Annual Environmental Report

2021

Avoca

D0411-01

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1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2021 AER

This Annual Environmental Report has been prepared for D0411-01, Avoca, in Wicklow 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 capital works, significant changes or operational improvements undertaken in 2021.

1.2 TREATMENT SUMMARY

- Currently there is no treatment provided at Avoca . Please refer to Section 4 for details of the Programme of Improvements.

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
TPEFF3400D0411SW001	Avoca WWTP	Untreated	Non-Compliant	Ammonia-Total (as N) mg/l BOD, 5 days with Inhibition (Carbonaceous) mg/l COD-Cr mg/l ortho-Phosphate (as P) - unspecified 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

2.1.1 EFFLUENT MONITORING SUMMARY

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	6	6	5	N/A	Fail
Suspended Solids mg/l	35	87.5	N/A	6	6	5	N/A	Fail
BOD, 5 days with Inhibition (Carbonaceous) mg/l	25	50	N/A	6	6	6	N/A	Fail
pH pH units	6.00	9.00	N/A	6	N/A	N/A	N/A	Pass
ortho-Phosphate (as P) - unspecified mg/l	5.00	6.00	N/A	6	4	4	N/A	Fail
Ammonia-Total (as N) mg/l	5.00	6.00	N/A	6	5	5	N/A	Fail

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):

No effective treatment at WWTP.

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.

2.1.2 AMBIENT MONITORING SUMMARY FOR THE UNTREATED DISCHARGE TPEFF3400D0411SW001

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	320367, 179913	RS10A030700	No	No	No	No	Bad
Downstream	319302, 177214	RS10A030800	No	No	No	No	Bad

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	RS10A030700	0.649	RS10A030800	0.477	1.50	-11.5

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Ammonia-Total (as N) mg/l	RS10A030700	0.048	RS10A030800	0.043	0.065	-9.1
ortho-Phosphate (as P) - unspecified mg/l	RS10A030700	0.008	RS10A030800	0.007	0.035	-1.2
Alkalinity as CaCO3 – Gran titration mg/l	RS10A030700	9.30	RS10A030800	N/A	N/A	
Calcium - filtered mg/l	RS10A030700	4.70	RS10A030800	N/A	N/A	
Copper - filtered µg/l	RS10A030700	19	RS10A030800	N/A	N/A	
Barium - filtered µg/l	RS10A030700	6.18	RS10A030800	N/A	N/A	
Conductivity @20°C µS/cm	RS10A030700	80	RS10A030800	91	N/A	
Conductivity @25°C µS/cm	RS10A030700	95	RS10A030800	N/A	N/A	
Arsenic - filtered µg/l	RS10A030700	0.707	RS10A030800	N/A	N/A	
Cobalt - filtered µg/l	RS10A030700	1.08	RS10A030800	N/A	N/A	
Chromium - filtered µg/l	RS10A030700	0.707	RS10A030800	N/A	N/A	
Lead - filtered µg/l	RS10A030700	2.42	RS10A030800	N/A	N/A	
Nitrite (as N) µg/l	RS10A030700	2.83	RS10A030800	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 - filtered µg/l	RS10A030700	0.707	RS10A030800	N/A	N/A	
Temperature °C	RS10A030700	9.43	RS10A030800	7.85	N/A	
Total Hardness (as CaCO3) mg/l	RS10A030700	28	RS10A030800	N/A	N/A	
Mercury - filtered µg/l	RS10A030700	0.017	RS10A030800	N/A	N/A	
Strontium - filtered µg/l	RS10A030700	17	RS10A030800	N/A	N/A	
pH pH units	RS10A030700	6.59	RS10A030800	6.65	N/A	
Thallium - filtered µg/l	RS10A030700	0.141	RS10A030800	N/A	N/A	
Cadmium - filtered µg/l	RS10A030700	0.686	RS10A030800	N/A	N/A	
Boron - filtered µg/l	RS10A030700	7.07	RS10A030800	N/A	N/A	
Beryllium - filtered µg/l	RS10A030700	0.707	RS10A030800	N/A	N/A	
Aluminium - filtered µg/l	RS10A030700	119	RS10A030800	N/A	N/A	
Dissolved Oxygen % Saturation	RS10A030700	102	RS10A030800	N/A	N/A	
Dissolved Organic Carbon mg/l	RS10A030700	2.90	RS10A030800	N/A	N/A	
Chloride mg/l	RS10A030700	10	RS10A030800	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
Dissolved Oxygen % O2	RS10A030700	103	RS10A030800	103	N/A	
Antimony - filtered µg/l	RS10A030700	0.707	RS10A030800	N/A	N/A	
Nitrate (as N) mg/l	RS10A030700	0.874	RS10A030800	N/A	N/A	
Nitrite (as N) mg/l	RS10A030700	0.004	RS10A030800	0.004	N/A	
Dissolved Oxygen mg/l	RS10A030700	12	RS10A030800	12	N/A	
Iron - filtered µg/l	RS10A030700	230	RS10A030800	N/A	N/A	
Nickel - filtered µg/l	RS10A030700	1.08	RS10A030800	N/A	N/A	
Potassium - filtered mg/l	RS10A030700	0.692	RS10A030800	N/A	N/A	
Manganese - filtered µg/l	RS10A030700	66	RS10A030800	N/A	N/A	
Selenium - filtered µg/l	RS10A030700	0.707	RS10A030800	N/A	N/A	
Sodium - filtered mg/l	RS10A030700	6.26	RS10A030800	N/A	N/A	
Uranium - filtered µg/l	RS10A030700	0.141	RS10A030800	N/A	N/A	
Magnesium - filtered mg/l	RS10A030700	2.76	RS10A030800	N/A	N/A	
True Colour mg/litre Pt Co	RS10A030700	21	RS10A030800	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
Total Oxidised Nitrogen (as N) mg/l	RS10A030700	0.752	RS10A030800	0.800	N/A	
Zinc - filtered µg/l	RS10A030700	230	RS10A030800	N/A	N/A	
Vanadium - filtered µg/l	RS10A030700	0.707	RS10A030800	N/A	N/A	

Significance of Results:

The WWTP discharge was not compliant with the ELV's set in the wastewater discharge licence.

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 current WFD status is Bad both upstream and downstream. Based on the effluent compliance results and the lack of treatment, the discharge from the wastewater treatment plant may be having an observable negative impact on the Water Framework Directive status.

It should be noted that the receiving water, the Avoca River, is seriously polluted largely as a result of copper mining (now ceased) in the Avoca valley upstream of the Primary Discharge. The current WFD status stated above reflects this.

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)
Breach of ELV	WWTP upgrade required to meet ELV	1	Yes	No

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2021	1
Number of Incidents reported to the EPA via EDEN in 2021	1
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 (m^3)	Monitoring Status
SW2	320384, 179386	Yes	Low	Not Meeting	Unknown	Unknown	Not Monitored

SWO Summary	
How much sewage was discharged via monitored SWOs in the agglomeration in the year (m^3)?	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?	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
D0411-SIP:01	Upgrade Avoca WWTP to provide secondary treatment in order to meet the emission limit values specified in Schedule A.1 of this licence.	C	31/12/2019	Yes	At Planning Stage	2025	

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
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
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: 29/03/2022

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

There are no Appendices included.