Annual Environmental Report

2023

Uisce Éireann
Irish Water

Enniscorthy

D0029-01

CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2023 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.

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 .

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	Non-Compliant	Total Nitrogen mg/l

1.4 LICENCE SPECIFIC REPORTING

Assessment / Report
There are no Licence Specific Reports included in this 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
Total Phosphorus (as P) mg/l	12	13	4.68
Suspended Solids mg/l	12	653	172
Total Nitrogen mg/l	12	51	31
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	12	483	183
COD-Cr mg/l	12	1180	445
Hydraulic Capacity	N/A	33684	6943

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 less than the peak Treatment Plant Capacity. Further details on the plant capacity and efficiency can be found under the sectional ‘Operational Performance Summary’.

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 exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
COD-Cr mg/l	125	250	N/A	12	N/A	N/A	25	Pass
Suspended Solids mg/l	35	87.5	N/A	12	N/A	N/A	7.32	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	N/A	12	N/A	N/A	2.42	Pass
Temperature °C	25	25	N/A	12	N/A	N/A	13	Pass
Fats, Oils & Greases mg/l	15	18	N/A	4	N/A	N/A	1.83	Pass
Total Nitrogen mg/l	15	18	N/A	12	1	1	7.14	Fail
pH pH units	9	9	N/A	12	N/A	N/A	7.42	Pass
Ammonia-Total (as N) mg/l	5	6	N/A	12	N/A	N/A	0.255	Pass
Total Phosphorus (as P) mg/l	2	2.4	N/A	12	N/A	N/A	0.365	Pass

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 exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
ortho-Phosphate (as P) - unspecified mg/l	1	1.2	N/A	12	N/A	N/A	0.242	Pass
Visual Inspection Descriptive	N/A	N/A	N/A	12	N/A	N/A	N/A	

Notes:
1 – This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied
2 – For pH the WWDA specifies a range of pH 6 - 9

Cause of Exceedance(s):

Refer to incidence section of this report

Significance of Results:

The WWTP is not in compliance with the ELV, as set out in the WWDL. The impact on receiving waters is assessed further in section 2.

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 Ecological Status
Upstream	297536, 139759	RS12S022350	No	No	No	No	Moderate
Downstream	297803, 134564	RS12S022500	No	No	No	No	Moderate

The table below provides a summary of monitoring results for designated ambient monitoring points. The upstream and downstream annual mean values are shown (mg/l), and the difference between both monitoring stations is given as a percentage of the Environmental Quality Standard (EQS) where relevant.

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
BOD - 5 days (Total) mg/l	RS12S022350	1.35	RS12S022500	N/A	1.50	
Ammonia-Total (as N) mg/l	RS12S022350	0.047	RS12S022500	0.079	0.065	49.2
ortho-Phosphate (as P) - unspecified mg/l	RS12S022350	0.028	RS12S022500	0.026	0.035	-8.1
Cadmium - unspecified µg/l	RS12S022350	0.273	RS12S022500	N/A	N/A	
Aluminium - unspecified µg/l	RS12S022350	239	RS12S022500	N/A	N/A	
Barium - unspecified µg/l	RS12S022350	13	RS12S022500	N/A	N/A	
Conductivity @25°C µS/cm	RS12S022350	245	RS12S022500	N/A	N/A	
Dissolved Oxygen % Saturation	RS12S022350	99	RS12S022500	N/A	N/A	
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	RS12S022350	1.47	RS12S022500	1.58	N/A	

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Antimony - unspecified µg/l	RS12S022350	0.707	RS12S022500	N/A	N/A	
Sodium - unspecified mg/l	RS12S022350	8.60	RS12S022500	N/A	N/A	
Temperature °C	RS12S022350	12	RS12S022500	N/A	N/A	
Total Hardness (as CaCO3) mg/l	RS12S022350	88	RS12S022500	N/A	N/A	
Vanadium - unspecified µg/l	RS12S022350	1.04	RS12S022500	N/A	N/A	
Total Phosphorus (as P) mg/l	RS12S022350	0.067	RS12S022500	N/A	N/A	
Calcium - unspecified mg/l	RS12S022350	27	RS12S022500	N/A	N/A	
Beryllium - unspecified µg/l	RS12S022350	0.707	RS12S022500	N/A	N/A	
Alkalinity-total (as CaCO3) mg/l	RS12S022350	74	RS12S022500	N/A	N/A	
Magnesium - unspecified mg/l	RS12S022350	5.40	RS12S022500	N/A	N/A	
Potassium - unspecified mg/l	RS12S022350	2.12	RS12S022500	N/A	N/A	
Manganese - unspecified µg/l	RS12S022350	43	RS12S022500	N/A	N/A	
Strontium - unfiltered µg/l	RS12S022350	63	RS12S022500	N/A	N/A	
True Colour mg/litre Pt Co	RS12S022350	45	RS12S022500	N/A	N/A	

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Zinc - unspecified µg/l	RS12S022350	23	RS12S022500	N/A	N/A	
Boron - unspecified µg/l	RS12S022350	12	RS12S022500	N/A	N/A	
Chromium - unspecified µg/l	RS12S022350	259	RS12S022500	N/A	N/A	
Arsenic - unspecified µg/l	RS12S022350	1.25	RS12S022500	N/A	N/A	
Calculated Hardness (CaCO3) mg/l	RS12S022350	99	RS12S022500	N/A	N/A	
Dissolved Organic Carbon mg/l	RS12S022350	6.48	RS12S022500	N/A	N/A	
Iron - unspecified µg/l	RS12S022350	374	RS12S022500	N/A	N/A	
Suspended Solids mg/l	RS12S022350	21	RS12S022500	N/A	N/A	
Lead - unspecified µg/l	RS12S022350	0.635	RS12S022500	N/A	N/A	
Faecal coliforms no./100mls	RS12S022350	7050	RS12S022500	N/A	N/A	
Thallium - unspecified µg/l	RS12S022350	0.141	RS12S022500	N/A	N/A	
Silica (as SiO2) mg/l	RS12S022350	7.46	RS12S022500	N/A	N/A	
Copper - unspecified µg/l	RS12S022350	2.22	RS12S022500	N/A	N/A	
Chloride mg/l	RS12S022350	16	RS12S022500	N/A	N/A	
Cobalt - unspecified µg/l	RS12S022350	1.30	RS12S022500	N/A	N/A	

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Molybdenum - unspecified µg/l	RS12S022350	119	RS12S022500	N/A	N/A	
pH pH units	RS12S022350	7.78	RS12S022500	7.55	N/A	
Selenium - unspecified µg/l	RS12S022350	0.707	RS12S022500	N/A	N/A	
Nickel - unspecified µg/l	RS12S022350	1268	RS12S022500	N/A	N/A	
Dissolved Oxygen mg/l	RS12S022350	16	RS12S022500	22	N/A	
Uranium - unfiltered µg/l	RS12S022350	3.20	RS12S022500	N/A	N/A	
Mercury - unspecified µg/l	RS12S022350	0.014	RS12S022500	N/A	N/A	
Total Nitrogen mg/l	RS12S022350	4.02	RS12S022500	4.27	N/A	
Total Oxidised Nitrogen (as N) mg/l	RS12S022350	3.89	RS12S022500	N/A	N/A	

Significance of Results:

The WWTP discharge was not compliant with the ELV's set in the wastewater discharge licence for the following: Total Nitrogen mg/l.

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

Based on ambient monitoring results a deterioration in Ammonia BOD, concentrations downstream of the effluent discharge is noted.

A deterioration in water quality 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 unknown.

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)
cBOD	385425	4266	99
COD	936196	43858	95
TN	66169	12614	81
SS	362397	12926	96
TP	9854	645	93

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	43080
DWF to the Treatment Plant (m^3/day)	5336
Current Hydraulic Loading - annual max (m^3/day)	33684

Enniscorthy WWTP	
Average Hydraulic loading to the Treatment Plant (m^3/day)	6943
Organic Capacity (PE) - As Constructed	26200
Organic Capacity (PE) - Collected Load (peak week)[Note1]	14669
Organic Capacity (PE) - Remaining	11531
Will the capacity be exceeded in the next three years? (Yes/No)	N/A

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)
Other	1341.1	Weight (Tonnes)		0.05	No	No	No
Other	4122	Volume (m3)		0.16	No	No	No

3 COMPLAINTS AND INCIDENTS

3.1 COMPLAINTS SUMMARY

A summary of complaints of an environmental nature related to the discharge(s) to water from the WWTP and network is included below.

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
There were no relevant environmental complaints in 2023.			

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 Uisce Éireann 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	Recurring (Y/N)	Closed (Y/N)
Uncontrolled release	Emergency overflow caused by power failure	No	Yes
Abatement equipment off-line	Plant or equipment breakdown at WWTP	No	Yes

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2023	2
Number of Incidents reported to the EPA via EDEN in 2023	2
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 (chamber) where applicable	Irish Grid Ref. (outfall)	Included in Schedule of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2023 (No. of events)	Total volume discharged in 2023 (m3)	Monitoring Status
SW003	297194,138827	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Monitored
SW004	297388,139287	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Monitored
SW005	297563,139743	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Monitored
SW007	297193,140293	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Monitored
SW008	295392,141322	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Monitored
SW009	295892,140173	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Monitored

WWDL Name / Code for Storm Water Overflow (chamber) where applicable	Irish Grid Ref. (outfall)	Included in Schedule of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2023 (No. of events)	Total volume discharged in 2023 (m3)	Monitoring Status
SW011	297267,138401	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Monitored
N/A	297217,140122	No	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
N/A	297192,140316	No	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored

Any TBC SWO(s) were identified as part of the on-going National SWO programme and will be updated in subsequent AER(s) once the information is confirmed.

SWO Summary	
How much wastewater discharge by metered SWOs during 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 a 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: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	Work ongoing on-site	2023	
D0029-SIP:03	Discharges from SW2 (Kilagoley secondary treatment plant), to be discontinued	A	30/06/2015	Yes	Works Completed		
D0029-SIP:04	Discharges from SW6 (Templeshannon) to be discontinued	A	30/06/2015	Yes	Works Completed		

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: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	Works Completed		
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	Works Completed		
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: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		

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: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	Works Completed	2028	Sewer rehabilitation complete.
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	Works Completed		All areas serviced.
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	Works Completed	2028	All areas serviced

A summary of the status of any other improvements identified by under Condition 5 assessments- is included below.

4.2.2 IMPROVEMENT PROGRAMME SUMMARY

Improvement Identifier	Improvement Description / or any Operational Improvements	Improvement Source	Expected Completion Date	Comments
No additional improvements planned at this time.				

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 Tables 4.2.1 and 4.2.2.

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 a list of the various reports required for this agglomeration and a brief summary of their recommendations.

Licence Specific Report	Required by licence	Included in this AER
There is no Licence Specific Report Required in this AER Annual Review.		

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?	N/A
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	N/A
List reason e.g. changes to monitoring requirements	N/A
Have these processes commenced?	N/A
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: 08/03/2024

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

Eleanor Roche

Head of Environmental Regulation.

7 APPENDIX

There are no Appendices included