0.000	0.006
54	12002-48-1	Trichlorobenzenes (TCBs) (all isomers)	0.000	0.000	0.000	0.000	0.000
49	87-86-5	Pentachlorophenol (PCP)	0.000	0.000	0.000	0.000	0.000
48	608-93-5	Pentachlorobenzene	0.000	0.000	0.000	0.000	0.000
62	71-43-2	Benzene as BTEX	0.000	0.000	0.001	0.000	0.001
73	108-88-3	Toluene as BTEX	0.000	0.014	0.038	0.000	0.038
78	1330-20-7	Xylenes (total mass of ortho, para and meta-xylene	0.000	0.002	0.009	0.000	0.009
65	100-41-4	Ethyl benzene (BTEX)	0.000	0.000	0.001	0.000	0.001
70	117-81-7	Di(2-ethylhexyl)phthalate	0.001	0.003	0.071	0.000	0.071
59	8001-35-2	Toxaphene	0.000	0.000	0.000	0.000	0.000
90	36355-1-8	Hexabromobiphenyl	0.000	0.000	0.000	0.000	0.000
63		Brominated diphenylethers (PBDE)	0.000	0.000	0.000	0.000	0.000
non PRTR substances estimated by tool:							
PRTR Nr.	CAS No.	Parameter	Treated Effluent Concentration (mg/l)	Fugitive Emission Concentration (mg/l)	Treated Effluent Mass emission (kg/annum)	Fugitive Emission Mass emission (kg/annum)	Total Mass Emission (kg/annum)
N/A		Total Hardness (mg/l CaCO3)	201.750	291.000	15537.776	0.000	15537.776
N/A		Selenium	0.000	0.000	0.000	0.000	0.000
N/A		Antimony	0.000	0.000	0.012	0.000	0.012
N/A		Molybdenum	0.000	0.001	0.000	0.000	0.000
N/A		Tin	0.000	0.000	0.011	0.000	0.011
N/A		Barium	0.013	0.036	1.020	0.000	1.020
N/A		Boron	0.061	0.089	4.706	0.000	4.706
N/A		Cobalt	0.000	0.000	0.014	0.000	0.014
N/A		Vanadium	0.003	0.005	0.210	0.000	0.210
N/A		Dichlobenil	0.000	0.000	0.000	0.000	0.000
N/A		Linuron	0.000	0.000	0.000	0.000	0.000
N/A		Mecoprop	0.000	0.000	0.008	0.000	0.008
N/A		2,4-D	0.000	0.000	0.004	0.000	0.004
N/A		MCPA	0.000	0.000	0.007	0.000	0.007
N/A		Glyphosate	0.002	0.000	0.118	0.000	0.118
N/A		Benzo[a]pyrene	0.000	0.000	0.000	0.000	0.000
N/A		Benzo[b]fluoranthene	0.000	0.000	0.000	0.000	0.000
N/A		Benzo[k]fluoranthene	0.000	0.000	0.000	0.000	0.000
N/A		Indeno[1,2,3-c,d]pyrene	0.000	0.000	0.000	0.000	0.000
N/A		Carbon tetrachloride	0.000	0.000	0.000	0.000	0.000
N/A		2,6-Dichlorobenzamide	0.000	0.000	0.006	0.000	0.006
N/A		Dicofol	-	-	#VALUE!	#VALUE!	#VALUE!
N/A		Hexabromocyclododecane (HBCD)	0.000	0.000	0.000	0.000	0.000
N/A		PFOS	0.000	0.000	0.000	0.000	0.000

Facility Name:	Inniskeen Waste Water Treatment Works
Address:	Lecklom, Inniskeen, Co. Monaghan.
Reporting year:	2012

Treated: Final effluent volume released via main emission point	77,015
Fugitive: Estimated additional volume released in storm bypasses	0
Total Annual Flow (m³/annum):	77015

SECTION A : WWTP SPECIFIC PRTR POLLUTANTS

Note '#VALUE!' error messages will disappear when flow data are entered above

POLLUTANT			Method Used		QUANTITY				E-PRTR reporting threshold kg/annum
No. Annex II	Name	M/E	Method of Measurement	Designation or Description	SW-1 Emission Point 1	F (Fugitive) kg/year	A (Accidental) kg/year (Enter site specific data)	T (Total) kg/year	
12	Total nitrogen	M	OTH	SOP 151 by automated discrete analyser	1,228.359	0.000	0.000	1,228.359	50,000
13	Total phosphorus	M	OTH	SOP 166 by automated discrete analyser	150.410	0.000	0.000	150.410	5,000
78	Total organic carbon (TOC) (as total C or COD/3)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	710.061	0.000	0.000	710.061	50,000
79	Chlorides (as total Cl)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	4,163.052	0.000	0.000	4,163.052	2,000,000
82	Cyanides (as total CN)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.228	0.000	0.000	0.228	50
83	Fluorides (as total F)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	18.099	0.000	0.000	18.099	2,000
17	Arsenic and compounds (as As)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.044	0.000	0.000	0.044	5
18	Cadmium and compounds (as Cd)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.021	0.000	0.000	0.021	5
19	Chromium and compounds (as Cr)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.062	0.000	0.000	0.062	50
20	Copper and compounds (as Cu)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.231	0.000	0.000	0.231	50
21	Mercury and compounds (as Hg)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
22	Nickel and compounds (as Ni)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.328	0.000	0.000	0.328	20
23	Lead and compounds (as Pb)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.234	0.000	0.000	0.234	20
24	Zinc and compounds (as Zn)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	3.802	0.000	0.000	3.802	100
31	Chloroalkanes (C10-C13)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.016	0.000	0.000	0.016	1
25	Alachlor	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
26	Aldrin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
35	Dieldrin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
39	Endrin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
41	Heptachlor	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
28	Chlordane	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
29	Chlordecone	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
46	Mirex	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
38	Endosulphan	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
45	Lindane	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
69	Isodrin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
33	DDT	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
77	Trifuralin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
42	Hexachlorobenzene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
43	Hexachlorobutadiene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
30	Chlorfenvinphos	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
32	Chlorpyrifos	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
27	Atrazine	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.031	0.000	0.000	0.031	1
61	Simazine	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.031	0.000	0.000	0.031	1
37	Diuron	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.022	0.000	0.000	0.022	1
67	Isoproturon	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.031	0.000	0.000	0.031	1
75	Triphenyltin and compounds	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
69	Organotin compounds(as total Sn)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	50
74	Tributyltin and compounds	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
72	Polycyclic aromatic hydrocarbons (PAHs)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.001	0.000	0.000	0.001	5
91	Benzo(b)fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
61	Anthracene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
65	Naphthalene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	10
83	Fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
60	Polychlorinated biphenyls (PCBs)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	0.1
40	Halogenated organic compounds (as AOX)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.184	0.000	0.000	0.184	1,000
52	Tetrachloroethylene (PER)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.005	0.000	0.000	0.005	10
53	Tetrachloromethane (TCM)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
57	Trichloroethylene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	10
60	Vinyl chloride	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	10
34	1,2-dichloroethane (EDC)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	10
35	Dichloromethane (DCM)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.004	0.000	0.000	0.004	10
71	Phenols (as total C)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.070	0.000	0.000	0.070	20
87	Octylphenols and Octylphenol ethoxylates	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
64	Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.006	0.000	0.000	0.006	1
54	Trichlorobenzenes (TCBs) (all isomers)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
49	Pentachlorophenol (PCP)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
48	Pentachlorobenzene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
62	Benzene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.001	0.000	0.000	0.001	200
73	Toluene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.033	0.000	0.000	0.033	200
78	Xylenes	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.009	0.000	0.000	0.009	200
65	Ethylbenzene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.001	0.000	0.000	0.001	200
70	Di(2-ethylhexyl)phthalate (DEHP)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.071	0.000	0.000	0.071	1
59	Tetrachloroethane	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1
80	Hexabromobiphenyl	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	0.1
63	Brominated diphenylethers (PBDE)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000	1

SECTION C : REMAINING NON-PRTR SUBSTANCES AND POLLUTANT EMISSIONS AS REQUIRED IN YOUR LICENCE

POLLUTANT			Method Used		QUANTITY			
					SW 1			
No. Annex II	Name	M/E	Method Code	Designation or Description *(Note: replace with site-specific data if applicable)*	Emission Point 1 kg/year	F (Fugitive) kg/year	A (Accidental) kg/year *(Enter site specific data)*	T (Total) kg/year
370	Selenium	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000
209	Antimony (as Sb)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.012	0.000	0.000	0.012
368	Molybdenum	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000
369	Tin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.011	0.000	0.000	0.011
373	Barium	E	ESTIMATE	EPA UWWTP Tool Version 5.0	1.020	0.000	0.000	1.020
374	Boron	E	ESTIMATE	EPA UWWTP Tool Version 5.0	4.709	0.000	0.000	4.709
359	Cobalt	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.014	0.000	0.000	0.014
366	Vanadium	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.210	0.000	0.000	0.210
358	Dichlobenil	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000
383	Linuron	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000
385	Mecoprop Total	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.003	0.000	0.000	0.003
380	2,4 Dichlorophenol (2,4 D)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.004	0.000	0.000	0.004
384	MCPA	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.007	0.000	0.000	0.007
382	Glyphosate	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.118	0.000	0.000	0.118
389	Benzo(a)pyrene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000
390	Benzo(b)fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000
391	Benzo(k)fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000
392	Indeno(1,2,3-c,d)pyrene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000
393	Carbon tetrachloride	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000
394	2,6-Dichlorobenzamide	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.006	0.000	0.000	0.006
395	Diclofol	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000
396	Hexabromocyclododecane (HBCD)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000
397	PFOS	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000	0.000	0.000
238	Ammonia (as N)	M	OTH	SOP 114 by automated discrete analyser	56.760	0.000	0.000	56.760
303	BOD	M	OTH	SOP 113	283.930	0.000	0.000	283.930
305	COD	M	OTH	SOP 107	1,330.049	0.000	0.000	1,330.049
362	Kjeldahl Nitrogen	M	OTH	SOP 151 by automated discrete analyser	1,228.359	0.000	0.000	1,228.359
327	Nitrate (as N)	M	OTH	SOP 103 by automated colorimetry	1,179.331	0.000	0.000	1,179.331
372	Nitrite (as N)	M	OTH	SOP 118 by automated discrete analyser	23.763	0.000	0.000	23.763
332	Ortho-phosphate (as PO4)	M	OTH	SOP 117 by automated discrete analyser	185.683	0.000	0.000	185.683
240	Suspended Solids	M	OTH	SOP 106 by gravimetry	477.493	0.000	0.000	477.493

Inniskeen	Flow Weighted Mass Emission Calculations													
Effluent			BOD		COD		TSS		Total P		Total N		Ammonia	
Location	Date of Sampling	Daily Outflow M3	BOD mg/l	Daily mass load	COD mg/l	Daily mass load	TSS mg/l	Daily mass load	Total P mg/l P	Daily mass load	Total N mg/l N	Daily mass load	Ammonia NH4	Daily mass load
Inniskeen	02/02/2012	306	4.000	1.22	11.000	3.37	2.000	0.61	1.000	0.31	7.000	2.14	1.000	0.31
Inniskeen	24/02/2012	206	2.000	0.41	13.000	2.68	2.000	0.41	1.010	0.21	12.490	2.57	1.000	0.21
Inniskeen	30/03/2012	79	5.000	0.40	28.000	2.21	6.000	0.47	3.690	0.29	33.020	2.61	1.000	0.08
Inniskeen	18/04/2012	77	9.000	0.69	37.000	2.85	9.000	0.69	4.760	0.37	27.690	2.13	3.980	0.31
Inniskeen	30/05/2012	110	1.400	0.15	36.000	3.96	15.000	1.65	5.794	0.64	37.010	4.07	0.010	
Inniskeen	20/07/2012	324	0.300	0.10	5.000	1.62	5.000	1.62	1.123	0.36	9.190	2.98	0.010	
Inniskeen	21/08/2012	321	5.000	1.61	10.000	3.21	3.000	0.96	0.954	0.31	10.440	3.35	0.019	0.01
Inniskeen	27/09/2012	258	4.000	1.03	25.000	6.45			0.798	0.21	10.930	2.82	0.920	0.24
Inniskeen	01/11/2012	165	2.000	0.33	15.000	2.48	3.000	0.50	0.641	0.11	9.790	1.62	0.090	0.01
Inniskeen	21/11/2012	460	3.000	1.38	5.000	2.30	8.000	3.68	0.644	0.30	7.500	3.45	0.010	0.00
Inniskeen	11/12/2012	133	2.000	0.27	5.000	0.67	9.000	1.20	1.072	0.14	10.430	1.39	0.072	0.01
	Total	2439												
A - Sum of Daily Mass Loads (Kg/day)				7.59		31.79		11.80		3.23		29.13		1.17
B - Sum of Daily Flows for which Mass loadings are available (m3/day)				2439.00		2439		2181		2439		2439		2005
C - Flow weighted average concentration (A/B) -kg/m3				0.00311		0.013032		0.00541		0.00132		0.01194		0.00058
D - Total annual Flow M3				77015.00		77015.00		77015.00		77015.00		77015.00		77015.00
E - Flow weighted Mass emmission for 2012 (CxD) -kg/annum				239.61		1003.66		416.64		101.99		919.76		44.94
				BOD		COD		TSS		Total P		Total N		Ammonia

Monaghan County Council

Environmental Liability Risk Assessment & Statement of Measures for Inniskeen & Environs

2012

Urban Waste Water Discharge
Licence D0348

Document Amendment Record
Client: Monaghan County Council
Plant: Inniskeen Waste Water Treatment Plant
Title: ERLA Report 2012

Ref No. : D0348

DATE	Issue Purpose:	originated	Checked:	Authorised:
January 2013	A Document for Submission:	M. Johnston S.E.E.	M. Johnston S.E.E.	C.Mc Crossan S.E./D. Fallon D.O.S.
20th March 2013	'Signed ' statement of measures added and completion dates amended to 2013.	M. Johnston S.E.E.	M. Johnston S.E.E.	

Table of Contents

1 Introduction

This Environmental Liability Risk Assessment relates to the agglomeration of Inniskeen and Environs. This report has been prepared in compliance with Condition 7.2 of Licence No. DO348 which requires the submission of:

- An annual statement as to the measures taken or adopted in relation to the prevention of environmental damage,

- The financial provisions in place in relation to the underwriting of costs for remedial actions following anticipated events (including closure) or accident/incidents, as may be associated with discharges or overflows from the waste water works.

- Environmental Liabilities Risk Assessment (ELRA) to address the liabilities from present or planned discharges within twelve months of the

date of grant of this licence.

1.1 Background

Inniskeen is located near the County Louth border in the extreme south eastern corner of County Monaghan. It is approximately 10.5 km from the nearest large town of Carrickmacross and is 16 km west of Dundalk in County Louth. The population equivalent of Inniskeen village was last estimated at approximately 1010 persons.

The Waste Water Works comprises a network of gravity sewers, a pumping station and associated rising main and a Waste Water Treatment Works with a design capacity of 1750 P.E.

The outfall from the Inniskeen Waste Water Plant discharges to the River Fane at National Grid Reference 293963E 306678N in the Town land of Lacklom, Co Monaghan. The associated Waste Water Treatment Plant is located at 293924E 306661N also in the town land Lacklom, Co Monaghan.
The River Fane is not designated Salmonid water (under the European Communities (Quality of Salmonid Waters) Regulations, 1988) nor is it identified as sensitive water in terms of the Urban Waste Water Treatment Regulations 2001. The river is not designated as an SPA, SAC or NHA. However, it is a valuable salmonid river and contains good stocks of wild brown trout and salmon throughout. The river Fane is in the Neagh Bann river basin district with it's overall status classified as poor and at risk of not meeting good status by 2015, with overall objective to restore it to good status by 2021, however, the 'point risk source' and potential for impact from the Inniskeen WWTP discharge on the river is categorised as '2b – not at risk' therefore it is not identified as impacting on the poor river quality status, (ref: WFD Ireland maps/website & reports.)

2 Environmental Sensitivity and Risk Assessment

The main considerations in relation to the receiving waters for the primary discharge have been identified and given a designated score through the risk enforcement methodology developed by the EPA.

The Dynamic Risk Enforcement Assessment Methodology (DREAM) uses a decision making framework and toolset to assess the risk posed by the primary discharge from waste water agglomerations.

DREAM allocated an enforcement category to waste water agglomerations based on five environmental attributes:

- Level of treatment,
- Discharge compliance,
- Observed impact,
- Possible impact, and
- Enforcement record.

The DREAM map and pivot application may be accessed through the following link: https://www.edenireland.ie

Inniskeen Waste Water Treatment Plant agglomeration has been assigned an enforcement category of C1-LOW- one of the best results possible . The DREAM enforcement categories have been assigned the following site specific risk categories:

DREAM Risk Category	Site Specific Risk Categories
A1	Category 3
A2	Category 2
B1	
C1	Category 1

Table 2: Risk Assessment Form

Risk ID	Process*	Potential Hazards	Environmental effect	Severity Weighting	Basis of severity	Occurrence Rating	Basis of Occurenec	Risk Score (Severity * Occurrence)
I	Operation of STW without adequate flood alleviation measures along river bank	Inundation of plant	High BOD; ammonia	4	Potential for fish kill	1	1:150 year storm will breach existing defence dams	4
II	Ferric dosing tank	Overdose of ferric	High iron/ toxicity content in discharge	5	Potential for fish kill; down stream 10km abstraction point	2	Dose pump mal functions	10
III	Overhead pipelines rupturing	Spillage of contents	River and ground water contamination	4	Distance from river would render pollution likelihood as 'low'	1		4
IV	Above ground tanks rupturing	Spillage of contents	River and ground water contamination	4	Would be quickly noticed	1		4
V	aeration	Power failure	High BOD; ammonia into river	3	Would be quickly noticed	1	Generator fails to start or unfuelled when ESB power cut	3
VI	Tertiary treatment fails	High P or BOD leaving WWTP	High BOD; ammonia into river	2	Potential for mild pollution levels or ELV breach	4	Sand wash out	8

Table 3 Risk Matrix:

V.High	5					
High	4		VI			
Medium	3					
Low	2					II
V Low	1			V	I, III,IV	
		Trivial	Minor	Moderate	Major	Massive
		1	2	3	4	5

	These are considered to be high level risks requiring priority attention. These risks have the potential to be catastrophic and as such should be addressed quickly.
	These are medium level risks requiring action, but are not as critical as a rede coded risk.
	Green (light and dark green) – These are lowest level risks and indicate need for continuing awareness and monitoring on a regular basis. Whils they are currently low or minor risks, some have the potential to increase to medium or even high level risks and must therefor be monitored and if costs effective mitigation can be carried out to reduce the risk even further this should be pursued,

3 Risk Prevention / Mitigation

The risk matrix above indicates that there are no high levels of risk classification for the site. The overdose of ferric chloride or sulphate could be a problem so improvement works to be completed

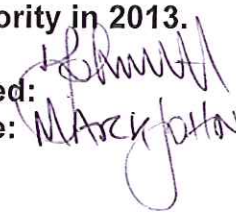
4 Statement of Measures

The measures to be taken and their progress to date by Monaghan County Council are outlined in Table 4 below. Measures are in place within Inniskeen Waste Water Plant that are adequate to maintain the discharge at a quality that complies with the licence conditions and does not significantly impact on the conservation objectives of the Fane River.

Table 4: Statement of Measures

Risk I.D.	Risk Score	Mitigation Measure to be taken	Outcome	Action	Date for Competition	Progress	Owner/ Contact Person
I	4	None recommended as plant built on elevated ground	safe	safe	n/a	n/a	M Johnston
II	10	Install new dosing pumps	More control	Fit pumps	March 2012	Pumps fitted	MJohnston
III	4		Reduced risk of spillage	Write SOP for delivery of chemicals and oblige contractors to use	May 2013	To be done	M Johnston
IV	4	Improve containment	Reduced risk of spillage				M Johnston
V	3	Ensure caretaker services and fuels generator	No power outtages	Diesel drum on site	May 2013	Diesel drum bunded	M Johnston
VI	8	Monitoring of sand levels in filter	Clean discharge	SOP for sand filter - Weekly check list	May 2013	Caretaker monitors sand filters regularly	M Johnston

I confirm the above are the measures which will be taken in the local Authority in 2013.

Signed: 

Name: Mark Johnston

Job Title: SE

Date: 2nd OCT 2013

5 FINANCIAL PROVISIONS

5.1 Estimation of remediation costs

Table 5 below outlines the estimated costs of remediation for different categories of events

Table 5: Risk Classification Table

Rating	Severity		
	Category	Description	Cost of Remediation
1	Trivial		€1,500
2	Minor		
3	Moderate		€15,000
4	Major		
5	Extreme		€100,000

5.2 Details of Financial Provision / Insurance

In order to off set the risk to the environment, the Council submitted an enquiry proposal form for an Environmental Insurance Policy to IPB Insurers. Following a meeting with the company, the cost of the premium is deemed too high at €10,000 per waste water treatment plant, this is not deemed value for money and financially not possible in the current economic climate.