

# Annual Environmental Report

2019



Courtmacsherry

D0294-02

## **CONTENTS**

### **1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2019 AER**

- 1.1 ANNUAL STATEMENT OF MEASURES
- 1.2 TREATMENT SUMMARY
- 1.3 ELV OVERVIEW
- 1.4 LICENSE SPECIFIC REPORT INCLUDED IN AER

### **2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY**

- 2.1 COURTMACSHERRY SEPTIC TANK - UNTREATED DISCHARGE
  - 2.1.1 EFFLUENT MONITORING SUMMARY - COURTMACSHERRY SEPTIC TANK -
  - 2.1.2 AMBIENT MONITORING SUMMARY FOR UNTREATED DISCHARGE -

### **3 COMPLAINTS AND INCIDENTS**

- 3.1 COMPLAINTS SUMMARY
- 3.2 REPORTED INCIDENTS SUMMARY
  - 3.2.1 SUMMARY OF INCIDENTS
  - 3.2.2 SUMMARY OF OVERALL INCIDENTS

### **4 INFRASTRUCTURAL ASSESSMENT AND PROGRAMME OF IMPROVEMENTS**

- 4.1 STORM WATER OVERFLOW IDENTIFICATION AND INSPECTION REPORT
  - 4.1.1 SWO IDENTIFICATION AND INSPECTION SUMMARY REPORT
- 4.2 REPORT ON PROGRESS MADE AND PROPOSALS BEING DEVELOPED TO MEET THE IMPROVEMENT PROGRAMME REQUIREMENTS
  - 4.2.1 SPECIFIED IMPROVEMENT PROGRAMME SUMMARY
  - 4.2.2 IMPROVEMENT PROGRAMME SUMMARY
  - 4.2.3 SEWER INTEGRITY RISK ASSESSMENT

### **5 LICENCE SPECIFIC REPORTS**

- 5.1 PRIORITY SUBSTANCES ASSESSMENT

### **6 CERTIFICATION AND SIGN OFF**

- 6.1 SUMMARY OF AER CONTENTS

### **7 APPENDIX**

- 7.1 AMBIENT MONITORING SUMMARY
- 7.2 OTHER

# 1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2019 AER

This Annual Environmental Report has been prepared for D0294-02, Courtmacsherry, in Cork in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified reports where relevant are included as an appendix to the AER.

## 1.1 ANNUAL STATEMENT OF MEASURES

A summary of any improvements undertaken is provided where applicable.

Septic Tank was decommissioned as a New WWTP was commissioned and operational from 14 Nov 2019.

## 1.2 TREATMENT SUMMARY

- There was no treatment provided at Courtmacsherry before November 2019, when flows were diverted to a new WWTP with a 2,500 PE. Please refer to section 4 for details of the Programme of Improvements.

## 1.3 ELV OVERVIEW

The overall compliance of the final effluent with the Emission Limit Values (ELVs) is shown below. More detailed information on the below ELV's can be found in Section 2.

Discharge Point Reference	Treatment Plant	Discharge Type	Compliance Status	Parameters failing if relevant
<b>TPEFF0500D0294SW001</b>	Courtmacsherry Septic Tank	Untreated	The agglomeration was untreated until November 2019. The effluent has been compliant since the operation of the new WWTP from November 2019	Pre-construction of the new WWTP the effluent failed to comply with ELVs for BOD, COD & SS.

## 1.4 LICENCE SPECIFIC REPORTING INCLUDED IN AER

Assessment / Report	Included in AER
<b>There are no Licence Specific Reports included in the AER.</b>	

## 2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

### 2.1.1 INFLUENT MONITORING SUMMARY

No influent monitoring was carried out for the septic tank.

A new WWTP was commissioned in November 2019. Influent monitoring associated with the new WWTO is included in Appendix 7.2 of this AER.

### 2.1.2 EFFLUENT MONITORING SUMMARY – SW001

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
<b>BOD</b>	25	50	N/A	5	4	3	75.86	Fail
<b>COD</b>	125	250	N/A	5	4	1	170.7	Fail
<b>SS</b>	35	87.5	N/A	5	4	2	57.25	Fail

Notes:

1 – This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied

#### Cause of Exceedance(s):

**Plant overloaded (results predominantly relate to untreated discharge).**

#### Significance of Results:

The effluent was untreated until November 2019, and was not compliance with the limits set in the Discharge Licence up to this point. A new WWTP was commissioned and operated in November 2019. Effluent standards have been achieved since the date of operation.

Similarly, secondary discharges associated with the agglomeration did not meet the licence ELVs in 2019. The monitoring data associated with these discharges are included in Appendix 7.2. The licence secondary discharges were similarly decommissioned in 2019.

### 2.1.3 AMBIENT MONITORING SUMMARY FOR THE UNTREATED DISCHARGE TPEFF0500D0294SW002

A summary of monitoring from ambient monitoring points associated with the wastewater discharge is provided in the sections below. For discharges to rivers upstream (U/S) and downstream (D/S) location data is provided. For other ambient points in lakes, coastal or transitional waters, monitoring data from the most appropriate monitoring station is selected.

The table below provides details of ambient monitoring locations and details of any designations as sensitive areas.

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	River Station Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Status
Upstream Monitoring Point - Inchy Bridge	146445 45774	TW05003171AR1001	No	No	No	No	Poor
Upstream Monitoring Point - Spittal Bridge	146890 42705	TW05003171AR1011	No	No	No	No	Poor
Downstream Monitoring Point	151707 42994	TW05003171AR1009	No	No	No	No	Poor

The results for ambient results and / or additional monitoring data sets are included in the **Appendix 7.1 - Ambient monitoring summary**

#### Significance of Results:

The WWTP discharge was not compliant with the ELV's set in the wastewater discharge licence.

The ambient monitoring results does not meet the required EQS. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

A deterioration in water quality in relation to DIN has been identified, however it is not known if it or is not caused by the WWTP.

Other causes of deterioration in water quality in the area are: Catchment/Coastal Processes

The discharge from the wastewater treatment plant does not have an observable negative impact on the Water Framework Directive status.

Any other known impacts: Catchment/Coastal processes



## 3 COMPLAINTS AND INCIDENTS

### 3.1 COMPLAINTS SUMMARY

A summary of complaints of an environmental nature is included below.

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
<b>There were no relevant environmental complaints in 2019.</b>			

### 3.2 REPORTED INCIDENTS SUMMARY

Environmental incidents that arise in an agglomeration are reported on an on-going basis in accordance with our waste water discharge licences. Where an incident occurs and it is reportable under the licence, it is reported to the Environmental Protection Agency through their Environmental Data Exchange Network, or in some instances by telephone. Some incidents which arise in the agglomeration are recorded by Irish Water but may not be reportable under our licence for example where the incident does not have an impact on environmental performance.

A summary of reported incidents is included below.

#### 3.2.1 SUMMARY OF INCIDENTS

Incident Type	Cause	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
<b>Breach of ELV</b>	WWTP upgrade required to meet ELV	1	Yes	No

### 3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2019	1
Number of Incidents reported to the EPA via EDEN in 2019	1
Explanation of any discrepancies between the two numbers above	N/A

## 4 INFRASTRUCTURAL ASSESSMENTS AND PROGRAMME OF IMPROVEMENTS

### 4.1 STORM WATER OVERFLOW IDENTIFICATION AND INSPECTION REPORT

A summary of the operation of the storm water overflows and their significance where known is included below:

#### 4.1.1 SWO IDENTIFICATION

WWDL Name / Code for Storm Water Overflow	Irish Grid Ref.	Included in Schedule A4 of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2019 (No. of events)	Total volume discharged in 2019 (m3)	Monitoring Status
SW002	150732, 42818	Yes	Low	Not yet Assessed	Unknown	Unknown	Not Monitored
SW003	151498, 42565	Yes	Low	Not yet Assessed	Unknown	Unknown	Not Monitored
SW005	147090, 43460	Yes	Unknown	Not yet Assessed	Unknown	Unknown	Not Monitored
SW004	150038, 42674	Yes	Low	Not yet Assessed	Unknown	Unknown	Not Monitored

#### SWO Summary

How much sewage was discharged via SWOs in the agglomeration in the year (m3)?

Unknown

Is each SWO identified as not meeting DoEHLG Guidance included in the Programme of Improvements?	Yes
The SWO Assessment included the requirements of relevant of WWDL schedules?	Not yet assessed
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	No

## 4.2 REPORT ON PROGRESS MADE AND PROPOSALS BEING DEVELOPED TO MEET THE IMPROVEMENT PROGRAMME REQUIREMENTS.

### 4.2.1 SPECIFIED IMPROVEMENT PROGRAMME SUMMARY

A wastewater discharge licence may require a number of reports on specific subject areas to be prepared for the agglomeration in question. These reports are submitted to the EPA as part of the Annual Environmental Report. This section provides list of the various reports required for this agglomeration and a brief summary of their recommendations.

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
<b>D0294-SIP:01</b>	Appropriate improvements to ensure compliance with the emission limit values as set out in Schedule A: Discharges and Discharge Monitoring, of this licence.	C1	31/12/2019	N	Completed		
<b>D0294-SIP:02</b>	Discharge to be discontinued: SW006	C2	31/12/2019	N	Completed		
<b>D0294-SIP:03</b>	Discharge to be discontinued: SW007	C2	31/12/2019	N	Completed		

<b>D0294-SIP:04</b>	Discharge to be discontinued: SW008	C2	31/12/2019	N	Completed		
<b>D0294-SIP:05</b>	Discharge to be discontinued: SW009	C2	31/12/2019	N	Completed		
<b>D0294-SIP:06</b>	Discharge to be discontinued: SW010	C2	31/12/2019	N	Completed		
<b>D0294-SIP:07</b>	Discharge to be discontinued: SW011	C2	31/12/2019	N	Completed		
<b>D0294-SIP:08</b>	Improvement works to ensure compliance with Condition 1.7 of this licence	C1	31/12/2019	N	Completed		

A summary of the status of any improvements identified by under Condition 5.2 is included below.

## 4.2.2 IMPROVEMENT PROGRAMME SUMMARY

Improvement Identifier	Improvement Description / or any Operational Improvements	Improvement Source	Expected Completion Date	Comments
<b>There are no Improvements Programme for this Agglomeration.</b>				

## 4.2.3 SEWER INTEGRITY RISK ASSESSMENT

The utilisation of multiple capital maintenance programmes and the outputs of the workshops with the Local Authority Operations Staff held under the programme can be used to satisfy the requirements of Condition 5 regarding network integrity. Improvement works identified by way of these programmes and workshops will be included in the Improvements Summary Table.

## 5 LICENCE SPECIFIC REPORTS

A wastewater discharge licence may require a number of reports on specific subject areas to be prepared for the agglomeration in question. These reports are submitted to the EPA as part of the Annual Environmental Report. This section provides list of the various reports required for this agglomeration and a brief summary of their recommendations.

5.a Licence Specific Reports Summary Table

Licence Specific Report	Required by licence	Year included in AER	Included in this AER	Reference to relevant section of AER
Priority Substances Assessment	Yes	2014	No	

### 5.1 PRIORITY SUBSTANCES ASSESSMENT

The Priority Substances Assessment Report has been included in the 2014 AER

## 6 CERTIFICATION AND SIGN OFF

### 6.1 SUMMARY OF AER CONTENTS

Parameter	Answer
Does the AER include an Executive Summary?	Yes
Does the AER include an assessment of the performance of the Waste Water Works (i.e. have the results of assessments been interpreted against WWDL requirements and or Environmental Quality Standards)?	Yes
Is there a need to advise the EPA for consideration of a Technical Amendment / Review of the licence?	Yes
List reason e.g. additional SWO identified	Change in ELV's
Is there a need to request/advise the EPA of any modification to the existing WWDL with respect to condition 4 changes to monitoring location, frequency etc	No
List reason e.g. changes to monitoring requirements	N/A
Have these processes commenced?	No
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER	No

I certify that the information given in this Annual Environmental Report is truthful, accurate and complete:

Signed:    Date: 05/03/2020

This AER has been produced by Irish Water's Environmental Information System (EIMS) and has been electronically signed off in that system for and on behalf of ,

Katherine Walshe

Acting Head of Environmental Regulation.

## 7 APPENDIX

<b>Appendix</b>
<b>Appendix 7.1 - Ambient monitoring summary</b>
<b>Appendix 7.2 – Influent &amp; Effluent Monitoring Data</b>

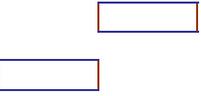
## Appendix 7.1 Ambient Data

Upstream - Inchy Bridge	Transitional						Median	Mean	95%ile
	EQS								
	Mean	95%ile	21/02/2019	12/06/2019	14/08/2019	09/10/2019			
D.O % O <sub>2</sub>	80%<95%ile<120%		98.8	99.7	99	97.9			99.6
Temperature C°	≤ 1.5 C° increase		10.6	12.8	15.8	12			
BOD mg/L	n/a	≤ 4		1	0.5	2.9			2.71
COD mg/l	n/a	n/a		10	21	10			
SS mg/l	n/a	n/a		1.25	3	4			
Orthophosphate (P) mg/l	≤0.04 @35 PSU (Median)			0.014	0.036	0.088	0.036		
Ammonia (N) mg/l	≤ 0.065	≤ 0.140		0.014	0.017	0.027		0.02	0.03
DIN (N) mg/l	≤ 2.6 @ 0 PSU ≤ 0.25 @ 34 PSU			4.69	3.34	4.86		4.30	4.84
TON (N) mg/l	n/a			4.69	3.34	4.86			
E.Coli MPN/100mls	n/a			1203	2420				
Faecal Coliforms MPN/100mls	n/a			613	>2420				
Intestinal enterococci CFU/100mls	n/a			135	126				

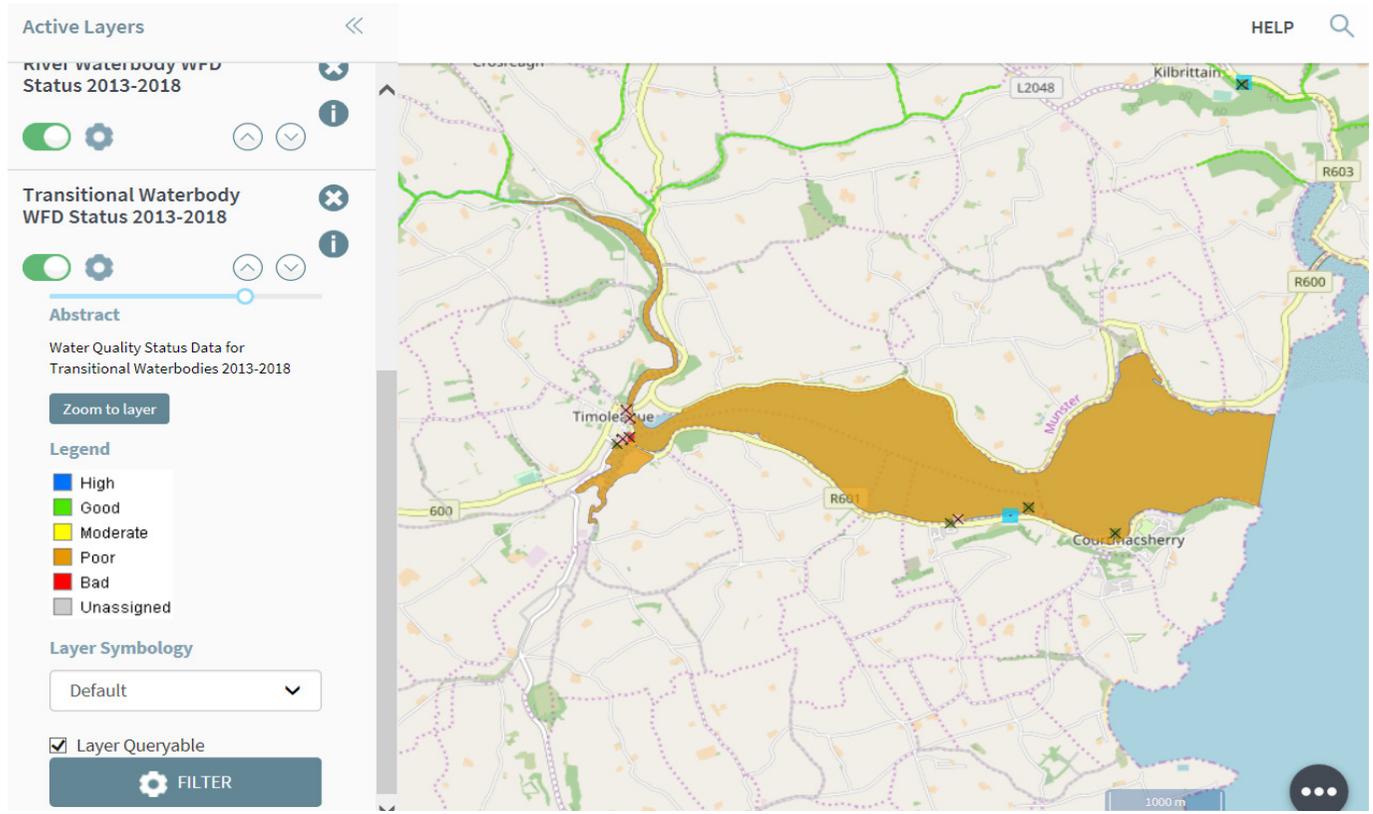
Spittal Bridge	Transitional						Median	Mean	95%ile
	EQS								
	Mean	95%ile	21/02/2019	12/06/2019	14/08/2019	09/10/2019			
D.O % O <sub>2</sub>	80%<95%ile<120%		97.3	91.8	91	97.6			97.6
Temperature C°	≤ 1.5 C° increase		10.1	11.9	16	12			
BOD mg/L	n/a	≤ 4	1.4	7	1	1			6.16
COD mg/l	n/a	n/a	10	10	21	<21			
SS mg/l	n/a	n/a	17	5	4	<2.5			
Orthophosphate (P) mg/l	≤0.04 @35 PSU (Median)		0.039	0.062	0.108	0.055	0.06		
Ammonia (N) mg/l	≤ 0.065	≤ 0.140	0.073	0.058	0.061	0.037		0.06	0.07
DIN (N) mg/l	≤ 2.6 @ 0 PSU ≤ 0.25 @ 34 PSU		8.93		5.92	6.83		7.23	8.72
TON (N) mg/l	n/a		8.93		5.92	6.83			
E.Coli MPN/100mls	n/a			>2420	1986				
Faecal Coliforms MPN/100mls	n/a			2420	>2420				
Intestinal enterococci CFU/100mls	n/a			5475	>2420				

Downstream	Transitional						Median	Mean	95%ile
	EQS								
	Mean	95%ile	21/02/2019	12/06/2019	14/08/2019	09/10/2019			
D.O % O <sub>2</sub>	80%<95%ile<120%		96.8	99.4	98.7	96			99.3
Temperature C°	≤ 1.5 C° increase		11.4	13.5	15.4	12.4			
COD mg/L	n/a	n/a	59	10	57	10			
BOD mg/L	n/a	≤ 4	1.6	1.2	0.5	1.4			1.57
Suspended Solids mg/l	n/a	n/a	128	19	29	18			
Orthophosphate (P) mg/l	≤0.04 @35 PSU (Median)			0.05	0.02	0.04	0.04		
Ammonia (N) mg/l	≤ 0.065	≤ 0.140	0.017	0.017	0.04	0.094		0.04	0.09
DIN (N) mg/l	≤ 2.6 @ 0 PSU ≤ 0.25 @ 34 PSU		4.2	0.55	0.4	2.75	1.65	1.98	3.98
E.Coli MPN/100mls	n/a			52	677				
Faecal Coliforms MPN/100mls	n/a			135	504				
Intestinal enterococci CFU/100mls	n/a			20	20				

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	EPA Feature Coding tool Code	Bathing Water	Drinking Water	FWPM	Shellfish	Current WFD Status
Upstream Monitoring Point - Inchy Bridge	146445 45774	TW05003171AR1001	No	No	No	No	Poor
Upstream Monitoring Point - Spittal Bridge	146890 42705	TW05003171AR1011	No	No	No	No	Poor
Downstream Monitoring Point	151707 42994	TW05003171AR1009	No	No	No	No	Poor



Significance of Results	
Did the ambient monitoring results meet the EQS Required?	No
Is there an observable negative impact on water quality?	Unknown - "observable" TBC
List the parameters causing the impact?	DIN
A deterioration has been identified, but it is not known if it is caused by the TP	TRUE
Do the discharges from the WWTP have an observable negative impact on the WFD?	Unknown - "observable" TBC
Any other known impacts	Catchment/Coastal processes



## Appendix 7.2 Effluent Data

INDEX

NONCOMPLIANCE SUMMARY

Courtmacsherry/Timoleague D0294-02 Primary SW001					Septic Tank	Septic Tank	Septic Tank	Septic Tank	WWTP
Sample Code					79312	80564	82164	83518	85013
Sample Date					17/04/2019	12/06/2019	14/08/2019	09/10/2019	04/12/2019
Sample Type					Grab	Grab	Grab	Grab	Comp
Flow m <sup>3</sup> /Day	ELV	Max ELV	Frequency	Actual					
BOD mg/L	25	50	6	5	46	178	87	87	3.3
COD mg/L	125	250	6	5	132	371	146	194	10.5
Suspended Solids mg/L	35	87.5	6	5	51	271	46	125	1.25
Orthophosphate (P) mg/l	8 (01/01/2020)	#VALUE!	6	5	0.58	5.43	2.32	1.24	0.51
Ammonia (N) mg/l	10 (01/01/2020)	#VALUE!	6	5	7.5	53.4	21.5	16.3	0.2
TON (N)	15 (01/01/2020)	#VALUE!	6	5	6.13	0.25	0.25	3.01	8.72
Faecal Coliforms cfu/100mls			2	0		>24196	>24196		
E.Coli cfu/100mls			2	0		>24196	>24196		
Intestinal enterococci cfu/100mls			2	0		>24196	>24196		

Courtmacsherry/Timoleague D0294-02 SW007 Abbey Bridge					Septic Tank	Septic Tank	Septic Tank	Septic Tank	WWTP
Sample Code					78140	79310	80558	82165	83517
Sample Date					21/02/2019	17/04/2019	12/06/2019	14/08/2019	09/10/2019
Sample Type					Grab	Grab	Grab	Grab	Grab
Flow m <sup>3</sup> /Day	ELV	Max ELV	Frequency	Actual					
BOD mg/L	25	50	6	5	74	29	435	312	31
COD mg/L	125	250	6	5	133	68	861	628	50
Suspended Solids mg/L	35	87.5	6	5	53	28	280	134	37
Faecal Coliforms cfu/100mls							>24196		
E.Coli cfu/100mls							>24196		
Intestinal enterococci cfu/100mls							5335		

Courtmacsherry/Timoleague D0294-02 SW008 School Road					Septic Tank	Septic Tank	Septic Tank	Septic Tank	WWTP
Sample Code					78139	80559	82166	83516	
Sample Date					21/02/2019	12/06/2019	14/08/2019	09/10/2019	
Sample Type					Grab	Grab	Grab	Grab	
Flow m <sup>3</sup> /Day	ELV	Max ELV	Frequency	Actual					
BOD mg/L	25	50	6	4	112	348	241	187	
COD mg/L	125	250	6	4	680	763	516	314	
Suspended Solids mg/L	35	87.5	6	4	50	288	143	74	
Faecal Coliforms cfu/100mls							>24196		
E.Coli cfu/100mls							>24196		
Intestinal enterococci cfu/100mls							>24196		

Courtmacsherry/Timoleague D0294-02 SW009 Abbey Bridge West					Septic Tank	Septic Tank	Septic Tank	Septic Tank	WWTP
Sample Code					79309				
Sample Date					17/04/2019				
Sample Type					Grab				
Flow m <sup>3</sup> /Day	ELV	Max ELV	Frequency	Actual					
BOD mg/L	25	50	6	1	393				
COD mg/L	125	250	6	1	1708				
Suspended Solids mg/L	35	87.5	6	1	393				

Courtmacsherry/Timoleague D0294-02 SW011 Churchbridge					Septic Tank	Septic Tank	Septic Tank	Septic Tank	WWTP
Sample Code					78141	79311			
Sample Date					21/02/2019	17/04/2019			
Sample Type					Grab	Grab			
Flow m <sup>3</sup> /Day	ELV	Max ELV	Frequency	Actual					
BOD mg/L	25	50	6	2	35	14			
COD mg/L	125	250	6	2	466	72			
Suspended Solids mg/L	35	87.5	6	2	84	29			

INLET					Septic Tank	Septic Tank	Septic Tank	Septic Tank	WWTP
Sample Code					84988				
Sample Date					04/12/2019				
Sample Type					Comp				
Flow m <sup>3</sup> /Day	Frequency	Actual							
BOD mg/L	6	1	11						
COD mg/L	6	1	82						
Suspended Solids mg/L	6	1	52						
PO4-P mg/l	6	1	0.42						
NH3-N mg/l	6	1	5.9						
TON (mg/l)	6	1	3.89						

