Annual Environmental Report

2024

Fiddown

D0528-01

CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2024 AER

This Annual Environmental Report has been prepared for D0528-01, Fiddown, in Kilkenny 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)

- Fiddown WWTP with a Plant Capacity PE of 608, the treatment type is 1 - Primary 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
TPEFF1500D0528SW001	Fiddown WWTP	Treated	Non-Compliant	Ammonia-Total (as N) mg/l BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l COD-Cr mg/l ortho-Phosphate (as P) - unspecified mg/l Suspended Solids 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 FIDDOWN WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - FIDDOWN 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	6	592	403
Total Nitrogen mg/l	6	98	70
Suspended Solids mg/l	6	525	263
Ammonia-Total (as N) mg/l	6	72	52
Total Phosphorus (as P) mg/l	6	12	8.10
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	6	270	147
pH pH units	6	8.71	8.16
Hydraulic Capacity	N/A	677	85

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 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 - TPEFF1500D0528SW001

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	403	Fail
Total Nitrogen mg/l	40	48	N/A	6	5	5	60	Fail
Suspended Solids mg/l	35	87.5	N/A	6	6	5	159	Fail
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	N/A	6	6	6	152	Fail
pH pH units	9	9	N/A	6	N/A	N/A	7.67	Pass
Ammonia-Total (as N) mg/l	5	6	N/A	6	6	6	45	Fail
ortho-Phosphate (as P) - unspecified mg/l	5	6	N/A	6	5	4	5.83	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	N/A	N/A	N/A	6	N/A	N/A	7.73	

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 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF1500D0528SW001

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	246545, 119738	TW31002103SR5001	No	No	No	No	Moderate

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
Downstream	248789, 115586	TW31002103SR5003	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.

Based on ambient monitoring results a deterioration in Salinity (lab), Salinity, Silica, Temperature, TOC,, 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 - FIDDOWN WWTP

2.1.4.1 Treatment Efficiency Report - Fiddown 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	184	405	-120.28

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)
TN	1598	3169	-98.34
cBOD	3330	7964	-139.18
SS	5960	8304	-39.32
COD	9136	21124	-131.23

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

2.1.4.2 Treatment Capacity Report Summary - Fiddown 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.

Fiddown WWTP	
Peak Hydraulic Capacity (m^3/day) - As Constructed	411
DWF to the Treatment Plant (m^3/day)	137
Current Hydraulic Loading - annual max (m^3/day)	677
Average Hydraulic loading to the Treatment Plant (m^3/day)	85
Organic Capacity (PE) - As Constructed	608
Organic Capacity (PE) - Collected Load (peak week)[Note1]	471
Organic Capacity (PE) - Remaining	137
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 - FIDDOWN 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)
Breach of ELV	WWTP upgrade required to meet ELV	Yes	No
Spillage	Shock load to the WWTP	No	Yes

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2024	2
Number of Incidents reported to the EPA via EDEN in 2024	2
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	246806, 119617	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
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
D0528-SIP:01	Upgrade Fiddown WWTP to provide secondary treatment with nutrient removal	C	31/12/2019	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period

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
D0528-01-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: 26/06/2025

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	
TW31002103SR5001	246545, 119738	TPEFF1500D0528SW001	No	No	No	No	Moderate
TW31002103SR5003	248789, 115586	TPEFF1500D0528SW001	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
BOD - 5 days (Total) mg/l	TW31002103SR5001	2.114	TW31002103SR5003	1.029	4.0	-27.1
Ortho-Phosphate (as P) mg/l	TW31002103SR5001	0.011	TW31002103SR5003	0.011	0.06	0
Ammonia (as N) mg/l	TW31002103SR5001	0.032	TW31002103SR5003	0.028		
pH pH units	TW31002103SR5001	8.300	TW31002103SR5003	8.275		
Chlorophyll a (Fluorescence) Âµg/l	TW31002103SR5001	17.76	TW31002103SR5003	11.4		
Suspended Solids mg/l	TW31002103SR5001	22.5	TW31002103SR5003			
Depth m	TW31002103SR5001	2.425	TW31002103SR5003	3.138		
Dissolved Oxygen % Saturation	TW31002103SR5001	108.500	TW31002103SR5003	100.375	70 - 130	-8.1
Salinity (Lab) 0/oo	TW31002103SR5001	0.2	TW31002103SR5003	0.4		
Salinity PSU	TW31002103SR5001	0.250	TW31002103SR5003	0.488		
Total Oxidised Nitrogen (as N) mg/l	TW31002103SR5001	2.388	TW31002103SR5003	2.175		
Silica (as SiO2) mg/l	TW31002103SR5001	1.379	TW31002103SR5003	1.461		
Sation Depth m	TW31002103SR5001	4.975	TW31002103SR5003	6.375		
Temperature °C	TW31002103SR5001	15.088	TW31002103SR5003	15.338		
TOC (as NPOC) mg/l	TW31002103SR5001	2.654	TW31002103SR5003	2.950		

Pheophytin a Âµg/l	TW31002103SR5001	6.320	TW31002103SR5003	2.075		
Transparency m	TW31002103SR5001	0.875	TW31002103SR5003	0.825		
True Colour mg/litre Pt Co	TW31002103SR5001	13				

Ambient Data Tables

Monitoring Entity	Station Reference	TRaC Sample Method	Sample Date	Ammonia-Total (as N) mg/l	BOD-5 days (Total) mg/l	Chlorophyll a (Fluorescence) µg/l	Depth m	Dissolved Oxygen % Saturation	ortho-Phosphate (as P) - unspecified mg/l	pH pH units	Salinity PSU	Salinity (Lab) 0/oo	Silica (as SiO2) mg/l	Station Depth m	Suspended Solids mg/l	Temperature °C	TOC (as NPOC) mg/l	Total Oxidised Nitrogen (as N) mg/l	Pheophytin a µg/l	Transparency m	True Colour mg/litre Pt Co
River Suir	TW31002103SR5001	Bottom	15/02/2024	0.037	<1		6.4	92	0.012	8	0.2	0.1	5.2	6.6		9.7		2		1.5	
River Suir	TW31002103SR5001	Bottom	10/06/2024	0.026	2.3		5.7	120	0.0065	8.5	0.2	0.2	<0.1	5.8		14.3		2.6		1	
River Suir	TW31002103SR5001	Bottom	25/07/2024	0.048	2.7		4.2	99	0.015	8.2	0.3	0.3	0.18	4.3		17.9		2.4		0.5	
River Suir	TW31002103SR5001	Bottom	14/08/2024	0.018	3.2		3.1	117	0.013	8.5	0.3	0.2	<0.1	3.2		18.1		2.7		0.5	
River Suir	TW31002103SR5001	Surface	15/02/2024	0.044	<1	16	0	91	0.011	8	0.2	0.1	5.1	6.6	8	9.7	4.8	1.8	2.6	1.5	25
River Suir	TW31002103SR5001	Surface	10/06/2024	0.017	1.9	1.8	0	121	0.0076	8.5	0.2	0.2	<0.1	5.8	16	14.6	2.4	2.5	1.6	1	9
River Suir	TW31002103SR5001	Surface	25/07/2024	0.048	2.6	17	0	101	0.012	8.2	0.3	0.3	0.17	4.3	33	18	<2	2.4	3.2	0.5	10
River Suir	TW31002103SR5001	Surface	14/08/2024	0.015	2.8	23	0	127	0.014	8.5	0.3	0.2	0.17	3.2	33	18.4	2	2.7	5.2	0.5	8
			Mean	0.031625	2.114277	17.76	2.425	108.5	0.0113875	8.3	0.25	0.2	1.379016504	4.975	22.5	15.0875	2.653553391	2.3875	6.32	0.875	13

Monitoring Entity	Station Reference	Trac Sample Method	Sample Date	Ammonia-Total (as N) mg/l	BOD- 5 days (Total) mg/l	Chlorophyll a (Fluorescence) µg/l	Depth m	Dissolved Oxygen % Saturation	ortho-Phosphate (as P) - unspecified mg/l	pH pH units	Salinity PSU	Salinity (Lab) 0/oo	Silica (as SiO2) mg/l	Station Depth m	Temperature °C	TOC (as NPOC) mg/l	Total Oxidised Nitrogen (as N) mg/l	Pheophytin a µg/l	Transparency m
River Suir	TW31002103SR5003	Bottom	15/02/2024	0.034	<1		6.4	92	0.011	8	0.2	0.1	5.2	6.5	9.3		1.7		1.2
River Suir	TW31002103SR5003	Bottom	10/06/2024	0.019	<1		6.4	106	0.0094	8.4	0.3	0.2	0.13	6.5	15.2		2.3		0.8
River Suir	TW31002103SR5003	Bottom	25/07/2024	0.043	1.1		6.8	95	0.013	8.2	1.2	1.1	0.39	6.9	18		2		0.8
River Suir	TW31002103SR5003	Bottom	14/08/2024	0.023	2.1		5.5	108	0.011	8.5	0.3	0.2	0.13	5.6	18.7		2.6		0.5
River Suir	TW31002103SR5003	Surface	15/02/2024	0.038	<1	4.3	0	92	0.011	8	0.2	0.1	5.2	6.5	9.3	5	2	1.4	1.2

				Ammonia-Total (as N)	BOD- 5 days (Total)	Chlorophyll a (Fluorescence)	Depth	Dissolved Oxygen	ortho-Phosphate (as P) - unspecified	pH	Salinity	Salinity (Lab)	Silica (as SiO2)	Station Depth	Temperature	TOC (as NPOC)	Total Oxidised Nitrogen (as N)	Pheophytin a	Transparency
Monitoring Entity	Station Reference	Trac Sample Method	Sample Date	mg/l	mg/l	µg/l	m	% Saturation	mg/l	pH units	PSU	0/oo	mg/l	m	°C	mg/l	mg/l	µg/l	m
River Suir	TW31002103SR5003	Surface	10/06/2024	0.013	<1	10	0	107	0.0096	8.4	0.3	0.2	<0.1	6.5	15.2	2.6	2.5	2	0.8
River Suir	TW31002103SR5003	Surface	25/07/2024	0.035	<1	8.3	0	94	0.012	8.2	1.1	1	0.38	6.9	18.1	2.2	1.7	2.9	0.8
River Suir	TW31002103SR5003	Surface	14/08/2024	0.017	1.5	23	0	109	0.0073	8.5	0.3	0.3	0.12	5.6	18.9	2	2.6	2.8	0.5
			Mean	0.02775	1.029441738	11.4	3.1375	100.375	0.0105375	8.275	0.4875	0.4	1.46142767	6.375	15.3375	2.95	2.175	2.275	0.825

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.