

Annual Environmental Report

2021



Tralee

D0040-01

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1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2021 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	Compliant	N/A

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
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	27	389	115
pH units	27	7.70	7.46
Total Phosphorus (as P) mg/l	27	7.40	2.11
Ammonia-Total (as N) mg/l	25	22	11
Suspended Solids mg/l	27	509	141
COD-Cr mg/l	27	954	248
Total Nitrogen mg/l	27	56	18
Hydraulic Capacity	N/A	13539	9384

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 - 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	35	Pass
Suspended Solids mg/l	35	87.5	N/A	27	N/A	N/A	13	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	N/A	27	N/A	N/A	5.01	Pass
Total Oxidised Nitrogen (as N) mg/l	15	18	N/A	27	N/A	N/A	4.84	Pass
Total Nitrogen mg/l	15	18	N/A	27	N/A	N/A	7.28	Pass
pH units	9.00	9.00	N/A	27	N/A	N/A	7.54	Pass
Ammonia-Total (as N) mg/l	5.00	6.00	N/A	27	N/A	N/A	0.676	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)
Total Phosphorus (as P) mg/l	2.00	2.40	N/A	27	N/A	N/A	0.341	Pass
Visual Inspection Descriptive	N/A	N/A	N/A	25	N/A	N/A	N/A	
Faecal coliforms no./100mls	N/A	N/A	N/A	2	N/A	N/A	8.16	
Enterococci (Intestinal) no./100mls	N/A	N/A	N/A	2	N/A	N/A	N/A	
Alkalinity-total (as CaCO3) mg/l	N/A	N/A	N/A	3	N/A	N/A	160	
ortho-Phosphate (as P) - unspecified mg/l	N/A	N/A	N/A	27	N/A	N/A	0.256	
E. Coli no./100mls	N/A	N/A	N/A	2	N/A	N/A	N/A	
Conductivity @20°C µS/cm	N/A	N/A	N/A	21	N/A	N/A	1540	

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):

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 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
There is no Ambient data included in the AER.							

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 do not meet the required EQS at the upstream monitoring location. 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 - 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)
TP	7156	1060	85
COD	839769	109241	87
SS	477072	39300	92
cBOD	391020	15563	96
TN	62501	22590	64

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)	13539

Tralee WWTP	
Average Hydraulic loading to the Treatment Plant (m ³ /day)	9384
Organic Capacity (PE) - As Constructed	50333
Organic Capacity (PE) - Collected Load (peak week) ^{Note1}	32088
Organic Capacity (PE) - Remaining	18245
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	1834	Volume (m3)		0.05	Yes	Yes	No
Industrial / Commercial Sludge	1941	Volume (m3)	1	0.06	Yes	Yes	No
Landfill Leachate (delivered by tanker)	24109	Volume (m3)	1	0.7	No	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	7374	Volume (m3)		0.22	No	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 2021.			

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	Adverse Weather	1	No	Yes
Uncontrolled release	EO caused by ragging or blocking	1	No	Yes
Uncontrolled release	EO caused by ragging or blocking	1	No	Yes

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	Plant or equipment maintenance at WWTP	1	No	Yes
Uncontrolled release	Plant or equipment maintenance at WWTP	1	No	Yes
Uncontrolled release	EO caused by ragging or blocking	1	No	Yes

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2021	7
Number of Incidents reported to the EPA via EDEN in 2021	7
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 2021 (No. of events)	Total volume discharged in 2021 (m3)	Monitoring Status
TBC	83852, 115348	No	Medium	Meeting	Unknown	Unknown	Not Monitored
TBC	84128, 116067	No	Medium	Not Meeting	Unknown	Unknown	Not Monitored
TBC	84037, 114834	No	Medium	Meeting	Unknown	Unknown	Not Monitored
TBC	83884, 114618	No	Medium	Meeting	Unknown	Unknown	Not Monitored
TBC	84502, 115395	No	Medium	Meeting	Unknown	Unknown	Not Monitored
TBC	84502, 115395	No	Medium	Meeting	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 2021 (No. of events)	Total volume discharged in 2021 (m3)	Monitoring Status
TBC	84530, 114311	No	High	Not Meeting	Unknown	Unknown	Not Monitored
TBC	83659, 114387	No	High	Not Meeting	Unknown	Unknown	Not Monitored
TBC	83864, 114603	No	Medium	Not Meeting	Unknown	Unknown	Not Monitored
TBC	83456, 114418	No	High	Not Meeting	Unknown	Unknown	Not Monitored
TBC	83483, 114614	No	Medium	Not Meeting	Unknown	Unknown	Not Monitored
TBC	83419, 114445	No	Medium	Not Meeting	Unknown	Unknown	Not Monitored
TBC	83506, 115350	No	High	Not Meeting	Unknown	Unknown	Not Monitored
TBC	83343, 115341	No	Medium	Meeting	Unknown	Unknown	Not Monitored
TBC	83211, 115238	No	Medium	Not yet Assessed	Unknown	Unknown	Not Monitored
TBC	83291, 114652	No	Medium	Not Meeting	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 2021 (No. of events)	Total volume discharged in 2021 (m3)	Monitoring Status
TBC	84733, 113229	No	Medium	Not Meeting	Unknown	Unknown	Not Monitored
TBC	84096, 113562	No	Medium	Meeting	Unknown	Unknown	Not Monitored
TBC	83431, 113590	No	Medium	Not Meeting	Unknown	Unknown	Not Monitored
TBC	83170, 113686	No	Medium	Meeting	Unknown	Unknown	Not Monitored
TBC	83301, 113612	No	Medium	Not Meeting	Unknown	Unknown	Not Monitored
TBC	83265, 113861	No	Medium	Meeting	Unknown	Unknown	Not Monitored
TBC	83747, 113698	No	Medium	Meeting	Unknown	Unknown	Not Monitored
TBC	84568, 113317	No	Medium	Not Meeting	Unknown	Unknown	Monitored
TBC	83617, 114220	No	Medium	Not Meeting	Unknown	Unknown	Not Monitored
TBC	83195, 114796	No	Medium	Meeting	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 2021 (No. of events)	Total volume discharged in 2021 (m3)	Monitoring Status
TBC	83420, 114337	No	High	Meeting	Unknown	Unknown	Not Monitored
TBC	82734, 113813	No	Medium	Meeting	Unknown	Unknown	Not Monitored
TBC	84230, 113505	No	Medium	Not Meeting	Unknown	Unknown	Not Monitored
TBC	82573, 115388	No	Medium	Meeting	Unknown	Unknown	Not Monitored
SW002	80323, 113892	Yes	Medium	Meeting	Unknown	Unknown	Not Monitored
SW003	84955, 115881	Yes	Medium	Not Meeting	Unknown	Unknown	Not Monitored
SW004	84259, 115115	Yes	Medium	Not Meeting	Unknown	Unknown	Not Monitored
SW005	84502, 115395	Yes	Medium	Meeting	Unknown	Unknown	Not Monitored
SW006	83931, 114684	Yes	Medium	Not Meeting	Unknown	Unknown	Not Monitored
SW007	84078, 113568	Yes	Medium	Not Meeting	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 2021 (No. of events)	Total volume discharged in 2021 (m3)	Monitoring Status
SW008	84108, 113553	Yes	Medium	Not Meeting	Unknown	Unknown	Not Monitored
SW009	82996, 113738	Yes	High	Not Meeting	Unknown	Unknown	Not Monitored
SW010	81558, 113113	Yes	Medium	Meeting	Unknown	Unknown	Not Monitored
SW011	81395, 113107	Yes	Medium	Meeting	Unknown	Unknown	Not Monitored
SW012	80323, 113892	Yes	Medium	Not Meeting	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 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?	Yes
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
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	2033	

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	Year included in AER	Included in this AER
Priority Substances Assessment	Yes	2014	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
Has a Technical amendment/licence review application been submitted to the Agency by IW?	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	No
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	N/A

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

Date: 16/05/2022

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

Parameter Name	U/S Location	U/S Annual Mean	D/S Location	D/S Annual Mean	Difference	EQS	% of EQS
BOD (mg/l)	81255, 113045	2.300	79826, 113892	1.480	-0.820	3.000	-27.333
DO (%)	81255, 113045	90.000	79826, 113892	91.000	1.000		#DIV/0!
MRP (mg/l)	81255, 113045	0.100	79826, 113892	0.005	-0.095	0.060	-158.3