Annual Environmental Report

2024

CLH/Ringaskiddy

D0057-01

CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2024 AER

This Annual Environmental Report has been prepared for D0057-01, CLH/Ringaskiddy, 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.

There were no major capital or operational changes undertaken.

1.2 TREATMENT SUMMARY

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

- Cork Lower Harbour WWTP with a Plant Capacity PE of 65000, the treatment type is 2 - Secondary treatment .

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
TPEFF0500D0057SW001	Cork Lower Harbour WWTP	Combined	Non-Compliant	BOD, 5 days with Inhibition (Carbonaceo mg/l COD-Cr mg/l Suspended Solids 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 CORK LOWER HARBOUR WWTP - COMBINED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - CORK LOWER HARBOUR 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
Suspended Solids mg/l	24	307	139
BOD, 5 days with Inhibition (Carbonaceo mg/l	24	186	80
Total Phosphorus (as P) mg/l	24	25	5.50
COD-Cr mg/l	24	541	230
Total Nitrogen mg/l	24	50	19
Hydraulic Capacity	N/A	44513	16696

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 greater 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’.

2.1.2 EFFLUENT MONITORING SUMMARY - TPEFF0500D0057SW100

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	24	4	2	72	Fail
Suspended Solids mg/l	35	87.5	N/A	24	6	4	52	Fail
Total Nitrogen mg/l	28.5	34.2	N/A	24	1	N/A	12	Pass
BOD, 5 days with Inhibition (Carbonaceo mg/l	25	50	N/A	24	3	3	15	Fail
pH pH units	9	9	N/A	24	N/A	N/A	7.59	Pass
Cadmium - unspecified µg/l	N/A	N/A	N/A	1	N/A	N/A	N/A	
Total Phosphorus (as P) mg/l	N/A	N/A	N/A	24	N/A	N/A	3.57	
Total Oxidised Nitrogen (as N) mg/l	N/A	N/A	N/A	24	N/A	N/A	3.33	
Lead - unspecified µg/l	N/A	N/A	N/A	1	N/A	N/A	N/A	

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)
PCB 153 µg/l	N/A	N/A	N/A	1	N/A	N/A	N/A	
ortho-Phosphate (as P) - unspecified mg/l	N/A	N/A	N/A	24	N/A	N/A	3.06	
Zinc - unspecified µg/l	N/A	N/A	N/A	1	N/A	N/A	7.00	
PCB 52 µg/l	N/A	N/A	N/A	1	N/A	N/A	N/A	
Nickel - unspecified µg/l	N/A	N/A	N/A	1	N/A	N/A	N/A	
PCB 101 µg/l	N/A	N/A	N/A	1	N/A	N/A	N/A	
Copper - unspecified µg/l	N/A	N/A	N/A	1	N/A	N/A	3.00	
PCB 138 µg/l	N/A	N/A	N/A	1	N/A	N/A	N/A	
PCB 180 µg/l	N/A	N/A	N/A	1	N/A	N/A	N/A	
Ammonia-Total (as N) mg/l	N/A	N/A	N/A	24	N/A	N/A	5.07	
PCB 118 µg/l	N/A	N/A	N/A	1	N/A	N/A	N/A	
PCB 28 µg/l	N/A	N/A	N/A	1	N/A	N/A	N/A	

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)
Arsenic - unspecified µg/l	N/A	N/A	N/A	1	N/A	N/A	N/A	
Mercury - unspecified µg/l	N/A	N/A	N/A	1	N/A	N/A	N/A	
Chromium - unspecified µg/l	N/A	N/A	N/A	1	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 Incident section of Report

Significance of Results:

The WWTP is non compliant with the ELV's set in the Wastewater Discharge Licence. The impact on receiving waters is assessed further in Section 2.

2.1.3 EFFLUENT MONITORING SUMMARY - COMBINED - TPEFF0500D0057SW001

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)
There is no Effluent data included in the AER.								

Notes:
1 – This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied
2 – For parameters where a mean ELV applies 3 – For pH the WWDA specifies a range of pH 6-9

Cause of Exceedance(s):

Refer to Incident section of Report

Significance of Results:

The WWTP is non compliant with the ELV's set in the Wastewater Discharge Licence. The impact on receiving waters is assessed further in Section 2.

2.1.4 AMBIENT MONITORING SUMMARY FOR THE COMBINED DISCHARGE TPEFF0500D0057SW001

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	181358, 62521	CW05003149LE9001	No	No	No	Yes	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.

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.

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

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

2.1.5 OPERATIONAL PERFORMANCE SUMMARY - CORK LOWER HARBOUR WWTP

2.1.5.1 Treatment Efficiency Report - Cork Lower Harbour 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	274511	89435	67
SS	477248	313333	34
TP	18881	21640	-15
COD	790235	433846	45
TN	64914	70633	-9

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

2.1.5.2 Treatment Capacity Report Summary - Cork Lower Harbour 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.

Cork Lower Harbour WWTP	
Peak Hydraulic Capacity (m^3/day) - As Constructed	0
DWF to the Treatment Plant (m^3/day)	0
Current Hydraulic Loading - annual max (m^3/day)	44513
Average Hydraulic loading to the Treatment Plant (m^3/day)	16696
Organic Capacity (PE) - As Constructed	65000
Organic Capacity (PE) - Collected Load (peak week)[Note1]	48990
Organic Capacity (PE) - Remaining	16010
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.

2.1.6 SLUDGE / OTHER INPUTS - CORK LOWER HARBOUR 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
There were no relevant environmental complaints in 2024.			

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	Broken Sewer Pipe	Yes	Yes
Uncontrolled release	Inadequate Operational Procedures/Training	No	No
Uncontrolled release	Plant or equipment breakdown at WWTP	No	No

Incident Type	Cause	Recurring (Y/N)	Closed (Y/N)
Breach of ELV	WWTP upgrade required to meet ELV	Yes	No

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2024	4
Number of Incidents reported to the EPA via EDEN in 2024	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 2024 (No. of events)	Total volume discharged in 2024 (m3)	Monitoring Status
SW002	177453, 66806	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW003	177505, 66569	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW004	177865, 65888	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW005	178811, 66054	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW006	180022, 66397	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW007	175591, 69656	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not 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 2024 (No. of events)	Total volume discharged in 2024 (m3)	Monitoring Status
SW008	175797, 64929	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW009	173154, 62416	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW010	173154, 62416	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW011	173066, 62347	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW012	178818, 61289	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW013	179639, 61145	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW014	176984, 68828	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW015	177115, 67735	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW016	177101, 66102	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW017	176650, 65474	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not 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 2024 (No. of events)	Total volume discharged in 2024 (m3)	Monitoring Status
SW018	178202, 64724	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW019	174439, 62606	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW020	173315, 62498	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW021	172986, 62329	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW022	181358, 62521	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW023	179845, 61384	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW024	173154, 62416	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored

The contents presented in this table include the most up to date information available at the time of writing. 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

SWO Summary	
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	N/A

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
D0057-SIP:01	SW 02 Ring to meet criteria set out in DoEHLG Procedures and Criteria....	C	01/01/2015	Yes	Works Completed		
D0057-SIP:02	Infiltration programme	C	01/01/2015	Yes	Works Completed		
D0057-SIP:03	Installations of rising mains, gravity sewers, pumping stations and marine pipeline including upgrading of existing facilities	C	01/01/2015	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
D0057-SIP:04	SW 03 Ring to meet criteria set out in DoEHLG Procedures and Criteria....	C	01/01/2015	Yes	Works Completed		
D0057-SIP:05	SW 04 Ring to meet criteria set out in DoEHLG Procedures and Criteria....	C	01/01/2015	Yes	Works Completed		
D0057-SIP:06	SW 05 Ring to meet criteria set out in DoEHLG Procedures and Criteria....	C	01/01/2015	Yes	Works Completed		
D0057-SIP:07	SW 06 Ring to meet criteria set out in DoEHLG Procedures and Criteria....	C	01/01/2015	Yes	Works Completed		
D0057-SIP:08	SW 07 Ring to meet criteria set out in DoEHLG Procedures and Criteria....	C	01/01/2015	Yes	Works Completed		
D0057-SIP:09	WWTP and ancillary works to provide secondary treatment	C	01/01/2015	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
D0057-01-Shellfish Impact Assessment	Yes	No

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	Alteration to Agglomeration Boundary and proposed new emission limit values
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: 08/07/2025

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*	EPA Feature Coding Tool code	Receiving Waters Designation (Y/N)				WFD Status
			Bathing Water	Drinking Water	FWPM	Shellfish	
CW05003149LE9001	181358, 62521	TPEFF0500D0057SW001	No	No	No	Yes	Moderate

Ambient Impact Assessment Table

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	EQS (Mean)	%EQS
Ammonia-Total (as N) mg/l	CW05003149LE9001	0.028		
Chlorophyll a (Fluorescence) µg/l	CW05003149LE9001	0.640		
Depth m	CW05003149LE9001	22.850		
Dissolved Oxygen % Saturation	CW05003149LE9001	92.000	70 - 130	
ortho-Phosphate (as P) - unspecified mg/l	CW05003149LE9001	0.008		
pH pH Units	CW05003149LE9001	8.050		
Pheophytin a µg/l	CW05003149LE9001	0.375		
Salinity PSU	CW05003149LE9001	32.500		
Salinity(Lab) 0/oo	CW05003149LE9001	33.350		
Silica (as SiO2) mg/l	CW05003149LE9001	10.250		
Temperature °C	CW05003149LE9001	10.250		
Total Oxidised Nitrogen (as N) mg/l	CW05003149LE9001	0.140		

Ambient Data Tables

				Ammonia-Total (as N)	Chlorophyll a (Fluorescence)	Depth	Dissolved Oxygen	ortho-Phosphate (as P) - unspecified	pH	Pheophytin a	Salinity	Salinity(Lab)	Silica (as SiO2)	Temperature	Total Oxidised Nitrogen (as N)
Monitored Enity	**Station**	**Monitoring Point**	**Sample Date**	**mg/l**	**µg/l**	**m**	**% Saturation**	**mg/l**	**pH Units**	**µg/l**	**PSU**	**0/oo**	**mg/l**	**°C**	**mg/l**
Outer Cork Harbour	CW05003149LE9001	Upstream	16/01/2024	0.037	1.1	23.5	89	0.013	8	0.17	32.3	33.5	7.7	7.7	0.2
Outer Cork Harbour	CW05003149LE9001	Upstream	28/05/2024	0.018	0.18	22.2	95	<0.005	8.1	0.58	32.7	33.2	12.8	12.8	0.079
			Mean	0.028	0.640	22.850	92.000	0.008	8.050	0.375	32.500	33.350	10.250	10.250	0.140

Note: Where the concentration in the result is less than the limit of detection (LOD), a value of LOD/sqrt(2) was used in calculating the mean and 95%ile concentrations.