Annual Environmental Report

2023

Uisce Éireann
Irish Water

Tralee

D0040-01

CONTENTS

7.1 AMBIENT MONITORING SUMMARY

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2023 AER

This Annual Environmental Report has been prepared for D0040-01, Tralee, in Kerry 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)

- Tralee WWTP with a Plant Capacity PE of 50333, the treatment type is 3NP - Tertiary N&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
TPEFF1300D0040SW001	Tralee WWTP	Treated	Non-Compliant	Ammonia-Total (as N) mg/l 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 TRALEE WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - TRALEE 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	27	5.00	1.91
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	27	355	100
Suspended Solids mg/l	27	418	114
pH pH units	27	7.70	7.42
Total Nitrogen mg/l	27	72	17
COD-Cr mg/l	27	1002	264
Ammonia-Total (as N) mg/l	27	23	8.68
Hydraulic Capacity	N/A	14222	9724

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 - TPEFF1300D0040SW001

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	27	N/A	N/A	41	Pass
Suspended Solids mg/l	35	87.5	N/A	27	N/A	N/A	12	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	N/A	27	N/A	N/A	3.88	Pass
Total Nitrogen mg/l	15	18	N/A	27	4	1	8.82	Fail
Total Oxidised Nitrogen (as N) mg/l	15	18	N/A	27	N/A	N/A	4.85	Pass
pH pH units	9	9	N/A	27	N/A	N/A	7.49	Pass
Ammonia-Total (as N) mg/l	5	6	N/A	27	4	2	1.43	Fail

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)
Total Phosphorus (as P) mg/l	2	2.4	N/A	27	N/A	N/A	0.212	Pass
Enterococci (Intestinal) no./100mls	N/A	N/A	N/A	3	N/A	N/A	3.30	
Conductivity @20°C µS/cm	N/A	N/A	N/A	23	N/A	N/A	1931	
Faecal coliforms no./100mls	N/A	N/A	N/A	3	N/A	N/A	8.04	
Visual Inspection Descriptive	N/A	N/A	N/A	27	N/A	N/A	N/A	
E. Coli no./100mls	N/A	N/A	N/A	3	N/A	N/A	3.30	
ortho-Phosphate (as P) - unspecified mg/l	N/A	N/A	N/A	27	N/A	N/A	0.130	

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 this report.

Significance of Results:

The WWTP is not in compliance with the ELVs 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 TPEFF1300D0040SW001

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	81255, 113045	TW13004117LT1001	No	No	No	Yes	Moderate
Downstream	79796, 113503	TW13004117LT1003	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 for the following: Total Nitrogen mg/l, Ammonia-Total (as N) 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.

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

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.

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

2.1.4 OPERATIONAL PERFORMANCE SUMMARY - TRALEE WWTP

2.1.4.1 Treatment Efficiency Report - Tralee 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	389636	14026	96
TP	7444	768	90
SS	442560	42518	90
TN	66264	31875	52
COD	1027664	149246	85

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

2.1.4.2 Treatment Capacity Report Summary - Tralee 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.

Tralee WWTP	
Peak Hydraulic Capacity (m^3/day) - As Constructed	19050
DWF to the Treatment Plant (m^3/day)	6350
Current Hydraulic Loading - annual max (m^3/day)	14222
Average Hydraulic loading to the Treatment Plant (m^3/day)	9724
Organic Capacity (PE) - As Constructed	50333
Organic Capacity (PE) - Collected Load (peak week)[Note1]	33427
Organic Capacity (PE) - Remaining	16906
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 - TRALEE 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)
Domestic /Septic Tank Sludge	1990	Volume (m3)	50333	0.05	Yes	Yes	No

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)
Waterworks Sludge	2511	Volume (m3)	50333	0.07	Yes	Yes	No
Waterworks Sludge	7694	Volume (m3)	50333	0.2	Yes	Yes	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)
Breach of ELV	WWTP not designed for P removal	Yes	No
Abatement equipment off-line	Plant or equipment breakdown at WWTP	No	Yes
Breach of ELV	Shock load to the WWTP	No	Yes

Incident Type	Cause	Recurring (Y/N)	Closed (Y/N)
Uncontrolled release	Network Infrastructure	No	Yes
Uncontrolled release	Plant or equipment maintenance at WWTP	No	No

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2023	5
Number of Incidents reported to the EPA via EDEN in 2023	5
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	84956,115882	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW004	84259,115115	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Monitored
SW005	84503,115396	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW006	83932,114685	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Monitored
SW007	84078,113569	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Monitored
SW008	84109,113554	Yes	Low Significance	Not 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 2023 (No. of events)	Total volume discharged in 2023 (m3)	Monitoring Status
SW009	82996,113738	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Monitored
SW010	81559,113113	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Monitored
SW011	81396,113107	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Monitored
SW002	80323,113892	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Monitored
SW012	80323,113892	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Monitored
TBC	83852,115348	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
TBC	84128,116068	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Not Monitored
TBC	84038,114834	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
TBC	83885,114619	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
TBC	84503,115396	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 2023 (No. of events)	Total volume discharged in 2023 (m3)	Monitoring Status
TBC	84503,115396	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
TBC	84531,114311	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Monitored
TBC	83659,114387	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Monitored
TBC	83864,114603	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Monitored
TBC	83456,114419	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Monitored
TBC	83484,114614	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Not Monitored
TBC	83420,114445	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Not Monitored
TBC	83506,115350	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Monitored
TBC	83343,115342	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
TBC	83211,115239	Yes	Low Significance	Not yet Assessed	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 2023 (No. of events)	Total volume discharged in 2023 (m3)	Monitoring Status
TBC	83291,114652	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Monitored
TBC	84734,113229	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
TBC	84096,113562	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Monitored
TBC	83432,113590	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Not Monitored
TBC	83171,113686	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Monitored
TBC	83301,113613	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Not Monitored
TBC	83266,113862	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
TBC	83748,113699	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
TBC	84568,113318	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Monitored
TBC	83617,114221	Yes	Low Significance	Not 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 2023 (No. of events)	Total volume discharged in 2023 (m3)	Monitoring Status
TBC	83196,114796	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Monitored
TBC	83421,114338	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Monitored
TBC	82734,113813	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
TBC	84231,113505	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
TBC	82573,115389	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)?	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?	No
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	Unknown

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
D0040-SIP:01	Upgrade all stormwaters overflow to comply with criteria outlined in the DoECLG document "Procedures and criteria in relation to stormwater overflows" (1995)	C	31/12/2015	Yes	At Planning Stage	2035	DAP to be completed 2024

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
D0040-01-Priority Substances 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?	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: 20/03/2024

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

Appendix
Appendix 7.1 - Ambient monitoring summary

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	
TW13004117LT1001	81255, 113045	TPEFF1300D0040SW001	No	No	No	Yes	Moderate
TW13004117LT1003	79796, 113503	TPEFF1300D0040SW001	No	No	No	Yes	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	%EQS
cBOD mg/l	TW13004117LT1001	2.033	TW13004117LT1003	1.2444		
Ortho-Phosphate (as P) mg/l						
Ammonia (as N) mg/l	TW13004117LT1001	0.059	TW13004117LT1003	0.042		
pH pH units	TW13004117LT1001	**8.07**	TW13004117LT1003	**8.14**		
Dissolved Oxygen %saturation or mg/l						
Suspended Solids mg/l						
Total Nitrogen (as N) mg/l	TW13004117LT1001	0.717	TW13004117LT1003	0.544		
Total Phosphorus (as P) mg/l						
Dissolved Inorganic Nitrogen (as N) mg/l						

Total Oxidised Nitrogen (as N) mg/l	TW13004117LT1001	**0.157**	TW13004117LT1003	**0.093**		