

SOUTH TIPPERARY COUNTY COUNCIL



CASHEL

WASTEWATER DISCHARGE LICENCE

REGISTER NUMBER D0171-01

ANNUAL ENVIRONMENTAL REPORT

1st JANUARY 2013 to DECEMBER 31ST 2013

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1.0 INTRODUCTION and EXECUTIVE SUMMARY

1.1 Introduction

The Environmental Protection Agency on 14th December 2012 granted South Tipperary County Council a Wastewater Discharge Licence (Register No D0171-01) in respect of the agglomeration named Cashel. One of the provisions of the licence (Condition 6.8) is that the Council submit to the Agency on an annual basis an 'Annual Environmental Report' (AER) to provide a summary of activities relevant to the discharges for that year. This is the second Annual Environmental Report (AER) for the Cashel Wastewater Treatment Plant and includes the information specified in Schedule D of the licence.

This AER has been prepared in accordance with the Environmental Protection Agency (EPA) document: - "Guidance on the Preparation & Submission of the Annual Environmental report (AER) for Waste Water Discharge Licences for 2013"

The Cashel Wastewater Treatment Plant is located on the Golden Road, on the outskirts of the town and was upgraded in 2005 to serve a p.e of 9,000. The plant operates an activated sludge process followed by settlement and includes screening, grit removal and chemical phosphorus removal. The plant also operates a sludge treatment facility consisting of sludge thickening and dewatering.

There are two discharge points from the agglomeration. The primary discharge occurs into the River Suir (SW1). The storm water overflow from the treatment plant (SW2) discharges into the St Patrick's rock stream, which flows to the River Suir. There are no secondary discharges from the agglomeration.

The report presented below details the monitoring reports for influent and effluent loading at the WWTP along with the ambient upstream and downstream monitoring of the receiving water.

1.2 Executive Summary

The Cashel wastewater treatment plant has continued to operate effectively in this reporting period. The treatment plant is operated and managed on behalf of South Tipperary County Council by AECOM Ltd under a 20 year DBO contract agreement.

A review of the final effluent results and compliance with the Emission Limit Values set out in licence shows that there was no exceedence of the ELV for BOD which had an average effluent value of 3.90 mg/l against an ELV of 25 mg/l while Suspended Solids and COD had effluent values of 5.5 mg/l and 22.8 mg/l against ELV's of 35 mg/l and 125 mg/l respectively. The annual average effluent value for Ammonia was 1.17 mg/l against an ELV of 5mg/l. The average effluent value for Soluble Reactive Phosphorus was 0.20 mg/l.

The total influent flow for the year was 559,007 m³ while the current flow weighted average influent BOD to the plant is 263 mg/l giving a current pe loading of the plant of 6,713 pe. This compares with a plant design of 9,000 pe.

The average influent flow for the year was 1,532 m³ /day against a plant design of 2,024 m³/day which indicates that the plant is operating within it's hydraulic and treatment capacities.

A review of the ambient monitoring results for upstream and downstream of SW001 indicates that the discharge is having no adverse impact on the quality of the receiving waters.

The percentage reductions shown in the treatment efficiency report summary(table No 6) show that reductions of 98.7%, 96.7% and 98.7% were achieved in BOD, COD and Suspended Solids respectively.

A reduction of 96% was achieved in the Ammonia levels while nutrient removal efficiencies for TP and TN were 95.8% and 51 % respectively.

An analysis and interpretation of the final effluent results is given in Section 2.2 of this report.

2.0 MONITORING REPORTS SUMMARY

2.1 Summary report on monthly influent monitoring

Table 1 below is a tabular presentation of the wastewater treatment plant influent monthly monitoring results for BOD, COD, Suspended Solids, Total Nitrogen, Total Phosphorus, Ammonia Nitrogen and pH. Also set out below is the calculation of the pe equivalent load and the flow weighted average BOD load for the WWTP.

Table 1: Waste water treatment plant influent monitoring results for 2013.

	Flow m ³ /day	cBOD 5d with Nittrificati on inhib (mg/l)	Chemical Oxygen Demand (mg/l)	Suspended Solids (mg/l)	Ammonia Nitrogen (mg/l)	pH Value (unit)	Total Nitrogen (as N) mg/l	Total Phosphorus (as P) mg/l
ELV		25 mg/l	125 mg/l	35 mg/l	5 mg/l	6 to 9	n/a	n/a
8/1/2013	2053	203	423	225	16	7.7	28.4	4.67
5/2/2013	3949	165	345	208	15.1	7.5	24.7	3.66
12/3/2013	1332	158	332	213	17.4	7.2	29.3	5.01
9/4/2013	982	333	833	553	41.7	7.6	64.5	9.94
21/5/2013	829	250	666	344	36.1	7.4	49.1	8.06
11/6/2013	1549	375	1069	647	28.1	7.6	51.3	10.9
2/7/2013	1489	300	868	489	34.2	7.6	54.4	9.02
13/8/2013	902	395	703	703	36.7	7.6	60	13.51
3/9/2013	665	500	1174	691	49.1	7.6	71.3	13.11
8/10/2013	814	330	822	519	34.1	7.5	55.3	9.13
5/11/2013	1586	218	417	217	25.3	7.8	42.9	5.94
3/12/2013	1092	360	736	382	46	7.8	59.7	9.21
No of samples	12	12	12	12	12	12	12	12
Annual max	3949	500	1174	703	49.1	7.8	71.3	13.51
Annual Mean	1437	299	699	433	32	7.6	49.2	8.51

Calculation of the Population Equivalent load to the WWTP

The total influent for the year 2013 was 559,007 m³. The average daily influent flow was 1,532 m³.

The flow weighted averaged influent BOD as calculated per Table 2 below is 263 mg/l

The Cashel population equivalent was determined by the following formula:

Total Influent Flow for 2013 x flow-weighted averaged influent BOD divided by (0.06x365x1000).

Therefore the pe = (559,007 x 263) / (0.06 x 365 x 1,000) = **6,713**

Table 2: Calculation of the flow weighted average BOD for 2013

	Flow	cBOD	cBOD (Kg/day)
8/1/2013	2053	203	417
5/2/2013	3949	165	652
12/3/2013	1332	158	210
9/4/2013	982	333	327
21/5/2013	829	250	207
11/6/2013	1549	375	581
2/7/2013	1489	300	447
13/8/2013	902	395	356
3/9/2013	665	500	333
8/10/2013	814	330	269
5/11/2013	1586	218	346
3/12/2013	1092	360	393
Totals	17242		4538

The Flow weighted average BOD is 4538 Kg x 1000 / 17242 m³ = **263 mg/l**

2.2 Discharges from the agglomeration

Presented below in Tables 3 and 4 are the primary discharge point monitoring effluent results for the parameters as set out in Schedule B of the licence and a summary of the effluent monitoring and overall compliance with the licence Emission Limit Values (ELV's).

Table 3: Tabular presentation of the wastewater treatment plant effluent monitoring results with the associated Emission Limit Values (ELV's).

	BOD (mg/l)	COD (mg/l)	SS (mg/l)	Ammonia (mg/l)	Soluble Reactive Phosphorus	pH (unit)	TN (mg/l)	TP (mg/l)
ELV	25 mg/l	125 mg/l	35 mg/l	5 mg/l	1.5 mg/l	6 to 9	n/a	n/a
8/1/2013	4	24	3	1.9	0.04	7.3	12.1	0.18
5/2/2013	5	22	8	4.4	0.03	7.5	15.7	0.17
12/3/2013	3	20	3	0.3	0.08	7.4	12.2	0.21
9/4/2013	6	24	4	1.8	0.04	7.4	24.4	0.18
21/5/2013	4	29	5	1.2	0.03	7.1	20.3	0.23
11/6/2013	4	25	6	2.8	0.13	7.5	25.2	0.29
2/7/2013	4	28	7	0.7	0.11	7.5	31.8	0.29
13/8/2013	4	17	8	0.1	0.99	6.8	35.4	1.15
3/9/2013	6	21	8	0.1	0.41	6.9	33.9	0.62
8/10/2013	3	22	5	0.3	0.28	7.4	28.8	0.45
5/11/2013	2	15	3	0.2	0.09	7.6	18.7	0.17
3/12/2013	2	26	6	0.2	0.13	7.5	29.6	0.3
No of samples	12	12	12	12	12	12	12	12
Annual max	6	29	8	4.4	0.99	7.6	35.4	1.15
Annual Mean	3.9	22.8	5.5	1.17	0.20	7.3	24	0.35

Table 4: Summary of the Effluent Monitoring and Compliance

	cBOD	COD	SS	TN	TP	Amm	pH	Soluble
WWDL ELV	25 mg/l	125 mg/l	35 mg/l	n/a	n/a	5 mg/l	6 to 9 value	1.5 mg/l
No of sample results	12	12	12	12	12	12	12	12
No of sample results above ELV	0	0	0	0	0	0	0	0
No of sample results above ELV with Condition 2 interpretation	0	0	0	0	0	0	0	0
Overall Compliance	Pass	Pass	Pass	n/a	n/a	Pass	Pass	Pass

Interpretation of results:

There were no exceedences of the Emission Limit Values (ELV's) for any of the discharge parameters set out in the discharge licence. In reference to the Treatment Efficiency Report summary it will be seen that the percentage reductions in all parameters except TN were in excess of 95%. The percentage reduction in TN was 51%.

2.3 Ambient monitoring summary

The ambient monitoring results for the parameters as set out in Schedule B of the licence is presented in Table No 6 (Upstream) and Table No 7 (Downstream) below. Also presented in Table 10 is a summary of the ambient monitoring. The monitoring results show that the discharge is not having any significant impact on the quality of the receiving waters.

Table 6: Ambient monitoring at aSW-IU upstream of SW1 Cashel

Sample date	Ammonia	BOD	DO	Ortho P	pH	Temp
24/1/2013	0.2636	1.07	11.73	0.02	7.963	4.7
12/02/2013	0.2	0.08	10.94	0.02	7.95	7.1
20/03/2013	0.1312	0.79	11.39	0.02	8.078	7.5
17/04/2013	0.1253	1.12	9.95	0.01	8.125	11.4
26/06/2013	0.01	0.83	10.22	0.03	7.94	15.6
13/08/2013	BLD	0.7	11.23	0.018	7.2	17.1
26/09/2013	BLD	0.46	9.4	0.018	8.12	16.8
17/10/2013	0.01	2.72	8.97	0.079	7.86	12.5
19/11/2013	0.01	0.35	11.14	0.024	8.008	7.4
04/12/2013	0.06	0.63	11.65	0.019	8.09	7.6
Max Value	0.2636	2.72	11.73	0.079	8.125	17.1
Average Value	0.08	0.875	10.66	0.026	7.93	10.77

Table 7: Ambient monitoring at aSW-Id downstream of SW1

Sample date	Ammonia	BOD	DO	Ortho P	pH	Temp
24/1/2013	0.1352	0.96	11.43	0.02	7.846	5.6
12/02/2013	0.201	0.09	11.1	0.02	7.965	6.8
20/03/2013	0.0625	0.75	10.16	0.02	7.831	8.7
17/04/2013	0.1332	1.13	10.21	0.01	8.173	11.4
26/06/2013	0.01	0.27	10.68	0.03	7.5	15.3
13/08/2013	BLD	0.6	11.07	0.015	8.41	15.9
26/09/2013	BLD	0.58	9.2	0.018	8.03	15.5
17/10/2013	0.03	2.75	8.76	0.077	7.78	11.0
19/11/2013	0.02	0.62	10.9	0.019	8.005	7.4
04/12/2013	0.06	0.54	11.48	0.022	8.03	7.6
Max Value	0.201	2.75	11.48	0.077	8.41	15.9
Average Value	0.06	0.83	10.5	0.025	7.96	10.52

Table 8: Ambient Monitoring Summary Table

Ambient Monitoring Point from WWDL	Irish Grid Reference	EPA Feature Coding Tool code	Is discharge Impacting on water quality
aSW-IU upstream of SW1	204077E 141137N	RS16S021430	No
aSW-ID downstream of SW1	203992E 140823N	RS16S021440	No

Small Streams Risk Score (SSRS):

The SSRS is a biological assessment designed to detect potential sources of pollution to water courses and involves the identification and abundance of pollution sensitive and pollution tolerant macroinvertebrae. An SSRS for the Cashel agglomeration was not carried out in this reporting period as it was unsafe to enter the course of the River Suir.

2.4 Data and reporting requirements under the Urban Waste Water Treatment Directive

It is confirmed that the annual urban wastewater information for agglomerations and treatment plants with a population equivalent greater than 500 for the year 2013 was submitted to the EPA in electronic form in the first quarter of 2014.

2.5 Pollutant Release and Transfer Register (PRTR)

Submission of the completed PRTR workbook for 2013 for the Cashel Agglomeration has been made Electronically to the EPA and copy attached in Appendix A of this report.

3.0 OPERATIONAL REPORTS SUMMARY

3.1 Treatment Efficiency Report

Presented below is a summary of the efficiency of the treatment process including information for all the parameters specified in the licence

Table 9: Treatment Efficiency Report Summary Table

	cBOD	COD	SS	TN	TP	Amm
Influent mass loading (Kg/day)	458	1071	663	75.4	13	49
Effluent Mass Emission (Kg/day)	6.0	35	8.5	37	0.54	1.8
% Efficiency (% reduction of influent load)	98.7%	96.7%	98.7%	51%	95.8%	96%

3.2 Treatment Capacity Report

Presented below is a summary of the current and remaining treatment capacity of the treatment process.

Table 10: Treatment Capacity Report Summary Table

Hydraulic Capacity – Design	2024 m3/day
Hydraulic Capacity – Current Loading	1532 m3/day
Hydraulic Capacity – Remaining	492 m3/day
Organic Capacity – Design (pe)	9,000 pe
Organic Capacity – Current Loading (pe)	6,713 pe
Organic Capacity – Remaining (pe)	2,287 pe
Will the capacity be exceeded in the next 3 years	No

3.3 Complaints summary

There were no complaints of an environmental nature related to the discharge to water from the Cashel Wastewater treatment Plant in 2013.

Table 11: Complaints

Number	Date and Time	Nature of Complaint	Cause of Complaint	Actions taken to resolve issue	Closed (Y/N)
N/A	N/A	None	None	N/A	N/A

3.4 Reported Incidents Summary

There was no recorded incidents in relation to the Cashel Wastewater Treatment Plant in 2013.

Table 12: Incidents Summary

Date and Time	Incident Description	Cause	Corrective Action	Authorities Contacted	Reported to EPA	Closed (Y/N)
N/A	None	None	N/A	N/A	N/A	N/A

Table 13: A summary of the incident details as required in the EPA reporting guidelines is set out below

No of Incidents in 2013	None
Number of Incidents reported to the EPA via EDEN in 2012.	None
Explanation of any discrepancies between the two numbers above.	N/A

4.0 INFRASTRUCTURAL ASSESSMENT & PROGRAMME OF IMPROVEMENTS

4.1 Storm Water Overflow Identification and Inspection Report

The following storm water overflow for the Cashel Agglomeration is identified and is set out in Schedule A3 of the discharge licence.

Storm Water Overflow

A.3.1 SWO					
EDEN Code	Licence Code	Discharge location	SWO Location	Receiving Water	WFD Code Receiving Water
TPEFF2900D0171SW002	SW002	E206640 N140594	E206656 N140515	River Suir	SE 16 3135

The operation of the storm water overflow (SWO) was assessed under the criteria set out in Section 4 of the Urban Waste Water Treatment Directive (91/271/EEC) – Procedures and Criteria in relation to Storm Water Overflows. The overflow was observed and assessed on a number of occasions during 2013 in both dry and wet weather conditions.

The following criteria were assessed:

1. Causes significant visual or aesthetic impact and public complaints

The storm water overflow SW002 is the overflow from the WWTP. This is a screened overflow and does not cause any visual or aesthetic impact.

2. Causes deterioration in water quality in the receiving water

The storm water overflow identified above does not cause any deterioration of the water quality in the receiving waters (St Patrick's Rock Stream)

3. Gives rise to failure in meeting the requirements of National Regulations on foot of EU Directives (Bathing Water etc):

The receiving waters are not designated as bathing areas.

4. Operates in dry weather

The storm water overflow (SW002) does not operate in dry weather flow conditions.

Presented below in Table 14 is the SWO Identification and Inspection Summary Report for SW002.

Table 14: SWO Identification and Inspection Summary Report Table

Is each SWO Identified as non complaint with DoEHLG included in the Programme of Improvements	SW002 Identified as non-complaint
Does the SWO assessment include the requirements of Schedule C3	No Improvement works specified in the Licence for storm water overflow SW002
Has the EPA been advised of any additional SWO's / changes to Schedule C and A4 under the licence conditions.	See Note below re Sewer Integrity Risk Assessment

In relation to Storm Water Overflows and the sewer network in the Cashel Agglomeration - It has been noted, as part of the Sewer Integrity Risk Assessment, that the design of the sewer network in the Cashel Agglomeration allows for overflows to the storm system when the foul network becomes surcharged. A more detailed investigation and report will be required to establish the full extent of this. Funding is being sought through Budget submissions for 2014 for funding to allow for such survey works.

4.2 Report on progress made and proposals being developed to meet Improvement Programme requirements.

There is no proposal developed at this time for submission to the Agency in relation to improvement works to the plant or network within the agglomeration.

4.3 Sewer Integrity Risk Assessment

The sewer integrity risk assessment for the Cashel Agglomeration was carried out in 2013 (see Appendix B). The assessment was carried out based on information available from existing sewer layout maps for the town and on a visual inspection of the network.

As already outlined above funding is being sought through Budget submissions for 2014 for funding to allow for survey works that will give a more detailed assessment of the sewer network and include for detailed information on the storm water overflow arrangements within the network.

A summary of the Sewer Integrity Risk Assessment is presented in Table 15 below.

Table 15: Summary of Sewer Integrity Risk Assessment

Element	Risk Ass Score	Risk Category	% Risk Score	Max Risk Score
Section 2.1 Hydraulic Risk Assessment	150	High	100 %	150
Section 3.1 Env Risk Assessment	247	Low	49 %	500
Section 4.1 Structural Risk Assessment	150	High	100 %	150
Section 5.1 O and M Risk Assessment	92	Low	46 %	200
Total RAS for Network	639	High	64 %	1000

5.0 LICENCE SPECIFIC REPORTS

5.1 Priority Substances Assessments

The requirement for a risk based assessment to identify the possible presence of priority substances is set out in the licence. At licence application stage South Tipperary County Council had undertaken a dangerous substances monitoring of the upstream and downstream of the primary emission point. The samples taken were in compliance with the standards set (both upstream and downstream) – with the exception of zinc. The elevated zinc values are thought to be unrelated to Cashel Town but arise from natural geological conditions. A sample of the final effluent will be taken in 2014 and screened for the presence of organic compounds and metals. The results of this screening will be reported on in the AER submission for 2014.

5.2 Outstanding Reporting Requirements (Previous AER's)

5.2.1 Ambient Monitoring (2012)

Ambient monitor (both upstream and downstream) was carried out for the Cashel agglomeration in 2012. However the monitoring was not done to the full set of parameters or frequency as set out in the discharge licence - as the licence was only issued in December 2012. Ambient Monitoring for 2013 to the licence requirements is set out in Section 2.3 above.

5.2.2 Discharge Monitoring (2012)

As the Discharge licence for the Cashel agglomeration was only issued in December 2012 it was not possible to have the discharge monitoring for 2012 to the requirement as set out in the licence. Discharge monitoring for 2013 to the licence requirements are set out in Section 2 above.

6.0 CERTIFICATION AND SIGN OFF

I certify that this Annual Environmental Report (AER) for the reporting year 2013 for the Waste Water Discharge Licence No D0171-01 in respect of the Cashel Agglomeration is representative and accurate.

Signed



Dated: 28/4/14

Mr Jimmy Harney

Acting Director of Services

Environment and Water Services

South Tipperary County Council

APPENDIX A
AER/PRTR Emissions Data

[Guidance to completing the PRTR workbook](#)

AER Returns Workbook

Version 1.1.17

REFERENCE YEAR	2013
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1. FACILITY IDENTIFICATION

Parent Company Name	South Tipperary County Council
Facility Name	Cashel Waste Water Treatment Plant
PRTR Identification Number	D0171
Licence Number	D0171-01

Waste or IPPC Classes of Activity

No.	class_name
30.4	General

Address 1	County Hall
Address 2	Clonmel
Address 3	Co. Tipperary
Address 4	
Country	Ireland
Coordinates of Location	-7.90269 52.5164
River Basin District	IESE
NACE Code	3700
Main Economic Activity	Sewerage
AER Returns Contact Name	Denis Holland
AER Returns Contact Email Address	denis.holland@southtippcoco.ie
AER Returns Contact Position	Senior Engineer
AER Returns Contact Telephone Number	052 61 34410
AER Returns Contact Mobile Phone Number	
AER Returns Contact Fax Number	052 61 26710
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	8
User Feedback/Comments	There was no PRTR submission for the Cashel Agglomeration in 2012 as the licence was only issued in December 2012 and a PRTR was not required. There was therefore no variance between 2012 and 2013 to comment on.
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?	
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)?	
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This question is only applicable if you are an IPPC or Quarry site

54	Trichlorobenzenes (TCB) (as mass)	E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0	0.0
57	Trichloroethylene	E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0	0.0
77	Trifluoroethane	E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0	0.0
75	Triphenyltin and compounds	E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0	0.0
80	Vinyl chloride	E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0	0.0
78	Xylenes	E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0	0.0
34	Zinc and compounds (as Zn)	E	OTH	EPA WWTP Tool	0.0	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

No. (Appendix D)	POLLUTANT	RELEASES TO WATERS		Emission Point 1		T. (Total) KG/Year		A. (Accidental) KG/Year		F. (Fugitive) KG/Year	
		M/C/E	Method Code	Method Used (Designation or Description)	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Please enter all quantities in this section in KGs.

* 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)

Pollutant No.	POLLUTANT	RELEASES TO WATERS		Emission Point 1		T. (Total) KG/Year		A. (Accidental) KG/Year		F. (Fugitive) KG/Year	
		M/C/E	Method Code	Method Used (Designation or Description)	2190.0	12775.0	2190.0	12775.0	0.0	0.0	0.0
393	BOD	M	OTH	Standard							
306	COD	M	OTH	Standard							
240	Suspended Solids	M	OTH	Standard							
238	Ammonia (as N)	M	OTH	Standard							
387	Ortho-phosphate (as P)	M	OTH	Standard							

Please enter all quantities in this section in KGs.

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

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 Location Facility, Haz Waste Name and Licence/Permit No. of Recipient/Disposer	Haz Waste - Address of Next Destination Facility, Non Haz Waste Address of Recipient/Disposer	Name and Licence/ Permit No. and Address of Final Receiver / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
					M/C/E	M	M/C/E	M					
Within the Country	19 08 05	No	156.86	sludges from treatment of urban waste water	D8	M		Weighted	Offsite in Ireland	OD Recycling, WFP, TS-10-01002-02	Ballyboe, Kilsheelan, Connel, Co. Tipperary, Ireland		
Within the Country	19 08 01	No	24.14	screenings	D8	M		Weighted	Offsite in Ireland	Mr Birman, WCPKK09/068(A)	Luddenmore Grange, Kilmallock, Limerick, Ireland		

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

- [Link to previous years waste data](#)
- [Link to previous years waste summary data & percentage change](#)
- [Link to Waste Guidance](#)

APPENDIX B

Sewer Integrity Risk Assessment

Section 1.1 Agglomeration Details		Cashel			
Name		DO171-01			
Licence Number		DO171-01			
Insert Name of Catchment if the Risk Assessment is for part of an agglomeration (only divide agglomeration where p.e. >5,000p.e. and where such division is warranted)					
Date Licence Issued		14/12/2012			
Current Date		28/02/2014			
		Year	Year	Year	Year
		2013	2015	2018	2021
Waste Water Works - Wastewater Treatment Plant Details		Unit			
1.1	Is there an existing WWTP in operation?		Yes	Yes	Yes
Section 1.2 BOD Loading & Population Equivalent					
1.2	Average Daily Influent Flow or Average Total Flow in system (If no measured data exists, insert estimated figure)	l/day, measured	1532000		
1.3	Average Daily Influent BOD or Average BOD Load from area served (if no measured data exists, insert estimated figure)	mg/l, measured	263		
1.4	Total BOD Load	kg/day	402.916		
1.5	Average Population Equivalent (@0.06kg/person/day)	p.e.	6715		
1.6	Estimated (existing) Non-Domestic Load	p.e.	1500		
1.7	Estimated Domestic Load	p.e.	5215		
1.8	Occupancy Rate for the Agglomeration	pop/house	2.92		
1.9	Estimated Number of Connected Properties	houses	1786		
1.10	Number of properties within the agglomeration when compared with CSO Data or An Post Geodirectory	houses	3470		
Section 1.3 Hydraulic Details					
1.11	Average Dry Weather Flow arriving at WWTP OR Total Average DWF in system (if no measured data exists insert estimated figure)	l/s, measured	11.12		
1.12	Estimated 3DWF	l/sec	33.36		
1.13	Annual Average Peak Flow to WWTP or discharging from whole system if there is no existing WWTP	l/s, measured	42.3		
1.14	This Annual Average Peak as Multiples of Dry Weather Flow (Peaking)	Nr	3.80		
1.15	Highest Peak Flow Recorded (insert UNKNOWN if no records exist)	l/s	66.33		
1.16	Does this Peak Flow (multiple of DWF) cause hydraulic capacity problems within the network ?	---	Yes	Yes	Yes
1.17	Total Rainfall for Previous Year	mm	953		
1.18	Comparison - Mean Annual Rainfall for the agglomeration	mm	1029		
1.18.1	Define the Weather Station Used		Moorepark		
1.19	If Storm Water Storage is available at the Wastewater Treatment plant, what is the volume of the storm tank ?	m ³	500		
1.20	Is the capacity of the storm tank sufficient to capture and retain all overflows to the tank ?	---	No	No	No
1.21	Total monthly average volume of Storm Water Stored or Returned for Treatment within the Waste Water Treatment Plant	m ³ per month	1000		
1.22	If the answer to 1.20 above is No, What is the estimated frequency of Overflows from the Storm Tank ? (N/A if no overflow)		< 1 per month	< 1 per month	1 to 2 times per month
					< 1 per month
Waste Water Works - Sewer Network Details		Unit	2013	2015	2018
Section 1.4 Waste Water Works - Gravity Sewer Details					
1.23	What database is used to maintain records of the sewer network		Hard Copy Drawings	SUS 2001	SUS 2002
1.23.1	If other or combination of the above please describe	Describe	n/a		
1.24	Total length of sewers (use drop down menus to define whether these figures are estimated or measured)	km Estimated	11.60	0.00	0.00
1.24.1	Total length of sewers > 450mm Diameter	km Estimated	1.80		
1.24.2	Total length of sewers > 300mm but ≤ 450mm in Diameter	km Estimated	2.50		
1.24.3	Total length of sewers > 225mm but ≤ 300mm in Diameter	km Estimated	2.80		
1.24.4	Total length of sewers ≤ 225mm in Diameter	km Estimated	4.50		
1.24.5	Other	km Estimated	0.50		
1.25	Pipeline Material				
1.25.1	What portion of the sewer network consists of Concrete Pipes	% Estimated	20%		
1.25.2	What portion of the sewer network consists of Plastic Pipes	% Estimated	68%		
1.25.3	What portion of the sewer network consists of Clay materials	% Estimated	6%		
1.25.4	What portion of the sewer network consists of Brick Type Sewers	% Estimated	3%		
1.25.5	What portion of the sewer network consists of Other Materials	% Estimated	3%		
1.26	Total number of Storm Water Overflows (Enter '1' if none and state under Item 1.27 that there are no SWOs in the network; do not leave blank)	Nr	1		
1.27	What Screening or other mechanical devices are employed at the storm water overflows	Mech Screen			
1.27.1	SWO No. 02 located at WWTP	Describe	Storm Overflow at WWTP		

1.28	Water Quality at the receiving waters	Slightly polluted			
1.28.1	Where the receiving water is a river - indicate the EPA Biological Rating of the Receiving Water for each SWO below (Particularly if there is more than one receiving water within the agglomeration)	Q3-4			
	SW002 located at WWTP	Describe			
1.28.2	Where the receiving water is a coastal water indicate the Status of the Receiving Water for each SWO below (Particularly if there is more than one receiving water within the agglomeration)				
	SW002 located at WWTP	Describe	N/A		
1.28.3	With reference to the SWO's detailed above define if the receiving waters are sensitive in accordance with the Urban Wastewater Treatment Regulations as amended.				
	SW002 located at WWTP	Describe	Sensitive		
1.28.4	With reference to the SWO's detailed above define are the receiving waters Protected Areas (designated or awaiting designation) .				
	SW002 located at WWTP	Designation			
1.28.5	With reference to the SWO's detailed above define do the receiving waters have any other designations.				
	SW002 located at WWTP	Designation			
Section 1.5 Waste Water Works - Pumping Stations					
1.29	Number of Pumping Stations (operated by the Local Authority)	Nr	1		
1.30	Total Length of Rising Mains (operated by the Local Authority)	km	0.5		
1.31	Rising Main Material				
1.31.1	What portion of the rising mains consists of ductile iron pipes	% Estimated	50.00		
1.31.2	What portion of the rising mains consists of plastic pipes	% Estimated	50.00		
1.31.3	What portion of the rising mains consists of other materials	% Estimated	N/A		
1.32	Discharge Capacity of the Pump Set (s) at normal duty point				
	At Pump Station 1 at Mount Judkin	l/sec	5		
1.33	What percentage of the pumping stations have recorded flow data (i.e. if all pumping stations have flow meters on the rising mains then this would read 100%)	%	0.00%		
1.34	Available Storage Capacity at Pump Stations				
	At Pump Station 1 at Mount Judkin	m ³	10		
1.35	Total Number of "Licenced Secondary Discharge Points and Stormwater Overflows" at pumping stations	Nr	0		
1.36	Total Number of "Emergency Overflow Points" at pumping stations	Nr	1		
1.37	What Screening or other mechanical devices are employed at the secondary discharge points or emergency overflows ?				
	At Pump Station 1 at Mount Judkin	Describe	None		
1.38	Water Quality at the receiving waters at each pumping station location	n/a			
1.38.1	Where the receiving water is a river - indicate the EPA Biological Rating of the Receiving Water for each secondary discharge point or emergency overflow at each pumping station (Particularly if there is more than one receiving water within the agglomeration)				
	At Pump Station 1 at Mount Judkin	Describe	N/A		
1.38.2	Where the receiving water is a coastal water indicate the Status of the Receiving Water for each secondary discharge point or emergency overflow at each pumping station (Particularly if there is more than one receiving water within the agglomeration)				
	At Pump Station 1 at Mount Judkin	Describe	N/A		
1.38.3	With reference to the pumping stations, for each secondary discharge point or emergency overflow detailed above, define if the receiving waters are sensitive in accordance with the Urban Wastewater Treatment Regulations as amended.				
	At Pump Station 1 at Mount Judkin	N/A			
1.38.4	With reference to the pumping stations, for each secondary discharge point or emergency overflow detailed above, are the receiving waters Protected Areas (designated or awaiting designation) .				
	At Pump Station 1 at Mount Judkin	Designation			

1.38.5	With reference to the pumping stations, for each secondary discharge point or emergency overflow detailed above, do the receiving waters have any other designations.					
	At Pump Station 1 at Mount Judkin	Designation				
		n/a				
1.39	Estimated Number of Private Pumping Stations within the agglomeration (not operated by the Local Authority)	Nr	1			
Section 1.6 Reporting						
Section 1.6.1 Reported Number of Sewer Related Complaints						
1.40	Number of Reported Complaints	Nr	0			
1.41	Number of Reported Complaints which have been rectified	Nr	0			
Section 1.6.2 Reported/Recorded/Estimated Number of Secondary Discharges						
1.42	Number of Reported Secondary Discharges	Nr	0			
1.43	Number of Recorded Secondary Discharges	Nr	0			
1.44	Estimated Total Number of Secondary Discharges	Nr	0			
Section 1.6.3 Reported/Recorded/Estimated Number of Emergency Overflow Discharges from Pumping Stations						
1.45	Number of Reported Emergency Overflow Discharges	Nr	0			
1.46	Number of Recorded Emergency Overflow Discharges	Nr	0			
1.47	Estimated Total Number of Emergency Overflow Discharges	Nr	0			
Section 1.7 Operational Staff						
1.48	In the four boxes below, describe the extent of operation staff employed by the Local Authority to maintain and operate the sewer network and pumping stations					
1.48.1	1 Wastewater Caretaker with assistance as needed from Area general Services Supervisor and support staff					
1.48.2						
1.48.3						
1.48.4						
Waste Water Works - Investment Details		Unit	2013	2015	2018	2021
Section 1.8 Capital Investment works carried out since most recent report (including works not included on WSIP Programme or not WSIP funded)						
1.49	Sewers Upgraded or Replaced	m	0			
1.50	Sewers Rehabilitated	m	0			
1.51	Manholes Rehabilitated	Nr	0			
1.52	Local Repairs	Nr	0			
1.53	Total Length of sewers Upgraded, Replaced or Rehabilitated	m	0			
1.54	Pumping Stations Operated by Local Authority Upgraded or Repaired	Nr	0			
1.55	WWTW operated by Local Authority Upgraded or Replaced	Nr	0			
1.56	In the following two cells describe the actual Capital Investment undertaken in the reporting period.	n/a				
1.56.1						
1.56.2						
Section 1.9 Licence Specified Improvements Works						
1.57	The Local Authority is required to report on the extent of Improvement Works which have been specified under the Licence as Issued by the EPA. Reference which AER contains this information	n/a				
Section 1.10 Other Updates Since Last Report						
1.58						
1.59						
1.60						
1.61						
1.62						
1.63						

Section 2.1 Hydraulic Risk Assessment

Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
2.1	<u>Has a Hydraulic Performance Assessment been undertaken for the Sewer Network (e.g., Computer Model or other Engineering Design or Design Review) ?</u>	No	40		If the answer is No assess the need and cost benefit of developing a computer model or engineering design assessment of the Sewer Network and complete Query 2.12. If the answer is Yes proceed to Queries 2.1.1 to 2.1.4 inclusive
2.1.1	If Answer to Query 2.1 is Yes, what % of the Network is covered by the hydraulic assessment ?	N/A	0		The % coverage of the Network by the Hydraulic Assessment can be estimated by the area assessed against the area served by the Network. ENTER "N/A" IF COMPUTER MODEL or DESIGN DOES NOT EXIST. DO NOT LEAVE BLANK OR ENTER "0".
2.1.2	How many years has it been since the completion of the hydraulic assessment ?	N/A	0		Select N/A response if no design assessment or design exists.
2.1.3	Are the outcomes of the Hydraulic Assessment being implemented ?	N/A	0		Select N/A response if no design assessment or design exists.
2.1.4	How many years has it been since the outcomes of the hydraulic assessment have been implemented ?	N/A	0		Select N/A response if no hydraulic performance assessment or design exists. For onging works select "less than 5".
2.2	<u>Has a Dynamic Computer Model been used to Assess the Hydraulic Performance of the Sewer Network ?</u>	No	10		Computer Model means a Hydroworks/Infoworks Model, Micro-Drainage Model or equivalent.
2.3	<u>Has a Manhole Survey been undertaken in accordance with WRc Documentation "Model Contract Document for Manhole Location Surveys and the Production of Record Plans" ?</u>	No	10		If the answer is No assess the need and cost benefit of undertaking a Manhole Survey and complete Query 2.12. If the answer is Yes proceed to Query 2.2.1
2.3.1	If yes, how many years has it been since the survey was undertaken or updated?	more than 10	0		Select N/A if no Manhole Survey has been undertaken. Enter N/A value for Confidence Grade if Prompt Box is "N/A"
2.4	<u>Has a Flow Survey been undertaken in accordance with WRc Documentation "A Guide to Short Term Flow Surveys of Sewer Systems" and "Contract Documents for Short Term Sewer Flows" ?</u>	No	20		If the answer is No assess the need and cost benefit of undertaking a Flow Monitoring Survey and complete Query 2.12. If answer is Yes Proceed to Query 2.5
2.5	<u>What was this Flow Survey Information Used for ?</u>				
2.5.1	To Determine the extent of Problematic Sewer Catchments	N/A	0		Select N/A if no Flow Survey has been undertaken.
2.5.2	To Verify a Computer or Mathematical Model of the Network	N/A	0		Select N/A if no Flow Survey has been undertaken.
2.6	<u>Have Performance Criteria been developed to determine the short, medium or long term capacity of the sewer network ?</u>	No	10		If the answer is No assess the Future Needs of the Sewer Network and complete Query 2.12. If the answer is Yes proceed to Query 2.8
2.7	<u>How many flood events resulting from surcharge in the network have occurred in the past 3 years?</u>	more than 6	10		Flood events in this context means water/sewage backing up from the Network causing flooding of properties or causing disruption of traffic
2.8	<u>Are there deficiencies in performance criteria within the sewer network ?</u>	Yes	20		If the answer is No , Proceed to Query 2.10 and complete Query 2.12. If the answer is Yes proceed to Query 2.9
2.9	<u>Have the causes of these deficiencies in the Performance Criteria been identified and rectified ?</u>	No	10		If the answer is No , consider further examination of the hydraulic model (if available) and complete Query 2.12. If the answer is Yes proceed to Query 2.10
2.10	<u>Can the Hydraulic Assessment (defined in Query 2.1 above) be used to determine the benefit of reducing the contributory Impermeable Areas or extent of surface water contributions</u>	No	10		If the answer is No , consider further development of the Hydraulic Assessment (or model if available) and complete Query 2.12. If the answer is Yes proceed to Query 2.11
2.11	<u>Has an Impermeable Area Survey been carried out for the agglomeration or parts of the agglomeration ?</u>	No	10		If the answer is No , consider the need and cost benefit of undertaking an Impermeable Survey for parts of the agglomeration which are under hydraulic pressure and complete Query 2.12.
Total Risk Assessment Score (RAS)			150		
2.12	<u>Prepare Assessment of Needs & Sewer Upgrade Implementation Plan</u>	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents			
2.13	In the AER provide Summary of Proposed Works or Direction to be taken to improve hydraulic efficiency				

Section 3.1 Environmental Risk Assessment					
Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
3.1	<u>What Environmental or Discharge Quality Data is available with regard to the sewer network ?</u>	largely anecdotal	20		Select N/A if no discharges, secondary discharges or overflows from network; if discharges do exist complete Query 3.12
3.1.1	<u>Do trade effluents discharge to the sewer network?</u>	Yes	20		If the answer is No, proceed to Query 3.1.2. If the answer is Yes, Proceed to Query 3.2
3.1.2	<u>Are there Storm Water Overflows within the network ?</u>	Yes	20		If the answer is No, proceed to Query 3.1.3. If the answer is Yes, Proceed to Query 3.3
3.1.3	<u>Are there Secondary Discharges within the network (excluding Emergency Overflows at Pump Stations)?</u>	No	0		If the answer is No, proceed to Query 3.1.4.
3.1.4	<u>Is there any evidence that exfiltration is occurring from the network ?</u>	No	0		If the answer is No, does all wastewater enter a wastewater treatment plant (insert summary details in the AER)? If Yes, Proceed to Query 3.6
3.2	<u>If Answer to Query 3.1.1 is "Yes", what % of trade effluents have a licence to Discharge to the Public Sewer ?</u>	51 - 60%	12		Select N/A if answer to Query 3.1.1 is No. If not all trade effluents are licenced, Local Authority should consider issuing and controlling such discharges under the appropriate Legislation.
3.2.1	<u>Are all licenced trade Discharges compliant with their relevant licence and associated conditions</u>	No	10		Answer N/A if none of the trade effluents are licenced. Answer No if this information is unknown. If the answer is Unknown or No, consider issuing a direction to the relevant Licences. If the answer is Yes, no further action is needed.
3.2.2	<u>If Answer to Query 3.2.1 is "No", state what % of Trade Discharges are NOT compliant with their relevant licence and associated conditions (where that non-compliance led to enforcement action)</u>	10 - 25%	10		Select N/A if answer to Query 3.2.1 is Yes. If N/A is selected as answer to Query 3.2.2
3.3	<u>In accordance with the DoEHLG paper "Procedures & Criteria in relation to Storm Water Overflows", what % of storm water overflows in the system have been classified for their significance?</u>	<25%	50		If the answer is No, consider a review of each discharge within the sewer network complete and Query 3.11. If the answer is Yes, proceed to Query 3. 6
3.4	<u>Have samples from any Secondary Discharges within the system been analysed ?</u>	N/A	0		Select N/A if no secondary discharges in system. If the answer to Query 3.4 is No, consider examining the quality of each secondary discharge within the sewer network complete Query 3.11. If the answer is Yes, proceed to Query
3.5	<u>What percentage of discharges from the system are known to cause environmental pollution of the receiving waters ?</u>	None	0		If the answer is greater than 50% then detail, in the AER, the Improvement Programme necessary to reduce this percentage.
3.6	<u>In relation to possible exfiltration has a risk analysis of ground water contamination or pollution been undertaken ?</u>	No	20		Select N/A if answer to Query 3.1.4 is NO. If the answer is No, consider undertaking ground water risk analysis and complete Query 3.12
3.6.1	<u>If Answer to Query 3.6 is "Yes", have any groundwater aquifers been identified in the area of the Network and/or Discharge Points?</u>	N/A	0		Select N/A if no risk analysis of groundwater contamination has been undertaken.
3.6.2	<u>If Answer to Query 3.6.1 is "Yes", state the classification of groundwater aquifer identified in the area?</u>	N/A	0		Select N/A if no risk analysis of groundwater contamination has been undertaken.
3.6.3	<u>In relation to Query 3.6.1, is the aquifer used as a source for Public, Private or Groun Water Supply Schemes?</u>	Yes	0		Select N/A if no risk analysis of groundwater contamination has been undertaken.
3.7	<u>Has an Impact Assessment of each Storm Water Overflow been undertaken in accordance with the DoEHLG paper "Procedures & Criteria in relation to Storm Water Overflows" including setting performance criteria?</u>	No	40		If the answer is No, consider assessing the risk category of the receiving waters. If the answer is Yes, proceed to Query 3.8 and provide summary details of the assessment in the AER.
3.8	<u>What percentage of storm water overflows comply with the performance criteria referred to in Query 3.7?</u>	N/A	30		Select N/A if answer to Query 3.7 is No or if there are no SWOs in system. (Risk Score is locked at 0 if no SWOs in system is stated in Agglomeration Details)
3.9	<u>Have the causes of these Capacity Deficiencies (storm water overflows & Secondary Discharges) been identified ?</u>	No	15		Select N/A if answer to Query 3.7 is NO or if there are no SWOs in system. If the answer to Query 3.9 is No, consider further examination of the environmental
Total Risk Assessment Score (RAS)			247		
3.10	<u>Prepares Assessment of Needs & Sewer Upgrade Implementation Plan</u>	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents			
3.11	Provide Summary Details (in the AER) of records upstream and downstream of licenced discharges with regard to Environmental Performance of the network. These details can be included as part of the AER submitted for the agglomeration.				

Section 4.1 Structural Risk Assessment

Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
4.1	<u>Has a CCTV Survey been undertaken in accordance with WRc Documentation "Model Contract Document for Sewer Condition Inspections" and "Manual of Sewer Condition Classification" ?</u>	No	10		If the answer is No assess the need and benefit of undertaking CCTV Survey. If Yes Proceed to Query 4.2
4.1.1	How many years has it been since the completion of the CCTV Survey?	more than 10	0		If no CCTV has been undertaken, select "N/A" response
4.2	<u>What was this CCTV Survey Information Used for?</u>	N/A	10		Select N/A if answer to Query 4.1 is NO.
4.3	<u>Has the CCTV Survey been used to Assess the Structural Condition of the Sewer Network or targeted sections of the Sewer Network?</u>	No	5		If no CCTV has been undertaken, select "No" response. If the answer is No assess the need and benefit of undertaking an assessment of the Structural Condition of the Sewer Network. If the answer is Yes proceed to Q
4.4	<u>Have Performance Criteria been developed to determine the short, medium or long term structural condition of the sewer network ?</u>	No	5		If the answer is No, enter "unknown" in response to Queries 4.4.1 to 4.4.5; consider assessing the Future Needs of the Sewer Network. If the answer is Yes proceed to Queries 4
4.4.1	What % of the Total Sewer Length contains Collapsed or Imminent Collapse of Sewers (Grade 5)	unknown	30		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 5 collapse, include the total length of that sewer in calculating the %. If information is not available type "Unknown" into Prompt Box
4.4.2	What % of Total Sewer Length contains Sewers Likely to Collapse (Grade 4)	unknown	25		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 4 condition, include the total length of that sewer in calculating the %. If information is not available type "Unknown" into Prompt Box
4.4.3	What % of Total Sewer Length contains sewers with Further Possible Deterioration (Grade 3)	unknown	10		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 3 deterioration, include the total length of that sewer in calculating the %. If information is not available type "Unknown" into Prompt Box
4.4.4	What % of Total Sewer Length contains sewers with Minimal Collapse (Grade 2)	unknown	5		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 2 feature, include the total length of that sewer in calculating the %. If information is not available type "Unknown" into Prompt Box
4.4.5	What % of Total Sewer Length contains sewers of Acceptable Structural Condition (Grade 1)	unknown	5		Insert Percentage of Overall Network Length. If information is not available type "Unknown" into Prompt Box
If all % lengths are known, Check Total Length = 100%			75		If answers to Queries 4.4.1, 4.4.2 or 4.4.3 are above a set level, the RAS for Query 4 is automatically set at the maximum of 140.
4.5	<u>What % of the deficiencies, as detailed in Items 4.4.1, 4.4.2 and 4.4.3, have been rectified ?</u>	N/A	35		Select N/A if answer to Query 4.4 is No. If the answer is No, Proceed to Query 4.6 If the answer is Yes, what monitoring is in place to ensure continued acceptance of structural condition? Proceed to Query 4.7
4.6	<u>Have the causes of the Structural Deficiencies (Grades 3, 4 and 5) been identified or is there a Preventative Maintenance Programme in place?</u>	No	10		If the answer is No, consider further examination of the sewer network, the structural loading conditions, gradients and possible H ₂ S Formation. If Yes completed Query 4.7
Total Risk Assessment Score (RAS)			150		
4.7	<u>Prepare Assessment of Needs & Sewer Rehabilitation Implementation Plan</u>	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents			

Section 5.1 O&M Risk Assessment					
Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
5.1	<u>Are complaints of an environmental nature recorded and held in a central database?</u>	No	20		Consider setting up Central Database for Complaints
5.2	<u>Is there an emergency response procedure in place?</u>	No	20		Consider setting up target response times for dealing with Complaints
5.3	<u>What has been the highest frequency of flooding in the network due to hydraulic inadequacy, over the past 5 years?</u>	Once/yr	4		Refers to flooding from the Network only, not natural flooding from rivers/streams/high tides. Select the highest number of events in any 12 month period.
5.4	<u>What has been the highest frequency of flooding in the network due to operational causes over the past 5 years?</u>	Twice/yr	8		Refers to flooding from the Network only, not natural flooding from rivers/streams/high tides. Select the highest number of events in any 12 month period.
5.5	<u>What has been the highest frequency of surcharging of critical sewers in the network, over the past 5 years?</u>	Twice/yr	4		Select the highest number of events in any 12 month period.
5.6	<u>What has been the highest frequency of reportable incidents in the network, over the past 5 years?</u>	Twice/yr	4		Select the highest number of events in any 12 month period.
5.7	<u>What has been the highest frequency of reportable incidents due to discharges, for whatever reason, from Pumping Station Emergency Overflows in the network, over the past 5 years?</u>	Twice/yr	4		Select the highest number of events at any given Pumping Station in any 12 month period.
5.8	<u>What has been the highest frequency of blockages in sewers in the network over the past 5 years?</u>	0.05 - 0.1/km/yr	12		Select the highest number of events per km of sewer network in any 12 month period.
5.9	<u>What has been the highest frequency of collapses in sewers in the network over the past 5 years?</u>	Twice/yr	8		Select the highest number of events in any 12 month period.
5.10	<u>What has been the highest frequency of bursts in rising mains in the network over the past 5 years?</u>	Twice/yr	8		Select the highest number of events in any 12 month period.
Total Risk Assessment Score (RAS)			92		
5.11	<u>Prepare Up Dated Operational and Maintenance Plan</u>				

Section 6.1 Summary of Risk Assessment Scores

Element	Risk Assessment Score	Risk Category	% Risk Score	Maximum Risk Score
Section 2.1 Hydraulic Risk Assessment	150	High Risk	100%	150
Section 3.1 Environmental Risk Assessment	247	Low Risk	49%	500
Section 4.1 Structural Risk Assessment	150	High Risk	100%	150
Section 5.1 O&M Risk Assessment	92	Medium Risk	46%	200
Total RAS for Network	639	High Risk	64%	1000

If the total RAS is greater than 750, or if any of the individual RASs are greater than 75% of the Maximum Available Score, the Risk category for the Network is graded "High Risk"