SOUTH TIPPERARY COUNTY COUNCIL

KILLENAULE

WASTEWATER DISCHARGE LICENCE

REGISTER NUMBER D0443-01

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 17th September 2010 granted South Tipperary County Council a Wastewater Discharge Licence (Register No D0443-01) in respect of the agglomeration named Killenaule. One of the provisions of the licence (Condition 6.10) 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 fourth Annual Environmental Report (AER) for Killenaule 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 Killenaule Wastewater Treatment Plant is located at Killenaule, Co. Tipperary (National Grid Reference of E222507 , N146042). The sewer network is generally a combined sewer system with the more recent housing developments to the east of the village having installed separate foul and surface water systems. The sewage flows by gravity to a pumping station located within the site of the wastewater plant. The plant operates the following process units as required; an activated sludge process, screening, grit removal, storm treatment, biological treatment (oxidation ditch), final settlement, phosphorus removal using aluminium chloride, tertiary filtration, sludge thickening and storage.

1.2 Executive Summary

The Killenaule 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 2.17 mg/l against an ELV of 4 mg/l while Suspended Solids and COD had effluent values of 3.17mg/l and 15mg/l against ELV's of 5 mg/l and 50 mg/ l respectively. The average effluent value for Ammonia was 0.15 mg/l against an ELV of 1mg/l. There was 1 exceedence in the final effluent limit value for Soluble Reactive Phosphorus. An effluent value of 0.59 mg/l was recorded against an ELV of 0.5mg/l.

The total flow for the year was 179,095 m3 while the current flow weighted average influent BOD to the plant is 102 mg/l giving a current pe loading of the plant of 834 pe. This compares with a plant design of 1,200 pe.

The average daily influent flow for the year was 491 m3 /day against a plant design of 804 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 SW1 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 (Section 3) show that reductions of 98%, 94% and 98 % were achieved in BOD, COD and Suspended Solids respectively.

A reduction of 99% was achieved in the Ammonia levels while nutrient removal efficiencies for TP and TN were 96% and 67 % respectively. The average annual final effluent values for Nitrate and Nitrite were 10.96 mg/l and 0.5 mg/l respectively.

An 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(N) and pH. Also set out below is the calculation of the pe equivalent load and flow weighted average BOD load for the WWTP.

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

Sample Date	Flow M^3/Day	cBOD 5d with nitrification inhib mg/l	Chemical Oxygen Demand (COD) mg/l	Suspended Solids (mg/l)	pH (unit)	Ammonia Nitrogen (as N) mg/l	Total Phosphorus (as P) mg/l	Total Nitrogen (as N) mg/l
ELV		**4 mg/l**	**50 mg/l**	**5 mg/l**	**6 to 9**	**1 mg/l**	**n/a**	**n/a**
08/01/2013	401	67	124	54	7.6	5.3	2.21	17.7
05/02/2013	689	65	142	143	7.5	4.6	2.21	13.5
05/03/2013	344	150	279	132	8	19.3	6.53	49.4
09/04/2013	338	141	232	116	7.9	14.6	4.31	37.9
21/05/2013	343	100	244	160	7.5	20.2	5.74	29
11/06/2013	381	175	281	272	7.8	19.8	4.63	30.9
02/07/2013	351	95	179	101	7.9	24.9	4.36	43.2
13/08/2013	309	80	177	100	7.1	24.8	4.16	34.2
03/09/2013	270	190	389	237	8.1	41.5	7.84	56.2
08/10/2013	370	115	218	142	7.9	18.3	4.75	40.8
05/11/2013	775	47	69	35	7.6	5.1	1.32	12.8
03/12/2013	463	113	231	110	7.9	19.2	4.09	32.3
No of Samples	***12***	***12***	***12***	***12***	***12***	***12***	***12***	***12***
Annual Max	***775***	***175***	***389***	***272***	***8.1***	***41.5***	***7.84***	***56.2***
Annual Average	***420***	***112***	***214***	***134***	***8***	***18***	***4***	***33***

Calculation of the Population Equivalent load to the WWTP

The total influent for the year 2013 was 179,095 m3. The average daily influent flow was 491 m3/day.

The flow weighted averaged influent BOD as calculated per Table 2 below is 102 mg/l

Killenaule 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 = (179,095 x 102) / (0.06 x 365 x 1000) = **834**

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

	Flow	cBOD 5d with nitrification inhib	BOD
Date	**m3**	**mg/l**	**Kg**
08/01/2013	401	67	27
05/02/2013	689	65	45
05/03/2013	344	150	52
09/04/2013	338	141	48
21/05/2013	344	100	34
11/06/2013	381	175	67
02/07/2013	351	95	33
13/08/2013	309	80	25
03/09/2013	270	190	51
08/10/2013	370	115	43
05/11/2013	775	47	36
03/12/2013	463	113	52
Totals	**5035**		**513**

The Flow weighted average BOD is 513 Kg x 1000 / 5035 m3 = **102 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).

	cBOD 5d with nitrification inhib mg/l	COD (mg/l)	SS (mg/l)	Ammonia Nitrogen as N (mg/l)	pH	TP (mg/l)	Soluble Reactive Phosphorus as P (mg/l)	TN (mg/l)	Nitrate (mg/l)	Cond' @ 25 degC	Nitrite (mg/l)
ELV (mg/l	4 mg/l	50 mg/l	5mg/l	1 mg/l	6-9	-	0.5 mg/l	-	-	-	-
08/01/13	2	<15	4	<0.1	7.7	0.18	0.03	7	6.3	440	0.5
05/02/13	2	<15	3	<0.1	7.9	0.08	0.05	8.3	7.8	450	0.5
05/03/13	2	<15	<3	<0.1	7.9	0.12	0.08	11.9	11.1	493	0.5
09/04/13	2	<15	3	<0.1	7.8	0.11	0.07	13.3	12.6	473	0.5
21/05/13	2	<15	3	0.7	7.7	0.65	0.59	9.4	8.8	467	0.5
11/06/13	2	<15	<3	0.1	7.9	0.17	0.13	6.6	6.3	525	0.5
02/07/13	2	<15	<3	<0.1	7.9	0.11	0.07	11.1	10.8	548	0.5
13/08/13	2	<15	3	<0.1	7.8	0.1	0.08	16.2	16.4	565	0.5
03/09/13	2	<15	3	<0.1	7.9	0.07	0.05	20.2	19	659	0.5
08/10/13	2	<15	4	<0.1	7.9	0.16	0.09	15.2	14.2	535	0.5
06/11/13	2	<15	<3	<0.1	7.8	0.09	0.03	7.7	7	424	0.5
03/12/13	4	<15	3	<0.1	8	0.05	<0.03	12	11.2	472	0.5
No of Samples	12	12	12	12	12	12	12	12	12	12	12
Annual Max	4	15	4	0.7	8	0.65	0.59	20.2	19	659	0.5
Annual Mean	2.17	15	3.17	0.15	7.85	0.16	0.12	11.58	10.96	504	0.5

Table 4: Summary of the Effluent Monitoring and Compliance

	BOD	COD	SS	TN	Ortho P	Ammonia	pH
WWDL ELV	**4 mg/l**	**50 mg/l**	**5 mg/l**	**n/a**	**0.5 mg/l**	**1 mg/l**	**6 to 9**
No of sample results	12	12	12	12	12	12	12
No of sample results above ELV	0	0	0	0	1	0	0
No of sample results above ELV with Condition 2 Interpretation	0	0	0	0	0	0	0
Overall Compliance	Pass	Pass	Pass	Pass	Pass	Pass	Pass

Interpretation and analysis of results

There was 1 exceedence on the final effluent value for Soluble Reactive Phosphorus in the sample taken on 21/05/2013. A value of 0.59 mg/l was recorded against an ELV of 0.5 mg/l. However the effluent value fell within the allowable range by Interpretation of Condition 2 of the discharge licence.

All other parameters recorded were within the ELV's as specified in the licence

Table 5: Killenaule WWTP Primary discharge point flow recordings (m3/day) for 2013 as required under Schedule B (Monitoring) of the discharge licence.

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
1	802	687	357	425	440	367	157	512	252	349	696	372
2	674	713	424	323	387	369	288	428	212	1213	815	373
3	676	712	300	366	348	201	247	487	213	112	816	422
4	675	559	302	416	450	159	219	376	228	725	393	301
5	630	660	287	322	448	251	233	376	223	470	743	326
6	628	658	360	377	382	229	274	365	226	472	787	363
7	342	651	475	377	263	213	275	202	227	259	715	533
8	343	634	622	261	520	300	103	255	242	347	741	535
9	635	795	690	302	380	299	209	257	228	387	781	257
10	650	530	625	307	451	69	165	297	230	384	783	428
11	671	528	626	513	497	370	177	238	232	379	575	359
12	820	636	777	737	296	352	178	239	219	519	761	353
13	565	720	687	651	298	341	234	263	220	380	762	451
14	564	727	649	653	369	325	235	235	208	381	747	550
15	625	549	622	521	386	574	97	266	249	443	727	579
16	658	598	638	677	338	355	185	430	211	468	670	580
17	671	390	640	603	377	357	169	393	209	737	671	670
18	573	389	455	726	397	391	228	331	212	970	651	680
19	823	581	304	725	254	287	199	333	355	728	643	830
20	628	536	476	781	255	359	234	303	238	730	660	849
21	629	467	363	782	296	380	235	296	202	592	649	760
22	716	458	725	440	293	344	102	424	243	726	508	761
23	658	601	1041	612	183	162	205	187	245	719	361	515
24	612	308	657	647	216	161	278	305	96	723	360	1124
25	541	309	656	581	315	189	302	306	195	907	310	623
26	736	368	779	591	317	205	342	294	199	735	393	624
27	735	345	710	618	280	222	257	245	204	737	472	608
28	779	334	555	478	388	273	257	251	216	754	434	643
29	756		542	479	364	233	230	214	205	431	453	841
30	670		543	400	308	235	214	238	229	704	526	839
31	688		426		261		282		231	693		686

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 8 is a summary of the ambient monitoring. The monitoring results indicate that the discaharge is not having any significant impact on the quality of the receiving water.

Table 6: Ambient monitoring at aSW-I U upstream of SW I (222487E 146121N)

Sample Date	Ammonia (mg/l)	BOD (mg/l)	DO	Ortho P (mg/l)	pH (unit)	Temp (deg C)	TN (mg/l)
17/01/2013	0.0185	0.48	nt	0.04	7.699	nt	2.4
26/06/2013	0.03	1.87	10.93	0.12	8.226	13.6	2.7
28/08/2013	0	1.26	9.40	0.096	8.04	15.7	2.5
19/11/2013	0.01	0.11	11.6	0.034	7.80	6.9	5.7
Annual Max	**0.03**	**1.87**	**11.6**	**0.12**	**8.226**	**15.7**	**5.7**
Annual Mean	**0.015**	**0.93**	**10.64**	**0.073**	**7.94**	**12.1**	**3.3**

Table 7: Ambient monitoring at aSW-Id downstream of SW I (222587E 145960N)

Sample Date	Ammonia (mg/l)	BOD (mg/l)	DO	Ortho P (mg/l)	pH (unit)	Temp deg C	TN (mg/l)
17/01/2013	0.192	0.64	nt	0.06	7.482	nt	2.3
26/06/2013	0.02	2.02	10.8	0.1	7.786	14.2	4.6
28/08/2013	0	1.11	9.39	0.082	7.77	17	6.8
19/11/2013	0.02	BLD	11.2	0.033	7.561	7.6	5.8
Annual Max	**0.192**	**2.02**	**11.2**	**0.1**	**7.786**	**17**	**6.8**
Annual Mean	**0.06**	**0.94**	**10.5**	**0.07**	**7.65**	**12.9**	**4.9**

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	222487E, 146121N	TBC	No
aSW-ID downstream Of SW1	222587E, 145960N	TBC	No

Small Stream Risk Score Assessment

The Small Streams Risk Score (SSRS) is a biological assessment designed to detect potential sources of pollution to watercourses and involves identification of pollution sensitive and pollution tolerant macroinvertebrae. The results shown below show that there was no deterioration to the SSRS risk score downstream from the effluent discharge point.

Small Stream Risk Score Assessment (Killenaule)

SSRS Score Upstream	3.2	SSRS Score Downstream	3.2

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)

This information is not required to be submitted as part of this years AER submission as the population equivalent for the Killenaule Agglomeration is less than 2,000 pe.

3.0OPERATIONAL REPORTS SUMMARY.

3.1 Treatment Efficiency Report

Presented below in Table 9 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 5d with nitrification inhib	Chemical Oxygen Demand	Suspended Solids	Ammonia Nitrogen (as N)	Total Phosphorus (as P)	Total Nitrogen (as N)
Influent mass loading (Kg/day)	55	105.1	65.8	8.84	1.96	16.2
Effluent mass emission (Kg/day)	0.99	6.81	1.44	0.07	0.07	5.3
% Efficiency (% reduction of influent load)	98%	94%	98%	99%	96%	67%

3.2 Treatment Capacity Report

Presented below in Table 10 is a summary of the current and remaining treatment capacity of the treatment process.

Table10 : Treatment Capacity Report Summary Table

Hydraulic Capacity – Design	804 m3 /day @ 3dwf
Hydraulic Capacity – Current Loading	491 m3 /day
Hydraulic Capacity – Remaining	313m3 / day
Organic Capacity – Design (pe)	1,200 pe
Organic Capacity – Current Loading (pe)	834 pe
Organic Capacity – Remaining (pe)	366 pe
Will the capacity be exceeded in the next 3 years	No

3.3 Complaints Summary

There were no complaints of an environmental nature received during 2013.

Table 11: Complaints

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

3.4 Reported Incidents Summary

There was 1 recorded incident in relation to the Killenaule Wastewater Treatment Plant in 2013. There was one exceedence in relation to Soluble Reactive Phosphorus but this was within the allowable range by interpretation of Condition 2 of the licence.

Table 12: Incidents Summary

Date and Time	Incident Description	Cause	No of Incidents	Corrective Action	Authorities Contacted	Reported to EPA	Closed (Y/N)
2013	Exceedence in Soluble Reactive Phospho	High Influent load	1	Process control	STCC	No within range Condition 2	Yes

Table 13: A summary of the incident details as required in the EPA.

No of Incidents in 2013	One
Number of Incidents reported to the EPA via EDEN in 2013.	None
Explanation of any discrepancies between the two numbers above.	Not reported by interpretation of Condition 2 of the licence.

4.0 INFRASTRUCTURAL ASSESSMENT & PROGRAMME OF IMPROVEMENTS

4.1 Report on Storm Water overflow identification and inspection.

This report was submitted to the Agency (EPA) in the 2011 AER submission. Presented below in Table 14 is the SWO Identification and Inspection Summary Report.

Table 14: SWO Identification and Inspection Summary Report Table

Is each SWO Identified as non complaint with DoEHLG included in the Programme of Improvements	No SWO Identified as non-complaint
Does the SWO assessment include the requirements of Schedule A3 and C3	No Improvement works specified in the Licence
Has the EPA been advised of any additional SWO's / changes to Schediule CE and A4 under Condition 1.7	No additional SWO's / changes to Schedule C3 and A4 under Condition 1.7 required or identified.

4.2 Report on progress made and proposals to meet the Improvement Programme Requirements

The discharge licence under Schedule C and Condition 5 requires an assessment and plan for Implementation of Improvement works in relation to infiltration. In 2011 Water Services undertook a visual assessment and survey of the foul and storm sewer network in part of the agglomeration. This concentrated in the north and west of the village where problems with infiltration had been identified previously. It also included a survey and assessment within a number of housing developments in the area. The survey identified infiltration to the network in both the foul and storm sewers. Initial findings would indicate that there is a need to undertake works to fully separate the foul and storm networks along with works to eliminate infiltration by ground water. Some further investigations were carried in 2012 on the network.

It is the intention of Water Services to seek funding through budgetary submissions that would allow for a more detailed assessment of the network. This is turn will allow for detailed Improvement works proposals to be developed and costed.

4.3 Report on measures taken to address the supplementary measures for the sub-basin water body Killenaule.

Water Services corresponded with the Agency (EPA) in July 2012 in relation to this requirement.

A summary of the issue is set out as follows.

The supplementary measures set out in the River Basin Management Plan for the SERBD required that STCC investigate the need for tertiary treatment or for a relocation of the outfall. Tertiary treatment has been installed at the Killenaule WWTP plant. This tertiary treatment includes upflow moving bed sand filtration and chemical phosphorus removal facilities. The report to the Agency (EPA) concluded that there was no advantage to relocating the outfall further downstream of the Clashawley river and relocating the discharge to a point downstream of the confluence of the two branches of the Clashawley as it was cost prohibitive and has potential to impact on the Lower River Suir cSAC. It was therefore considered unfeasible to relocate the outfall and it is proposed therefore that the existing outfall point remain unchanged. In this regard it is noted that biological assessments carried out by the EPA indicate that there has been no significant deterioration in Q values at station 16C01100 (1.0km downstream of Killenaule). The enhanced level of treatment at Killenaule, combined with continued operation of the wastewater treatment plant to the high standard demonstrated in the results in this AER report and continued strict adherence to the Urban Waste Water Treatment Regulations standards will continue to ensure that the plant does not have any significant environmental impacts on the existing receiving water.

4.4 Sewer Integrity Risk Assessment (see Appendix A)

A sewer integrity risk assessment was carried out on the Killenaule Agglomeration based on previous but limited site Investigation works, visual inspections and also by reference to Map Info and available drawings of the network at the Local Authority offices. A summary of this assessment is presented below.

Table 15:

Element	Risk Ass Score	Risk Category	% Risk Score	Max Risk Score
Section 2.1 Hydraulic Risk Assessment	135	High	90 %	150
Section 3.1 Env Risk Assessment	250	Low	50 %	500
Section 4.1 Structural Risk Assessment	150	High	100 %	150
Section 5.1 O and M Risk Assessment	30	Low	15 %	200
Total RAS for Network	565	High	57 %	1000

Funding is being sought through the budgetary submissions for 2014 for funds that will allow a more complete and detailed assessment of the sewer network to the standards and specification set out in the Sewer Integrity Risk Assessment Tool.

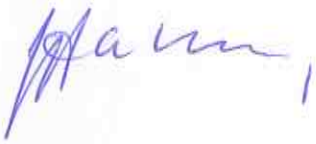
5.0 LICENCE SPECIFIC REPORTS

5.1 Priority Substances Assessments

The requirement for a risk based assessment to identify the possible presence of priority substances is not specifically set out in the Discharge Licence.

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 D0443-01 in respect of the Killenaule Agglomeration is representative and accurate.

Signed  **Dated:** 25th/04/14

Mr Jimmy Harney

Acting Director of Services

Environment and Water Services

South Tipperary County Council

APPENDIX A

Sewer Integrity Risk Assessment

	Section 1.1 Agglomeration Details					
	Name	**Killenaule**				
	Licence Number	**D0 443-01**				
	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)	**Insert Catchment Name (e.g., Downtown Pumping Station network). Refer to Guidance Notes for rules on division of large agglomerations.**				
	Date Licence Issued	**17/09/2010**				
	Current Date	**28/02/2014**				
			Year	Year	Year	Year
	Waste Water Works - Wastewater Treatment Plant Details	**Unit**	2013	2015	2018	2021
1.1	Is there an existing WWTP in operation?		Yes	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	491000			
1.3	Average Daily Influent BOD or Average BOD Load from area served (If no measured data exists, insert estimated figure)	mg/l, measured	102			
1.4	Total BOD Load	kg/day	50.082			
1.5	Average Population Equivalent (@0.06kg/person/day)	p.e.	835			
1.6	Estimated (existing) Non-Domestic Load	p.e.	100			
1.7	Estimated Domestic Load	p.e.	735			
1.8	Occupancy Rate for the Agglomeration	pop/house	2.92			
1.9	Estimated Number of Connected Properties	houses	252			
1.10	Number of properties within the agglomeration when compared with CSO Data or An Post Geodirectory	houses	712			
	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	2.64			
1.12	Estimated 3DWF	l/sec	7.92			
1.13	Annual Average Peak Flow to WWTP or discharging from whole system if there is no existing WWTP	l/s, measured	8.88			
1.14	This Annual Average Peak as Multiples of Dry Weather Flow (Peaking	Nr	3.36			
1.15	Highest Peak Flow Recorded (Insert UNKNOWN if no records exist)	l/s	11.94			
1.16	Does this Peak Flow (multiple of DWF) cause hydraulic capacity problems within the network ?	---	Yes	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	100			
1.20	Is the capacity of the storm tank sufficient to capture and retain all overflows to the tank ?	---	No	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	100			
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	2021
	Section 1.4 Waste Water Works - Gravity Sewer Details					
1.23	What database is used to maintain records of the sewer network		Mapdrain	SUS 2001	SUS 2002	SUS 2003
1.23.1	If other or combination of the above please describe	Describe	Drawings			
1.24	Total length of sewers (use drop down menus to define whether these figures are estimated or measured)	km Estimated	5.05	0.00	0.00	0.00
1.24.1	Total length of sewers > 450mm Diameter	km Estimated	0.50			
1.24.2	Total length of sewers > 300mm but ≤ 450mm in Diameter	km Estimated	0.80			
1.24.3	Total length of sewers > 225mm but ≤ 300mm in Diameter	km Estimated	1.45			
1.24.4	Total length of sewers ≤ 225mm in Diameter	km Estimated	2.30			
1.24.5	Other	km Estimated	Unknown			
1.25	Pipeline Material					
1.25.1	What portion of the sewer network consists of Concrete Pipes	% Estimated	10%			
1.25.2	What portion of the sewer network consists of Plastic Pipes	% Estimated	20%			
1.25.3	What portion of the sewer network consists of Clay materials	% Estimated	30%			
1.25.4	What portion of the sewer network consists of Brick Type Sewers	% Estimated	0%			
1.25.5	What portion of the sewer network consists of Other Materials	% Estimated	40%			
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	3			
1.27	What Screening or other mechanical devices are employed at the storm water overflows					
1.27.1	SWO No. _ *located at* _____	Describe				

	SWO 2 Located at WWTP	At WWTP				
	SWO 3 Located at WWTP	At WWTP				
	SW4 Located on Ballingarry Road.	On Ballingarry Road				
1.28	Water Quality at the receiving waters					
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)					
	SWO 2 Located at WWTP	Describe	Q1			
	SWO 3 Located at WWTP	Describe	Q1			
	SW4 Located on Ballingarry Road.	Describe	Q1			
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)	N/A				
		Describe	High			
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.					
	SWO 2 Located at WWTP	Describe	Sensitive			
	SWO 3 Located at WWTP	Describe	Sensitive			
	SW4 Located on Ballingarry Road.	Describe	Sensitive			
1.28.4	With reference to the SWO's detailed above define are the receiving waters Protected Areas (designated or awaiting designation) .					
	SWO 1 *located at Main Street*	Designation				
	SWO 2 Located at WWTP	N/A				
	SWO 3 Located at WWTP	N/A				
	SW4 Located on Ballingarry Road.	N/A				
1.28.5	With reference to the SWO's detailed above define do the receiving waters have any other designations.					
		Designation				
	Section 1.5 Waste Water Works - Pumping Stations					
1.29	Number of Pumping Stations (operated by the Local Authority)	Nr	0			
1.30	Total Length of Rising Mains (operated by the Local Authority)	km	0			
1.31	Rising Main Material					
1.31.1	What portion of the rising mains consists of ductile iron pipes	% Measured	0.00			
1.31.2	What portion of the rising mains consists of plastic pipes	% Measured	0.00			
1.31.3	What portion of the rising mains consists of other materials	% Estimated	0.00			
1.32	Discharge Capacity of the Pump Set (s) at normal duty point					
		l/sec				
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					
		m^3				
1.35	Total Number of ***"Licenced Secondary Discharge Points and Stormwater Overflows"*** at pumping stations	Nr				
1.36	Total Number of ***"Emergency Overflow Points"*** at pumping stations	Nr				
1.37	What Screening or other mechanical devices are employed at the secondary discharge points or emergency overflows ?					
		Describe				

1.38	Water Quality at the receiving waters at each pumping station location					
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)					
		Describe				
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)					
		Describe				
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.					
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) .					
		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.					
		Designation				
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 No General Services Supervisor with support of General Operatives and Contracted sewer jetting and maintenace crew as required.					
1.48.2	*1 WWTP Manager and Caretaker from DBO Operator and*					
1.48.3	*contratced pump / electrical contractors as required*					
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	1			
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.					
1.56.1	*For example : Sewer Rehabilitation Contract Works being undertaken under the WSIP*	N/A				

1.56.2						
	Section 1.9 Licence Specified Improvements Works					
1.57	*Progress report on infiltration included in 2011 AER*					
	Section 1.10 Other Updates Since Last Report					
1.58	*Progress report to relocate outfall included in 2011 AER*					
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	Has a Hydraulic Performance Assessment been undertaken for the Sewer Network (e.g., Computer Model or other Engineering Design or Design Review) ?	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	Has a Dynamic Computer Model been used to Assess the Hydraulic Performance of the Sewer Network ?	No	10		Computer Model means a Hydroworks/Infoworks Model, Micro-Drainage Model or equivalent.
2.3	Has a Manhole Survey been undertaken in accordance with WRc Documentation "Model Contract Document for Manhole Location Surveys and the Production of Record Maps" ?	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 2.3.1
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	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" ?	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	What was this Flow Survey Information Used for ?				
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	Have Performance Criteria been developed to determine the short, medium or long term capacity of the sewer network ?	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	How many flood events resulting from surcharge in the network have occurred in the past 3 years?	1 to 3	5		Flood events in this context means water/sewage backing up from the Network causing flooding of properties or causing disruption of traffic
2.8	Are there deficiencies in performance criteria within the sewer network ?	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	Have the causes of these deficiencies in the Performance Criteria been identified and rectified ?	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	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	N/A	0		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	Has an Impermeable Area Survey been carried out for the agglomeration or parts of the agglomeration ?	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)		135		
2.12	Prepare Assessment of Needs & Sewer Upgrade Implementation Plan	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	What Environmental or Discharge Quality Data is available with regard to the sewer network ?	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	Do trade effluents discharge to the sewer network?	No	0		If the answer is **No**, proceed to Query 3.1.2. If the answer is **Yes**, Proceed to Query 3.2
3.1.2	Are there Storm Water Overflows within the network ?	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	Are there Secondary Discharges within the network (excluding Emergency Overflows at Pump Stations)?	No	0		If the answer is **No**, proceed to Query 3.1.4.
3.1.4	Is there any evidence that exfiltration is occurring from the network ?	Yes	20		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	If Answer to Query 3.1.1 is "Yes", what % of trade effluents have a licence to Discharge to the Public Sewer ?	N/A	0		Select N/A if answer to Query 3.1.1 is **No**. If not all trade effleunts are licenced, Local Authority should consider issuing and controlling such discharges under the appropriate Legislation.
3.2.1	Are all licenced trade Discharges compliant with their relevant licence and associated conditions	N/A	0		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 Licencee. If the answer is **Yes**, no further action is needed.
3.2.2	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)	0 - 10%	5		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	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?	N/A	0		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	Have samples from any Secondary Discharges within the system been analysed ?	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	What percentage of discharges from the system are known to cause environmental pollution of the receiving waters ?	>90%	100		If the answer is greater than 50% then detail, in the AER, the Improvement Programme necessary to reduce this percentage.
3.6	In relation to possible exfiltration has a risk analysis of ground water contamination or pollution been undertaken ?	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	If Answer to Query 3.6 is "Yes", have any groundwater aquifers been identified in the area of the Network and/or Discharge Points?	N/A	0		Select **N/A** if no risk analysis of groundwater contamination has been undertaken.
3.6.2	If Answer to Query 3.6.1 is "Yes", state the classification of groundwater aquifer identified in the area?	N/A	0		Select **N/A** if no risk analysis of groundwater contamination has been undertaken.
3.6.3	In relation to Query 3.6.1, is the aquifer used as a source for Public, Private or Group Water Supply Schemes?	Yes	0		Select **N/A** if no risk analysis of groundwater contamination has been undertaken.
3.7	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?	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	What percentage of storm water overflows comply with the performance criteria referred to in Query 3.7?	> 80%	10		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	Have the causes of these Capacity Deficiencies (storm water overflows & Secondary Discharges) been identified ?	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)		**250**		
3.10	Prepare Assessment of Needs & Sewer Upgrade Implementation Plan	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	Has a CCTV Survey been undertaken in accordance with WRc Documentation "Model Contract Document for Sewer Condition Inspections" and "Manual of Sewer Condition Classification" ?	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	What was this CCTV Survey Information Used for?	N/A	10		Select N/A if answer to Query 4.1 is NO.
4.3	Has the CCTV Survey been used to Assess the Structural Condition of the Sewer Network or targeted sections of the Sewer Network?	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	Have Performance Criteria been developed to determine the short, medium or long term structural condition of the sewer network ?	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 calcuating 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 calcuating 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 calcuating 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 calcuating 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 automitically set at the maximum of 140.
4.5	What % of the deficiencies, as detailed in Items 4.4.1, 4.4.2 and 4.4.3, have been rectified ?	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	Have the causes of the Structural Deficiencies (Grades 3, 4 and 5) been identified or is there a Preventative Maintenance Programme in place?	No	10		If the answer is **No**, consider further examination of the sewer network, the structural loading conditions, gradients and possible H_2S Formation. If Yes completed Query 4.7
		Total Risk Assessment Score (RAS)	**150**		

4.7	Prepare Assessment of Needs & Sewer Rehabilitation Implementation Plan	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	Are complaints of an environmental nature recorded and held in a central database?	Yes	0		Consider setting up Central Database for Complaints
5.2	Is there an emergency response procedure in place?	Yes	0		Consider setting up target response times for dealing with Complaints
5.3	What has been the highest frequency of flooding in the network due to hydraulic inadequacy, over the past 5 years?	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	What has been the highest frequency of flooding in the network due to operational causes over the past 5 years?	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.
5.5	What has been the highest frequency of surcharging of critical sewers in the network, over the past 5 years?	Once/yr	2		Select the highest number of events in any 12 month period.
5.6	What has been the highest frequency of reportable incidents in the network, over the past 5 years?	Once/yr	2		Select the highest number of events in any 12 month period.
5.7	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?	Once/yr	2		Select the highest number of events at any given Pumping Station in any 12 month period.
5.8	What has been the highest frequency of blockages in sewers in the network over the past 5 years?	0.01 - 0.05/km/yr	8		Select the highest number of events per km of sewer network in any 12 month period.
5.9	What has been the highest frequency of collapses in sewers in the network over the past 5 years?	Once/yr	4		Select the highest number of events in any 12 month period.
5.10	What has been the highest frequency of bursts in rising mains in the network over the past 5 years?	Once/yr	4		Select the highest number of events in any 12 month period.
	Total Risk Assessment Score (RAS)		30		
5.11	Prepare Up Dated Operational and Maintenance Plan				

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	135	High Risk	90%	150
Section 3.1 Environmental Risk Assessment	250	Low Risk	50%	500
Section 4.1 Structural Risk Assessment	150	High Risk	100%	150
Section 5.1 O&M Risk Assessment	30	Low Risk	15%	200
Total RAS for Network	565	High Risk	57%	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"