

**SOUTH TIPPERARY COUNTY COUNCIL**



**CLONMEL**

**WASTEWATER DISCHARGE LICENCE**

**REGISTER NUMBER D0035-01**

**ANNUAL ENVIRONMENTAL REPORT**

**1<sup>st</sup> JANUARY 2013 to DECEMBER 31<sup>ST</sup> 2013**

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## **1.0 INTRODUCTION AND EXECUTIVE SUMMARY**

### **1.1 Introduction**

The Environmental Protection Agency on 8<sup>th</sup> February 2011 granted South Tipperary County Council a Wastewater Discharge Licence (Register No D0035-01) in respect of the agglomeration named Clonmel. 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 third Annual Environmental Report (AER) for Clonmel 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 Clonmel Wastewater Treatment Plant is located at Waterford Road 1.7km east of Clonmel town centre and is designed to serve a population of 80,000. Approximately half the wastewater arising in the agglomeration is domestic in origin, with the remainder originating from commercial and trade effluent sources. The existing sewer network consists of four catchments. The network was upgraded between 1983 and 1996 with the installation of a series of interceptor and trunk sewers and storm overflow chambers. The system is predominantly combined with only the catchment to the north of the agglomeration being entirely separated.

The plant provides primary, secondary and tertiary treatment. The treatment consists of screening and grit removal; primary settlement with phosphorous reduction; primary sludge digestion followed by consolidation and sludge drying, secondary treatment, aeration and tertiary treatment. Dewatered sludge is treated by Anaerobic Digestion. Digested sludge is dewatered.

A new sludge drying facility was commissioned in 2011 and is currently in operation on the site.

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. Also attached is the Pollutant Emissions and Waste Transfers (PRTR) report which details the annual mass emission to air and water and the waste transfers.

## 1.2 Executive Summary

The Clonmel 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 3.25 mg/l against an ELV of 25 mg/l while Suspended Solids and COD had effluent values of 7.2 mg/l and 17.5 mg/l against ELV's of 35 mg/l and 125 mg/l respectively. The average effluent value for Ammonia was 1.27 mg/l against an ELV of 5mg/l.

The total influent flow for the year was 3,013,668 m<sup>3</sup> while the current flow weighted average influent BOD to the plant is 224 mg/l giving a current pe loading of 30,825. This compares with a plant design of 80,000 pe.

The average daily influent flow for the year was 8,257 m<sup>3</sup> /day against a plant design of 24,912 m<sup>3</sup>/day at 3d<sub>wf</sub> 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 No 6) show that reductions of 98.6%, 97% and 97.7% were achieved in BOD, COD and Suspended Solids respectively.

A reduction of 93.8% was achieved in the Ammonia Nitrogen levels while nutrient removal efficiencies for TP and TN were 95.4% and 62.5% respectively.

A number of exceedences were recorded in the TN effluent value during the year and an explanation of this and measures undertaken to address the exceedences are set out in the interpretation of the final effluent results 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 cBOD, COD, Suspended Solids, Total Nitrogen, Total Phosphorus, Ammonia Nitrogen, FOG 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**

Date Composite Sample	Flow M <sup>3</sup> /Day	cBOD 5d with nitrification inhib mg/l	Chemical Oxygen Demand (COD) mg/l	Suspended Solids mg/l	Ammonia Nitrogen (as N) mg/l	pH Value pH unit	Total Phosphorus (as P) mg/l	Total Nitrogen (as N) mg/l	FOG mg/l
08/01/2013	12250	150	359	213	13.1	7.4	5	25.4	25
05/02/2013	13726	155	312	241	8.3	7.4	3.91	19.5	34
07/03/2013	6680	295	602	248	19.7	7.2	5.82	33.8	46
09/04/2013	7390	235	406	185	18.3	7.4	4.51	31.5	29
08/05/2013	11190	260	495	323	10.9	7.3	5.53	23.8	31
11/06/2013	7230	370	1,335	882	23.6	7.1	16.26	62.1	97
03/07/2013	5610	250	775	462	16	7.3	9.45	42.2	69
21/08/2013	5855	255	641	223	30.9	7.7	7.19	45.6	38
03/09/2013	7210	180	472	242	25.2	7.4	6.41	37.5	97
08/10/2013	8220	225	518	254	20.2	7.5	5.77	34	25
06/11/2013	7920	205	337	142	19.3	7.3	4.61	28.1	17
03/12/2013	6080	215	539	301	29.2	7.6	8.07	42.1	36
<b>No of Samples</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>
<b>Annual Max</b>	<b>13726</b>	<b>370</b>	<b>1335</b>	<b>882</b>	<b>30.9</b>	<b>7.7</b>	<b>16.26</b>	<b>62.1</b>	<b>97</b>
<b>Mean Value</b>	<b>8280</b>	<b>232.9</b>	<b>566.9</b>	<b>309.7</b>	<b>19.6</b>	<b>7.4</b>	<b>6.88</b>	<b>35.5</b>	<b>45</b>

#### Calculation of the Population Equivalent load to the WWTP

The total influent for the year 2013 was 3,013,668 m<sup>3</sup>. The average daily influent flow was 8,257 m<sup>3</sup>

The flow weighted averaged influent BOD as calculated per Table 2 below is 224 mg/l

The Clonmel 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 = (3,013,668 x 224) / (0.06 x 365 x 1000) = **30,825**

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

	Flow in (m3/day)	cBOD 5d with nitrification inhib (mg/l)	cBOD (Kg/day)
08/01/2013	12250	150	1837.5
05/02/2013	13726	155	2127.53
07/03/2013	6680	295	1970.6
09/04/2013	7390	235	1736.65
08/05/2013	11190	260	2909.4
11/06/2013	7230	370	2675.1
03/07/2013	5610	250	1402.5
21/08/2013	5855	255	1493.025
03/09/2013	7210	180	1297.8
08/10/2013	8220	225	1849.5
06/11/2013	7920	205	1623.6
03/12/2013	6080	215	1307.2
<b>Totals 2013</b>	<b>99361 M3</b>		<b>22230.41 Kg</b>

The flow weighted average BOD is  $22,230.41\text{Kg} \times 1000 / 99361 \text{ m}^3 = 223.7\text{mg/l}$

## 2.2 Discharges from the agglomeration

Presented below in Tables are the primary discharge point monitoring results for the parameter as set out in Schedule B of the licence and a summary of the effluent monitoring and an interpretation of the 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).**

	<b>BOD</b>	<b>COD</b>	<b>SS</b>	<b>Ammonia</b>	<b>pH</b>	<b>TP</b>	<b>Ortho P</b>	<b>TN</b>	<b>OFG</b>
ELV	25 mg/l	125 mg/l	35 mg/l	5 mg/l	6 to 9	2 mg/l	1.5 mg/l	15 mg/l	
2/1/2013	2	15	3	0.1	8.1	0.38	0.31	10.4	
8/1/2013	6	27	20	0.1	8	0.66	0.26	17.1	5
5/2/2013	6	18	14	0.1	7.6	0.34	0.11	10.1	
20/2/2013	3	15	14	0.1	8.1	0.39	0.31	10.2	5
7/3/2013	2	15	8	0.2	8	0.29	0.19	13.8	
20/3/2013	2	15	3	0.1	8.1	0.89	0.76	14	5
9/4/2013	4	18	6	0.4	8.1	0.25	0.13	17.3	
24/4/2013	3	17	8	0.3	7.8	0.21	0.07	13.8	5
8/5/2013	6	22	10	3.2	8.1	1.01	0.83	14.9	
29/5/2013	3	18	6	4.6	7.9	0.33	0.2	20.8	5
12/6/2013	5	24	11	4	7.7	0.26	0.07	14.2	
25/6/2013	2	15	5	0.1	8	0.13	0.04	16.2	5
3/7/2013	2	15	9	0.1	8.2	0.41	0.27	9.9	
17/7/2013	2	19	5	0.4	8.2	0.15	0.04	12.6	5
21/8/2013	2	19	3	1.5	8.1	1.06	0.96	12.2	
28/8/2013	2	15	3	0.5	7.4	0.15	0.07	11.5	5
3/9/2013	2	15	3	0.1	8.2	0.12	0.05	11.5	
17/9/2013	2	16	5	0.1	8.2	0.18	0.13	12.5	5
9/10/2013	2	15	3	0.1	8.2	0.08	0.03	11.3	
23/10/2013	9	23	17	0.4	7.6	0.34	0.03	6.7	5
6/11/2013	4	15	5	4.9	7.8	0.14	0.03	9.9	
19/11/2013	2	15	3	5.6	7.8	0.09	0.03	14.4	5
3/12/2013	3	19	5	3.4	7.9	0.09	0.03	16.5	
17/12/2013	2	15	3	0.1	7.8	0.06	0.03	9.2	5
<b>No of Samples</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>12</b>
<b>Annual Max</b>	<b>9</b>	<b>27</b>	<b>20</b>	<b>5.6</b>	<b>8.2</b>	<b>1.06</b>	<b>0.96</b>	<b>20.8</b>	<b>5</b>
<b>Annual Mean</b>	<b>3.25</b>	<b>17.5</b>	<b>7.2</b>	<b>1.27</b>	<b>7.6</b>	<b>0.33</b>	<b>0.21</b>	<b>13.0</b>	<b>5</b>



**Table 4: Summary of the Effluent Monitoring and Compliance for 2013.**

	cBOD	COD	SS	TN	TP	Amm	pH
WWDL ELV	25 mg/l	125mg/l	35 mg/l	15 mg/l	2 mg/l	5 mg/l	6 to 9
No of sample results	24	24	24	24	24	24	24
No of sample results above ELV	0	0	0	5	0	0	0
No of sample results above ELV with Condition 2 interpretation	0	0	0	1	0	0	0
Overall Compliance	Pass	Pass	Pass	Fail	Pass	Pass	Pass

### ***Interpretation of Results***

There were 5 exceedences in total for TN against an Emission Limit Value (ELV) of 15mg/l as set out in the licence. However only 1 of these exceedences falls outside the allowable range as set out in Condition 2 (Interpretation) of the licence. The annual average figure of 13.0 mg/l for TN was within the Emission Limit Value set of 15mg/l. Process optimisation works during the year have resulted in a more consistent final effluent value for TN and it is intended to maintain this improvement in 2014. The optimisation works included the conversion of one of the aeration basins into an anoxic zone. There was also one exceedence in relation to Ammonia (5.6 mg/l) but this was within the allowable range by interpretation of Condition 2 of the Licence.

**Table 5: Clonmel WWTP Primary discharge point daily 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	14410	14230	6872	7296	7310	7290	3770	10530	5010	12100	10430	4160
2	11164	14050	9270	6824	6750	5350	5320	9020	3860	11930	9360	5880
3	11726	10800	5680	6960	6890	5330	5590	8820	5370	10220	6150	5990
4	12028	10680	5670	6920	8760	5020	5480	6700	4820	7620	7230	5360
5	11522	13726	6030	7040	6380	5580	5920	4270	5260	4960	7845	5370
6	9500	13102	6805	7500	5190	5900	5540	3960	4920	4760	9875	5320
7	8240	13132	6845	5620	5460	6020	4690	4910	7160	6250	7100	4513
8	11560	13170	10560	6540	11260	6320	4700	4990	7320	5680	7210	4327
9	12090	13960	8180	7700	8430	5615	5380	8540	4180	5960	8090	4990
10	10880	11810	9400	7190	7930	4805	4950	3514	5200	6010	10430	5620
11	9880	10130	8320	8080	7070	7230	5020	4256	5220	6280	8260	6370
12	11760	12150	5970	10460	7140	7120	4870	4140	4866	4930	8170	8090
13	8970	11590	5750	9390	5690	6860	5620	4990	4994	4690	7760	8690
14	6960	12440	8040	8840	6266	6430	4890	5100	4950	5160	8780	10150
15	8230	12970	8367	7260	7584	13330	3660	5810	4572	5610	9330	7860
16	9320	13490	8563	10920	6760	5190	5130	7650	4388	10040	5250	7790
17	9324	9220	6750	8640	7020	9490	5640	5490	6230	6160	5690	9130
18	13996	9580	6877	12850	7820	7290	5687	4810	9320	12770	6530	12200
19	16760	9560	6243	8260	6170	6760	5273	4630	5070	8190	6720	9240
20	13510	9114	6910	8830	5880	6450	5090	4960	5140	8180	6620	13680
21	11100	8656	6930	10400	6650	4740	4290	5730	5570	13670	6170	14240
22	14400	8680	15980	6420	6800	6530	4730	5150	3540	11200	6320	11960
23	13680	7770	15580	7060	5770	5060	5180	5034	3230	8010	5100	16070
24	12150	6750	12790	7182	6015	5500	8060	5556	5500	13820	5130	13650
25	11880	6560	6580	7458	6605	6120	6220	4650	4980	14580	6030	9800
26	24540	7490	10120	7660	5920	5420	5080	3920	5270	12370	5650	13790
27	15130	7360	10070	8450	8540	5160	6460	5150	5250	9660	5627	13170
28	13600	7238	9420	5630	8940	6010	4670	5120	5320	10350	5263	10520
29	15300		8400	6230	7400	6600	4550	5710	4370	8110	6240	17830
30	9800		670	7100	6740	5230	6286	5380	5550	9150	5740	17830
31	5360		688		6320		8104	5250		7630		16970

### 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.

**Table 6 Ambient monitoring at aSW-IU upstream of SW1 Clonmel (222045E, 122721N)**

Station Location	Sample Date	Ammonia (mg/l)	BOD (mg/l)	DO (mg/l)	Ortho P (mg/l)	pH (value)	Temp deg C	TN (mg/l)	TP (mg/l)
Upstream of SW1	24/01/2013	0.08	1.10	12.2	0.02	7.96	4.80	2.90	0.04
Upstream of SW1	12/02/2013	0.23	0.43	11.2	0.03	7.94	7.80	2.60	0.147
Upstream of SW1	20/03/2013	0.05	0.13	11.3	0.02	8.14	8.20	3.40	0.0196
Upstream of SW1	17/04/2013	0.09	1.10	10.5	0.01	8.15	11.8	5.70	0.1
Upstream of SW1	08/05/2013	ND	2.94	9.98	BLD	7.88	12.5	2.90	0.08
Upstream of SW1	26/06/2013	0.06	1.19	11.0	0.05	8.30	16.1	6.10	0.18
Upstream of SW1	17/07/2013	0.31	1.09	10.6	0.26	8.41	21.0	4.60	0.09
Upstream of SW1	22/08/2013	0.01	2.01	10.7	0.04	8.34	21.6	2.20	BLD
Upstream of SW1	26/09/2013	0.01	10.20	9.98	0.02	8.11	16.4	2.10	0.04
Upstream of SW1	17/10/2013	0.03	2.32	9.97	0.06	7.92	12.7	<0.2	0.23
Upstream of SW1	19/11/2013	0.03	0.14	11.5	0.02	7.94	8.50	4.60	0.042

**Table 7 Ambient monitoring at aSW-Id downstream of SW1 Clonmel (223018E, 123080N)**

Station Location	Sample Date	Ammonia (mg/l)	BOD (mg/l)	DO (mg/l)	Ortho P (mg/l)	pH (unit)	Temp deg C	TN (mg/l)	TP (mg/l)
Downstream of SW1	24/01/2013	0.10	1.07	11.61	0.02	8.02	6.00	0.80	0.02
Downstream of SW1	12/02/2013	0.21	0.73	10.92	0.03	7.95	8.50	5.80	0.052
Downstream of SW1	20/03/2013	0.07	0.38	11.64	0.02	8.15	7.00	2.90	0.0293
Downstream of SW1	17/04/2013	0.12	0.98	10.54	0.01	8.15	11.6	1.80	0.09
Downstream of SW1	08/05/2013	0.02	0.78	8.34	0.02	7.79	12.5	2.60	0.07
Downstream of SW1	26/06/2013	0.04	0.68	11.12	0.04	8.27	16.8	2.70	0.09
Downstream of SW1	17/07/2013	0.19	1.64	10.99	0.08	8.44	NT	4.40	0.08
Downstream of SW1	22/08/2013	0.07	1.60	11.67	0.04	8.42	20.4	1.70	0.007
Downstream of SW1	26/09/2013	0.09	1.04	10.27	0.02	8.12	16.3	2.50	0.13
Downstream of SW1	17/10/2013	0.01	1.87	9.75	0.05	7.85	12.8	5.80	0.18
Downstream of SW1	19/11/2013	0.08	0.08	11.60	0.02	7.93	8.00	4.60	0.071

**Table 8: Ambient Monitoring Summary Table**

<b>Ambient Monitoring Point from WWDL</b>	<b>Irish Grid Reference</b>	<b>EPA Feature Coding Tool code</b>	<b>Is discharge impacting on water quality</b>
<b>aSW-IU upstream of SW1</b>	222045E, 122721N	TBC	No
<b>aSW-ID downstream of SW1</b>	223018E, 123080N	TBC	No

**Interpretation:**

A review of the ambient monitoring results carried out by the Environment Section of the Council confirms that the discharge is not having any significant impact on the quality of the receiving water.

A Small Streams Risk Score (SSRS), which is a biological assessment designed to detect sources of pollution to watercourses was not carried out in 2013 as it was unsafe to enter 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 first quarter of 2014.

**2.5 Pollutant Release and Transfer Register (PRTR)**

This information has been submitted electronically to the EPA. Both the AER and PRTR Emissions Data information (i.e all relevant worksheets including the Facility ID and Activities sheet) for 2013 has been printed out and included in this section of the AER -see Appendix A attached.

### 3.0 OPERATIONAL REPORTS SUMMARY.

#### 3.1 Treatment Efficiency Report

Presented below is a summary of the efficiency treatment process for the various parameters set out in the licence including influent mass loading and effluent mass emission in Kg/day.

**Table 9: Treatment Efficiency Report Summary Table**

	cBOD 5d with nitrification inhib	Chemical Oxygen Demand (COD)	Suspended Solids	Ammonia Nitrogen (as N)	Total Phosphorus (as P)	Total Nitrogen (as N)
Influent mass loading (Kg/day)	1923	4672	2557	161.8	56.8	293
Effluent mass emission (Kg/day)	25.4	137	56.3	10	2.6	102
%Efficiency (% reduction of influent load)	98.6%	97%	97.7%	93.8%	95.4%	62.5%

#### 3.2 Treatment Capacity Report

Presented below is a summary of the current and remaining treatment capacity of the treatment process and shows the both the remaining hydraulic and organic capacities available at the plant.

**Table 10: Treatment Capacity Report Table**

<b>Hydraulic Capacity – Design</b>	24,912 m3 /day @ 3dwf
<b>Hydraulic Capacity – Current Loading</b>	8,257 m3/day
<b>Hydraulic Capacity – Remaining</b>	16,655 m3/day
<b>Organic Capacity – Design (pe)</b>	80,000 pe
<b>Organic Capacity – Current loading (pe)</b>	30,825 pe
<b>Organic Capacity – Remaining (pe)</b>	49,175 pe
<b>Will the capacity be exceeded in the next 3 years</b>	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 6 recorded incidents in relation to the Clonmel Wastewater Treatment Plant in 2013. These were in relation to exceedences in Total Nitrogen (5 No) and Ammonia (1 No)

*Table 12: Incidents Summary*

Date and Time	Incident Description	Cause	No of Incidents	Corrective Action	Authorities Contacted	Reported EPA	Closed (Y/N)
2013	Exceedence in TN	High TN Influent and process control	5	Process changes	STCC	Yes	To monitor
2013	Exceedence in Ammonia	Higher influent levels Than normal	1	Reverted to normal soon after	STCC	No	Yes

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

No of Incidents in 2013	Six (5 in relation to TN exceedence and 1 for Ammonia)
Number of Incidents reported to the EPA via EDEN in 2013.	Three (in relation to TN exceedence)
Explanation of any discrepancies between the two numbers above.	TN exceedences reported by interpretation of licence. Ammonia not reported (by interpretation of licence)



## 4.0 INFRASTRUCTURAL ASSESSMENT & PROGRAMME OF IMPROVEMENTS

### 4.1 Storm Water Overflow Identification and Inspection Report

A detailed report on the storm water overflows for the Clonmel Agglomeration was prepared and included in the 2012 AER submission to the EPA (submitted in February 2013).

The summary and conclusions from the report states that there were 15 No storm water discharges identified within the Clonmel agglomeration. Of these, 2 are culverted tributaries of the River Suir which receives discharges from the storm water sewer network. One outfall is the overflow from the stormwater storage tank at Clonmel WWTP.

Each overflow was assessed on its performance in relation to the DoEHLG document 'Procedures and Criteria in Relation to Storm Water Overflows' 1995. A visual inspection was carried out on each outfall. Records with regard to public complaints were consulted. Available EPA data on water quality in the River Suir was also reviewed.

On the basis of the inspections carried out and the records available, each overflow appears too be complaint with the requirements of the DoEHLG. Presented below in tables 14 is a summary of the SWO Identification and Inspection. There is no additional information or update to this SWO report in 2013.

Is each SWO Identified as non-complaint with DoEHLG included in the Programme of Improvements	No SWO Identified as non-compliant
The SWO assessment includes the requirements of Schedule A3 and C3	No Improvement works specified in the Licence No Discharge is required to be discontinued
Have the EPA been advised of any additional SWO's / changes to Schedule C3 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 to meet the Improvement programme requirements.

There were no specific Improvement work proposals developed in 2013 and none are specifically set out or identified in the discharge licence.

#### 4.3 Sewer Integrity Risk Assessment (and associated improvement works)

A sewer integrity risk assessment for the Clonmel Agglomeration was carried out in 2012 and was included in the 2012 AER submission to the EPA. A summary of this assessment is presented 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	120	High Risk	80 %	150
Section 3.1 Env Risk Assessment	350	Medium Risk	70 %	500
Section 4.1 Structural Risk Assessment	145	High Risk	97 %	150
Section 5.1 O and M Risk Assessment	124	Medium Risk	62 %	200
<b>Total RAS for Network</b>	<b>739</b>	<b>High</b>	<b>74 %</b>	<b>1000</b>

Funding is being sought through budget submissions for 2014 for funds that will allow a more comprehensive and detailed assessment of the sewers to the standards set out in the Sewer Integrity Risk Assessment Tool facility.



## 5.0 LICENCE SPECIFIC REPORTS

### 5.1 Priority Substances Assessment

Condition 4.11 of the licence requires that a representative sample of the effluent shall be taken and screened for the presence of organic compounds and metals. Testing for these were carried out in 2013 and the results are presented below in table 16.

**Table 16: Summary report on Testing for the presence of organic compounds and metals**

Sample No: 76/80204

Sampling Date: 18/12/2013 (Effluent)

Test Description	Test Result	Unit
Glyphosphate	<2.00	ug/l
Di(2-ethylhex)phthalate	<10	ug/l
2,6-dichlorobenzamide (BAM)	<0.10	ug/l
Diuron	<0.05	ug/l
Isoproturon	<0.05	ug/l
Dichlobenil	<2	ug/l
Dieldrin	<4	ug/l
Isodrin	<4	ug/l
Linuron	<0.05	ug/l
Atrazine	<0.020	ug/l
Simazine	<0.020	ug/l
2,4-D	<0.05	ug/l
MCPA	<0.05	ug/l
Mecoprop	<0.04	ug/l
Arsenic	0.25	ug/l
Boron	1	ug/l
Cadium	0.05	ug/l
Chromium	0.05	ug/l
Copper	0.05	ug/l
Lead	0.05	ug/l
Mercury	0.1	ug/l
Nickel	0.1	ug/l
Selenium	1	ug/l
Flouride	0.2	mg/l
Chloride	0.1	mg/l
Zinc	0.05	ug/l

Note: Selected parameters are listed above.

**Comment:** A review of the results by the Executive Chemist indicates that there are no results of concern with most results below detectable levels, while for those above detectable levels, none that are of concern – Zinc, Boron and Chloride are present but are not abnormal or unexpected.

## **5.2 Outstanding Reporting Requirements (Previous AER's)**

### **5.2.1 Ambient Monitoring**

Ambient monitor (both upstream and downstream) was carried out for the Clonmel agglomeration in 2012. However the TP parameter was not tested for in the frequency required in Schedule B of the discharge licence. However this testing was carried out in 2013 and is included in the returns for the 2013 AER. The sampling results for TP (mg/l) taken in 2012 are shown below.

<b>Date</b>	<b>Location</b>	<b>TP value (mg/l)</b>
16/08/2012	Upstream	0.186
16/08/2012	Downstream	0.189
18/09/2013	Upstream	0.05
18/09/2013	Downstream	0.16
06/12/2013	Upstream	0.02
06/12/2013	Downstream	0.01

### **5.2.2 Sewer Integrity Assessment (associated Improvement works)**

The Sewer Integrity Risk Assessment for the Clonmel Agglomeration was carried out in 2012. It would have indicated a High risk for the hydraulic and structural elements of the assessment. However this result is based on the fact that assessment of the network to the standards set out in the assessment tool was not possible. The assessment was based only on a visual assessment and a review of existing sewer layout maps and data.

Funding is being sought through budget submissions for 2014 for funds that will allow a more comprehensive and detailed assessment of the sewers to the standards set out in the Sewer Integrity Risk assessment tool facility. This in turn should allow for development of an appropriate improvement works programme if required.

**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 D0035-01 in respect of the Clonmel Agglomeration is representative and accurate.

Signed



Dated: 28/04/14

**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

<b>REFERENCE YEAR</b> 2013
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## 1. FACILITY IDENTIFICATION

Parent Company Name	South Tipperary County Council
Facility Name	Clonmel Waste Water Treatment Plant
PRTR Identification Number	D0035
Licence Number	D0035-01

### Waste or IPPC Classes of Activity

No.	class_name
30.4	General

Address 1	County Hall
Address 2	Clonmel
Address 3	County Tipperary
Address 4	
	Tipperary
Country	Ireland
Coordinates of Location	-7.67338 52.3573
River Basin District	IESE
NACE Code	3700
Main Economic Activity	Sewerage
AER Returns Contact Name	Denis Holland
AER Returns Contact Email Address	denis.holland@southtippoco.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	Reductions were achieved in the average Final effluent values for TP, BOD, COD, SS and Ortho P as result of improved plant performance and reduced hydraulic loading from 2012 to 2013. Higher Ammonia value possible due to impact of Industry.
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



4.2 RELEASES TO WATERS

[Link to previous years emissions data](#)

[PRTR# - 20005] Facility Name - Clornid/Masee Water Treatment Plant | Filename - DM205\_2013.xls | Release Year - 2013

2013/03/14 15:08

Data on ambient monitoring of stormwater, wet or groundwater, conducted as part of your license requirements, should NOT be submitted under AER / PRTR Reporting as this only concerns releases to air. Please enter all quantities in this section in KGs.

No. Annex II	POLLUTANT	Name	M/C/E	Method Code	Method Used Designation or Description	QUANTITY			
						Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
24	1,2-dichloroethane (EDC)		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
25	Achlor		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
26	Adm		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
51	Anthracene		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
17	Aromatic acid compounds (as As)		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
37	Azaxin		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
57	Benzene		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
51	Benzoyl hydroxide		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
63	Brominated diphenyl ethers (BDEs)		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
18	Calcium acid compounds (as Ca)		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
28	Chloroalkanes, C10-C13		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
29	Chloroalkanes, C10-C13		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
30	Chloroalkanes, C10-C13		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
76	Chloroalkanes, C10-C13		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
51	Chloroalkanes, C10-C13		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
52	Chloroalkanes, C10-C13		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
19	Chromium and compounds (as Cr)		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
20	Copper and compounds (as Cu)		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
82	Cyanides (as total CN)		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
33	DDT		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
70	Di-C-4(4H) bis(4H) phthalate (DBHP)		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
35	Dichloromethane (DCM)		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
36	Dioxin		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
57	Duron		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
38	Endosulfatin		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
39	Endosulfatin		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
65	Ethyl benzene		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
58	Fluorocarbene		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
83	Fluorides (as total F)		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
40	Halogenated organic compounds (as AOX)		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
41	Heptachlor		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
60	Hexabromobiphenyl		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
42	Hexachlorobenzene (HCB)		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
43	Hexachlorobenzene (HCB)		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
44	Hexachlorobenzene (HCB)		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
86	Heptachlor		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
57	Isopropyl alcohol		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
46	Lead and compounds (as Pb)		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
23	Urdane		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
46	Mercury and compounds (as Hg)		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
21	Misc		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
68	Naphthalene		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
22	Nickel and compounds (as Ni)		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
69	Nonylphenol and Nonylphenol ethoxylates (NPN/PEs)		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
87	Octylphenols and Octylphenol ethoxylates		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
49	Organic compounds (as total Sn)		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
48	Pentachlorobenzene		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
48	Pentachlorobenzene (PCP)		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
71	Phenols (as total C)		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
50	Polychlorinated biphenyls (PCBs)		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
72	Polycyclic aromatic hydrocarbons (P-Ha)		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
51	Styrene		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
52	Tetrachloroethylene (PER)		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
53	Tetrachloroethylene (TCM)		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
73	Toluene		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
12	Total nitrogen		M	OTH	EPA WWTP Tool	37230.0	0.0	0.0	0.0
78	Total organic carbon (TOC) (as total C or CO2-S)		F	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
13	Total phosphorus		M	OTH	EPA WWTP Tool	948.0	0.0	0.0	0.0
56	Toxaphene		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0
74	Trachloroethylene and compounds		E	OTH	EPA WWTP Tool	0.0	0.0	0.0	0.0

No.	POLLUTANT	M/C/E	Method Code	Method Used Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
64	Trichlorobenzene (TCB) (all isomers)	E	OTH	EPA WWTP Tool		0.0	0.0	0.0
65	Trifluoroethylene	E	OTH	EPA WWTP Tool		0.0	0.0	0.0
77	Trifluorath	E	OTH	EPA WWTP Tool		0.0	0.0	0.0
78	Triphenylam and compounds	E	OTH	EPA WWTP Tool		0.0	0.0	0.0
80	Vinyl chloride	E	OTH	EPA WWTP Tool		0.0	0.0	0.0
79	Xylenes	E	OTH	EPA WWTP Tool		0.0	0.0	0.0
84	Zinc and compounds (as Zn)	E	OTH	EPA WWTP Tool		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		Please enter all quantities in this section in KGs						
No. #incol II	POLLUTANT	Name	Method Code	Method Used Designation or Description	QUANTITY			
					Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

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

SECTION C : REMAINING POLLUTANT EMISSIONS (as required in your Licence)		Please enter all quantities in this section in KGs						
Pollutant No.	POLLUTANT	Name	M/C/E	Method Code	Method Used Designation or Description	QUANTITY		
						Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year
303	BOD		M	OTH	Standard	9271.0	9271.0	0.0
308	CO2		M	OTH	Standard	50005.0	50005.0	0.0
240	Supersaturated Solids		M	OTH	Standard	20550.0	20550.0	0.0
238	Ammonia (as N)		M	OTH	Standard	3650.0	3650.0	0.0
337	Ortho-phosphates (as P)		M	OTH	Standard	600.0	600.0	0.0

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

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE | FRT09-00038 | Facility Name: Cleared Wastewater Treatment Plant | File Name: 00032\_2015.xls | Return Year: 2013 |

Please enter all quantities on this sheet in Tonnes

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz. Waste: Name and Licence/Permit No of Next Destination Facility Haz. Waste: Name and Licence/Permit No of Recover/Disposer	Haz. Waste: Address of Next Destination Facility Non-Haz. Waste: Address of Recover/Disposer	Name and Licence / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/CE	Method Used					
Within the Country	19 08 01	No	34.46	screenings	D8	M	Weighted	Offsite in Ireland	Mr Birman, WCP/KK/09/068/AV 0	Clonmel, Clonmel, Clonmel, Co Tipperary, Ireland		
Within the Country	19 08 05	No	628.91	sludges from treatment of urban waste water	D8	M	Weighted	Offsite in Ireland	OD Recycling, WFP-TS-10-0002-02	Ballyboe, Kilsheelan, Clonmel, Co Tipperary, Ireland		
Within the Country	19 06 05	No	0.0	sludges from treatment of urban waste water	D8	M	Weighted	Offsite in Ireland	OD Recycling, WFP-TS-10-0002-02	Ballyboe, Kilsheelan, Clonmel, Co Tipperary, Ireland		

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

[Link to previous years waste data](#)

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

[Link to Waste Guidance](#)