Annual Environmental Report

2019

Enniscorthy

D0029-01

CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2019 AER

This Annual Environmental Report has been prepared for D0029-01, Enniscorthy, in Wexford 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.

There were no Capital works nor changes in 2019, following major upgrade works which were completed in 2018, Enniscorthy DAP is currently ongoing.

1.2 TREATMENT SUMMARY

The agglomeration is served by a wastewater treatment plant(s)

- Enniscorthy WWTP with a Plant Capacity PE of 26200, the treatment type is 3P - Tertiary P removal
- KILLAGOLEY WWTP (Secondary treatment) was decommissioned in 2018 as part of the upgrade works.

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
TPEFF3300D0029SW001	Enniscorthy WWTP	Treated	Compliant	N/A

TPEFF3300D0029SW002	KILLAGOLEY WWTP	Decommissioned	N/A	N/A

1.4 LICENCE SPECIFIC REPORTING INCLUDED IN AER

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

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

2.1 ENNISCORTHY WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - ENNISCORTHY WWTP

A summary of influent monitoring for the treatment plant is presented below. This monitoring is primarily undertaken in order to determine the overall efficiency of the plant in removing pollutants from the raw wastewater.

Parameters	Number of Samples	Annual Max	Annual Mean
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	13	276	55.63
Suspended Solids mg/l	13	174.2	81.41
COD-Cr mg/l	13	804	169.74
Total Nitrogen mg/l	13	40.4	17.97
Total Phosphorus (as P) mg/l	13	5.97	3.04
Hydraulic Capacity	N/A	37556	5774.2

If other inputs in the form of sludge / leachate are added to the WWTP then these are included in Section 2.1.5 if applicable.

Significance of Results:

The annual mean hydraulic loading is less than the peak Treatment Plant Capacity. The annual maximum hydraulic loading is greater than the peak Treatment Plant Capacity. Further details on the plant capacity and efficiency can be found under the sectional ‘Operational Performance Summary’. The design of the wastewater tretament plant allows for peak values and therefore the peak loads have not impacted on compliance with Emission Limit Values.

2.1.2 EFFLUENT MONITORING SUMMARY - TPEFF3300D0029SW001

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)
COD-Cr mg/l	125	250	N/A	13	N/A	N/A	18.46	Pass
Suspended Solids mg/l	35	87.5	N/A	13	N/A	N/A	5.83	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	N/A	13	N/A	N/A	1.97	Pass
pH pH units	9	9	N/A	13	N/A	N/A	7.58	Pass
Ammonia-Total (as N) mg/l	5	6	N/A	13	N/A	N/A	0.39	Pass
Total Phosphorus (as P) mg/l	2	2.4	N/A	13	N/A	N/A	0.45	Pass
ortho-Phosphate (as P) - unspecified mg/l	1	1.2	N/A	13	N/A	N/A	0.14	Pass
Visual Inspection Descriptive	N/A	N/A	N/A	15	N/A	N/A	N/A	
Total Nitrogen mg/l	N/A	N/A	N/A	1	N/A	N/A	2.4	

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):

Not applicable

Significance of Results:

The WWTP is compliant with the ELV's set in the Wastewater Discharge Licence.

2.1.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF3300D0029SW001

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	297536, 39759	RS12S022350	No	No	No	No	Good
Downstream Monitoring	397803,134564	RS12S022500	No	No	No	No	Good

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 compliant with the ELV's set in the wastewater discharge licence.

The ambient monitoring results meet the required EQS. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

The discharge from the wastewater treatment plant does not have an observable impact on the water quality.

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

2.1.4 OPERATIONAL PERFORMANCE SUMMARY - ENNISCORTHY WWTP

2.1.4.1 Treatment Efficiency Report - Enniscorthy WWTP

Treatment efficiency is based on the removal of key pollutants from the influent wastewater by the treatment plant. In essence the calculation is based on the balance of load coming into the plant versus the load leaving the plant. The efficiency is presented as a percentage removal rate.

A summary presentation of the efficiency of the treatment process including information for all the parameters specified in the licence is included below:

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)
SS	166065	11686	93
cBOD	113470	3950	97
COD	346222	37030	89
TN	36648	10610	71
TP	6195	903	85

Note: The above data is based on sample results for the number of dates reported

2.1.4.2 Treatment Capacity Report Summary - Enniscorthy WWTP

Treatment capacity is an assessment of the hydraulic (flow) and organic (the amount of pollutants) load a treatment plant is designed to treat versus the current loading of that plant.

Enniscorthy WWTP	
Peak Hydraulic Capacity (m^3/day) - As Constructed	21600
DWF to the Treatment Plant (m^3/day)	3600
Current Hydraulic Loading - annual max (m^3/day)	37556

Average Hydraulic loading to the Treatment Plant (m^3/day)	5774.2
Organic Capacity (PE) - As Constructed	26200
Organic Capacity (PE) - Collected Load (peak week)[Note1]	13749
Organic Capacity (PE) - Remaining	12451
Will the capacity be exceeded in the next three years? (Yes/No)	No

Nominal design capacities can be based on conservative design principles. In some cases assessment of existing plants has shown organic capacities significantly higher than the nominal design capacity. Accordingly plants that appear to be overloaded when comparing a collected peak load with the nominal design capacity can be fully compliant due to the safety factors in the original design.

2.1.5 SLUDGE / OTHER INPUTS - ENNISCORTHY WWTP

'Other inputs' to the waste water treatment plant are summarised in table below

Input type	Quantity	Unit	P.E.	% of load to WWTP	Included in Influent Monitoring (Y/N)?	Is there a leachate/sludge acceptance procedure for the WWTP?	Is there a dedicated leachate/sludge acceptance facility for the WWTP? (Y/N)
There is no Sludge and Other Input data for the Treatment Plant included in the AER.							

2.2 KILLAGOLEY WWTP - TREATED DISCHARGE

Killagoley WWTP was decommissioned in 2018

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
2	Blocked Sewer	0	2

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)
Uncontrolled release	Plant or equipment maintenance at WWTP	1	No	Yes
Uncontrolled release	SWO Design not meeting DoEHLG Criteria	1	Yes	No
Breach of ELV	WWTP not designed for N removal	1	Yes	Yes

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2019	3
Number of Incidents reported to the EPA via EDEN in 2019	3
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
SW001	297270, 138414	No	Low	Meeting	Unknown	Unknown	Not Monitored
SW004	297388, 139286.7	Yes	Low	Meeting	Unknown	Unknown	Not Monitored
SW007	297190.74, 140292.65	Yes	Low	Meeting	Unknown	Unknown	Not Monitored
SW003	297194, 138827	Yes	Low	Meeting	Unknown	Unknown	Not Monitored
SW005	297563.1, 139742.5	Yes	Low	Meeting	Unknown	Unknown	Not Monitored
SW006	TBC	No	Low	Meeting	Unknown	Unknown	Not Monitored

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
SW008	295392, 141322	Yes	High	Meeting	Unknown	Unknown	Not Monitored
SW009	295890, 140173	Yes	Low	Meeting	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?	N/A
The SWO Assessment included the requirements of relevant of WWDL schedules?	Yes
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
D0029-SIP:04	Discharges from SW6 (Templeshannon) to be discontinued	A	30/06/2015	Yes	At Planning Stage	2023	
D0029-SIP:05	Discharges from the pumping station at SW3 (St John's), shall be upgraded to SWO to conform to requirements of DoEHLG criteria	C	30/06/2015	Yes	At Planning Stage	2023	
D0029-SIP:06	Discharges from the pumping station at SW4 (Promenade) shall be upgraded to SWO to conform to requirements of DoEHLG criteria	C	30/06/2015	Yes	At Planning Stage	2023	
D0029-SIP:07	Discharges from the pumping station at SW5 (Spring Valley), shall be upgraded to SWO to conform to requirements of DoEHLG criteria	C	30/06/2015	Yes	Works Completed		
D0029-SIP:10	Discharges from the pumping station at SW9 (Carrigbruce) shall be upgraded to SWO to conform to requirements of DoEHLG criteria	C	30/06/2015	Yes	Works Completed		
D0029-SIP:11	Elimination of groundwater infiltration programme	C	30/06/2015	Yes	At Planning Stage	2023	

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
D0029-SIP:12	Installation of storm water holding tanks at WWTP	C	30/06/2015	Yes	Works Completed		
D0029-SIP:13	Upgrade of network to connect all areas of agglomeration to the works and to convey all waste water for treatment to the St. John's WWTP	C	30/06/2015	Yes	Not Started		The improvement programme will be reviewed by Irish Water to assess the works required to comply with the licence condition on a prioritised basis
D0029-SIP:14	Upgrade of WWTP	C	30/06/2015	Yes	Works Completed		
D0029-SIP:15	Upgrade of WWWs to connect all areas of agglomeration to the works and to convey all waste water for treatment to St. John's WWTP	C	30/06/2015	Yes	Not Started		The improvement programme will be reviewed by Irish Water to assess the works required to comply with the licence condition on a prioritised basis
D0029-SIP:01	Decommissioning of secondary WWTP	C	30/06/2015	Yes	Works Completed		
D0029-SIP:02	Discharges from SW10 (Slaney Street discharge) to be discontinued	A	30/06/2015	Yes	At Planning Stage	2023	

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
D0029-SIP:03	Discharges from SW2 (Kilagoley secondary treatment plant), to be discontinued	A	30/06/2015	Yes	At Planning Stage	2023	
D0029-SIP:08	Discharges from the pumping station at SW7 (Island St), shall be upgraded to SWO to conform to requirements of DoEHLG criteria	C	30/06/2015	Yes	Works Completed		
D0029-SIP:09	Discharges from the pumping station at SW8 (Milehouse) shall be upgraded to SWO to conform to requirements of DoEHLG criteria	C	30/06/2015	Yes	Works 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
There are no Improvements Programme for this Agglomeration.				

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 AER 2014

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?	No
List reason e.g. additional SWO identified	N/A
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	Yes
List reason e.g. changes to monitoring requirements	Secondary discharge decommissioned
Have these processes commenced?	No
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER	Yes

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

Signed: Date: 15/04/2020

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

Appendix
Appendix 7.1 - Ambient monitoring summary

			Receiving Waters Designation (Yes/No)					Mean (mg/l)		
Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish National Grid Reference (Easting, Northing)	EPA Feature Coding Tool code	Bathing Water	Drinking Water	FWPM	Shellfish	Current WFD Status	cBOD	o-Phosphate (as P)	Ammonia (as N)
Upstream Monitoring Point	297536, 39759	RS12S022350					Good	2.093	0.073	0.037
Downstream Monitoring Point	397803,134564	RS12S022500	No	No	No	No	Good	2.163	0.075	0.030
Difference								0.070	0.002	-0.007
EQS								1.500	0.035	0.065
% of EQS								4.667%	5.714%	-10.769%

					Ammonia N	BOD, 5 days with Inhibition (Carbonaceous)	COD Chemical Oxygen Demand	Ortho-Phosphate P	pH	Suspended Solids	Total Nitrogen N	Total Phosphate P	Temperature	Dissolved Oxygen	Visual Inspection	Dissolved Oxygen % Saturation	Faecal Coliforms
Entity	Entity Reference	Station Reference	Sample Reference	Sample Date	mg/l	mg/l	mg/l	mg/l	pH units	mg/l	mg/l	mg/l	Degrees C	mg/l	Descriptive	% Sat.	no./100mls
Enniscorthy Upstream SW1																	
Slaney River	12S02	RS12S022350	25924-34b	8-Jan-2019											Clear, No SS		
Slaney River	12S02	RS12S022350	25924-34	8-Jan-2019	0.02	2	21	0.02	7.4	3	5.5	0.12	9.2	11.49	Clear, No SS	99.9	***2420***
Slaney River	12S02	RS12S022350	26000-32	4-Feb-2019	0.02	2	5	0.02	6.07	3	0.2	0.12	8.6	9.26		95.4	
Slaney River	12S02	RS12S022350	26054-45b	4-Mar-2019											Cloudy, some ss		
Slaney River	12S02	RS12S022350	26054-45	4-Mar-2019	0.07	2	40	0.05	6.1	50.9	4.3	0.13	6.1	9.03			
Slaney River	12S02	RS12S022350	26141-26	9-Apr-2019	0.02	2.71	5	0.02	7.94	3	6.2	0.12		12.1		106	
Slaney River	12S02	RS12S022350	26259-42b	7-May-2019											Clear, no SS		
Slaney River	12S02	RS12S022350	26259-42	7-May-2019	0.02	2	5	0.02	8.05	24.7	4.5	0.12	10.2	9.19		105	
Slaney River	12S02	RS12S022350	26373-22b	12-June-2019											Clear		
Slaney River	12S02	RS12S022350	26373-22	12-June-2019	0.08	2.22	10	0.02	7.51	6.9	4.4	0.12	11.8	9.41		93.6	
Slaney River	12S02	RS12S022350	26445-42b	2-July-2019											Yellow tint, few ss		
Slaney River	12S02	RS12S022350	26445-42	2-July-2019	0.27	2	5	0.02	7.16	3	4.2	0.12	17.2	9.58		95.7	***153***
Slaney River	12S02	RS12S022350	26559-24b	7-Aug-2019											Few SS		
Slaney River	12S02	RS12S022350	26559-24	7-Aug-2019	0.06	2	7	0.16	8.73	3	3.1	0.12	16.1	9.76		101.6	
Slaney River	12S02	RS12S022350	26637-37b	3-Sep-2019											Clear		
Slaney River	12S02	RS12S022350	26637-37	3-Sep-2019	0.15	2	12	0.02	8.02	6.3	2.8	0.12	16.3	10.31		106.2	
Slaney River	12S02	RS12S022350	26758-29	10-Oct-2019	0.02	2	9	0.02	7.78	3	4	0.12	11.9	9.7	ellow tint, few s	98.9	
Annual Mean					***0.073***	***2.093***	***11.900***	***0.037***	***7.476***	***10.680***	***3.920***	***0.121***	***11.933***	***9.983***		***100.256***	***1286.500***
Enniscorthy Downstream SW1																	
Slaney River	12S02	RS12S022500	25924-35b	8-Jan-2019											Clear, No SS		
Slaney River	12S02	RS12S022500	25924-35	8-Jan-2019	0.02	2	62	0.03	7.3	3.4	5.6	0.12	8.9	11.45	Clear, No SS	98.8	***1986***
Slaney River	12S02	RS12S022500	26000-33	4-Feb-2019	0.02	2	1270	0.06	7.58	9.7	5.1	0.12	8.5	9.17		95.6	
Slaney River	12S02	RS12S022500	26054-46	4-Mar-2019	0.1	2	37	0.05	6.17	21.6	3.8	0.12	6.4	8.98		104	
Slaney River	12S02	RS12S022500	26054-46b	4-Mar-2019											Very slight colour, no ss		
Slaney River	12S02	RS12S022500	26141-27	9-Apr-2019	0.02	2.63	5	0.02	7.65	3	4.6	0.12		11.5		123	
Slaney River	12S02	RS12S022500	26259-43	7-May-2019	0.02	2	5	0.02	7.82	18.6	4	0.12	10.6	8.61		99.6	
Slaney River	12S02	RS12S022500	26259-43b	7-May-2019											Clear, no SS		
Slaney River	12S02	RS12S022500	26373-23	12-June-2019	0.02	2	9	0.04	7.49	3	4.3	0.12	11.9	9.32		94.2	
Slaney River	12S02	RS12S022500	26373-23b	12-June-2019											Clear		
Slaney River	12S02	RS12S022500	26445-43	2-July-2019	0.28	2	5	0.02	7.24	14	4	0.12	16.9	9.56		96.2	***45***
Slaney River	12S02	RS12S022500	26445-43b	2-July-2019											Yellow tint, few ss		
Slaney River	12S02	RS12S022500	26559-25b	7-Aug-2019											Some SS		
Slaney River	12S02	RS12S022500	26559-25	7-Aug-2019	0.06	3	13	0.02	8.18	3	3	0.12	18.3	9.71		103.2	
Slaney River	12S02	RS12S022500	26637-38b	3-Sep-2019											Clear		
Slaney River	12S02	RS12S022500	26637-38	3-Sep-2019	0.16	2	11	0.02	7.91	6.8	2.8	0.12	17.8	9.63		101.2	
Slaney River	12S02	RS12S022500	26758-30	10-Oct-2019	0.02	2	11	0.02	7.68	3.4	4.3	0.12	11.6	9.52	ellow tint, few s	97.6	
Annual Mean					***0.072***	***2.163***	***142.800***	***0.030***	***7.502***	***8.650***	***4.150***	***0.120***	***12.322***	***9.745***		***101.340***	***1015.500***