

Annual Environmental Report

2023



Youghal

D0139-01

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1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2023 AER

This Annual Environmental Report has been prepared for D0139-01, Youghal, 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.

1.2 TREATMENT SUMMARY

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

- Youghal WWTP with a Plant Capacity PE of 16000, the treatment type is 3N - Tertiary N 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
TPEFF0500D0139SW001	Youghal 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 YOUGHAL WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - YOUGHAL 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
COD-Cr mg/l	12	820	285
Total Nitrogen mg/l	12	49	19
BOD, 5 days with Inhibition (Carbonaceo mg/l	12	174	78
Total Phosphorus (as P) mg/l	12	5.53	2.30
Hydraulic Capacity	N/A	8678	4165

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'. The design of the wastewater treatment 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 - TPEFF0500D0139SW001

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	30	Pass
Suspended Solids mg/l	35	87.5	N/A	12	N/A	N/A	7.44	Pass
BOD, 5 days with inhibition (Carbonaceo mg/l)	25	50	N/A	12	N/A	N/A	3.32	Pass
Total Nitrogen mg/l	15	18	N/A	12	3	2	8.06	Fail
pH pH units	9	9	N/A	12	N/A	N/A	7.63	Pass
E. Coli no./100mls	N/A	N/A	N/A	2	N/A	N/A	13488	
ortho-Phosphate (as P) - unspecified mg/l	N/A	N/A	N/A	12	N/A	N/A	1.05	
Enterococci (Intestinal) no./100mls	N/A	N/A	N/A	2	N/A	N/A	13165	

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)
Ammonia-Total (as N) mg/l	N/A	N/A	N/A	12	N/A	N/A	3.56	
Conductivity @20°C µS/cm	N/A	N/A	N/A	12	N/A	N/A	5686	
Total Phosphorus (as P) mg/l	N/A	N/A	N/A	12	N/A	N/A	1.16	
Total Oxidised Nitrogen (as N) mg/l	N/A	N/A	N/A	12	N/A	N/A	2.69	
Faecal coliforms no./100mls	N/A	N/A	N/A	2	N/A	N/A	544	

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 the incidents 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 TPEFF0500D0139SW001

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	209890, 80935	TW38003144BR2001	No	No	No	No	Moderate
Downstream	210977, 77118	TW38003144BR2002	No	No	No	No	Moderate

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 coastal/transitional 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 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 meet the required EQS. 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 BOD, Ammonia & Ortho Phosphate, 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 - YOUGHAL WWTP

2.1.4.1 Treatment Efficiency Report - Youghal 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)
TP	3334	1718	48
SS	N/A	11060	N/A
TN	26884	11980	55
cBOD	113412	4931	96
COD	412838	44614	89

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

2.1.4.2 Treatment Capacity Report Summary - Youghal 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.

Youghal WWTP	
Peak Hydraulic Capacity (m ³ /day) - As Constructed	10800
DWF to the Treatment Plant (m ³ /day)	3600
Current Hydraulic Loading - annual max (m ³ /day)	8678

Youghal WWTP	
Average Hydraulic loading to the Treatment Plant (m ³ /day)	4165
Organic Capacity (PE) - As Constructed	16000
Organic Capacity (PE) - Collected Load (peak week) ^{Note1}	11790
Organic Capacity (PE) - Remaining	4210
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 - YOUGHAL 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.							

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
1	Water Pollution	1	0

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	Other (add details)	No	Yes
Uncontrolled release	Adverse Weather	No	Yes
Breach of ELV	Other (add details)	Yes	Yes

Incident Type	Cause	Recurring (Y/N)	Closed (Y/N)
Uncontrolled release	Adverse Weather	Yes	No

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2023	4
Number of Incidents reported to the EPA via EDEN in 2023	4
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
SW006	210971,77117	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW005	210504,76113	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Monitored
SW000	-,-	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
TBC	210941,77404	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Monitored
TBC	210256,78405	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Monitored
TBC	209272,76143	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	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)?	3124
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?	Yes

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/NAY)	Status of Works	Timeframe for Completing the Work	Comments
D0139-SIP:01	Decommissioning of Cork Hill comminutor station	C	31/12/2015	No	Works Completed		

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NAY)	Status of Works	Timeframe for Completing the Work	Comments
D0139-SIP:02	New waste water treatment plant (with denitrification) and ancillary works	C	30/11/2017	No	Works Completed		
D0139-SIP:03	SW000 Dunn's Park Discharge to cease as Primary Discharge and to operate as a SWO	A		No	Works Completed		
D0139-SIP:04	SW002 Paxe's Lane Discharge as a Secondary Discharge to cease and discharge point to operate as an emergency Overflow	A	30/11/2017	Yes	Works Completed		
D0139-SIP:05	SW003 Foxhole Discharge as a Secondary Discharge to cease and discharge point to be decommissioned	A	30/11/2017	Yes	Works Completed		
D0139-SIP:06	SW007 Dunn's Park Discharge as a SWO to cease and discharge point to operate as an Emergency Overflow	A	31/12/2019	Yes	Not Started		Not planned. Will remain as SWO
D0139-SIP:07	SW008 Foxhole Discharge as a SWO to cease and discharge point to operate as an Emergency Overflow	A	30/11/2017	Yes	Works Completed		
D0139-SIP:08	SW009 Kilcoran Discharge as a SWO to cease and discharge point to be decommissioned	A	30/11/2017	Yes	Works Completed		

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NAY)	Status of Works	Timeframe for Completing the Work	Comments
D0139-SIP:09	SW010 Summerfield B Discharge as a SWO to cease and discharge point to be decommissioned	A	30/11/2017	Yes	Not Started		Not planned. Will remain as SWO
D0139-SIP:10	Upgrade of drainage network	C	31/12/2017	Yes	Works Completed		
D0139-SIP:11	Upgrade of drainage network	C	31/12/2017	Yes	Works Completed		
D0139-SIP:12	Upgrade of Front Strand storm water holding tank	C	31/12/2015	Yes	Works Completed		
D0139-SIP:13	Upgrade of Summerfield and Strand Pumping Station, plus installation of a new pumping station at Green Park	C	30/11/2017	Yes	Works Completed		
D0139-SIP:14	Upgrade of the: Summerfield Pumping Station (associated with SW010), and Strand Pumping Station (associated with SW005)	C	31/12/2015	Yes	Works Completed		
D0139-SIP:15	Upgrading of Storm Water Overflows to comply with the criteria outlined in the DoECLG "Procedures and Criteria in relation to Storm Water Overflows, 1995"	C	31/12/2015	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
D0139-SIP:16	Work to be completed as per Condition 5.6	C	31/12/2020	Yes	Works Completed		

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?	Yes
List reason e.g. additional SWO identified	Consent to use Dunn's park as Primary Discharge Point
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?	Yes
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: 15/04/2024

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

Appendix
Appendix 7.1 - Ambient monitoring summary

Ambient Points

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	Receiving Waters Designation (Y/N)				WFD Status
		Bathing Water	Drinking Water	FWPM	Shellfish	
TW38003144BR2001	209890, 80935	No	No	No	No	Moderate
TW38003144BR2002	210977, 77118	No	No	No	No	Moderate

Ambient Impact Assessment Table

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS (Mean)	%EQS
cBOD mg/l	TW38003144BR 2001	0.95	TW38003144BR 2002	1.005882	4	
Ortho-Phosphate (as P) mg/l	TW38003144BR 2001	0.015838	TW38003144BR 2002	0.026583	0.06	
Ammonia (as N) mg/l	TW38003144BR 2001	0.039	TW38003144BR 2002	0.046556		
pH pH units	TW38003144BR 2001	7.788889	TW38003144BR 2002	7.794444		
Dissolved Oxygen %saturation or mg/l	TW38003144BR 2001	90.111111	TW38003144BR 2002	86.38889		
Suspended Solids mg/l						
Total Nitrogen (as N) mg/l						
Total Phosphorus (as P) mg/l						
Dissolved Inorganic Nitrogen (as N) mg/l						

Total Oxidised Nitrogen (as N) mg/l	TW38003144BR 2001	2.85	TW38003144BR 2002	2.375556	2.6	
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