

Annual Environmental Report

2020



Fiddown

D0528-01

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7.1 AMBIENT MONITORING SUMMARY

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2020 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.

Major upgrade required

1.2 TREATMENT SUMMARY

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

- Fiddown WWTP - 2020 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 - 2020	Treated	Non-Compliant	Ammonia-Total (as N) mg/l BOD, 5 days with Inhibition (Carbonaceo 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 INCLUDED IN AER

Assessment / Report	Included in AER
There are no Licence Specific Reports included in the AER.	

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

2.1 FIDDOWN WWTP - 2020 - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - FIDDOWN WWTP - 2020

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 Nitrogen mg/l	6	191.1	107.87
Suspended Solids mg/l	6	735	338.17
Total Phosphorus (as P) mg/l	6	16.78	9.73
COD-Cr mg/l	6	934	566.33
BOD, 5 days with Inhibition (Carbonaceo mg/l	6	300	216
Hydraulic Capacity	N/A	130	130

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 - 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 with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
COD-Cr mg/l	125	250	N/A	6	6	6	516.5	Fail
Total Nitrogen mg/l	40	48	N/A	6	6	5	79.15	Fail
Suspended Solids mg/l	35	87.5	N/A	6	6	5	143.83	Fail
BOD, 5 days with Inhibition (Carbonaceo mg/l	25	50	N/A	6	6	6	218	Fail
pH pH units	9	9	N/A	6	N/A	N/A	7.58	Pass
ortho-Phosphate (as P) - unspecified mg/l	5	6	N/A	6	4	3	6.19	Fail
Ammonia-Total (as N) mg/l	5	6	N/A	6	6	6	49.79	Fail
Total Phosphorus (as P) mg/l	N/A	N/A	N/A	6	N/A	N/A	8.86	

Notes:

1 – This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied

Cause of Exceedance(s):

Ammonia, N, COD, BOD, SS, and ortho (primary treatment, plant upgrade required as per previous AERs)

Significance of Results:

Plant not compliant

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 Status
Upstream	246545, 119738	TW31002103SR5001	No	No	No	No	Poor

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 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 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 - FIDDOWN WWTP - 2020

2.1.4.1 Treatment Efficiency Report - Fiddown WWTP - 2020

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)
SS	16910	7192	57
COD	28320	25828	8.8
cBOD	10801	10901	-0.93
TN	5394	3958	27
TP	486	443	8.88

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 - 2020

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 - 2020	
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)	130

Fiddown WWTP - 2020	
Average Hydraulic loading to the Treatment Plant (m ³ /day)	130
Organic Capacity (PE) - As Constructed	608
Organic Capacity (PE) - Collected Load (peak week) ^{Note1}	420
Organic Capacity (PE) - Remaining	188
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 - 2020

'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 is included below.

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
There were no relevant environmental complaints in 2020.			

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 2020	1
Number of Incidents reported to the EPA via EDEN in 2020	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	Irish Grid Ref.	Included in Schedule A4 of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2020 (No. of events)	Total volume discharged in 2020 (m3)	Monitoring Status
SW002	TBC, TBC	Yes	Unknown	Not yet Assessed	Unknown	Unknown	Unknown

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?	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?	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 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/NAY)	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 improvements identified by under Condition 5.2 is included below.

4.2.2 IMPROVEMENT PROGRAMME SUMMARY

Improvement Identifier	Improvement Description / or any Operational Improvements	Improvement Source	Expected Completion Date	Comments
There are no Improvements Programme for this Agglomeration.				

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 Table.

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 list of the various reports required for this agglomeration and a brief summary of their recommendations.

5.a Licence Specific Reports Summary Table

Licence Specific Report	Required by licence	Year included in AER	Included in this AER	Reference to relevant section of AER
Priority Substances Assessment	Yes	2015	No	

5.1 PRIORITY SUBSTANCES ASSESSMENT

The Priority Substances Assessment Report has been included in the AER 2015

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?	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?	No
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER	Yes

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

Signed: Date: 11/05/2021

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

Company Status: WFT 2018-19															
Company Name	Company ID	Company Type	Company Status	Company Address	Company City	Company State	Company Zip	Company Phone	Company Fax	Company Email	Company Website	Company Description	Company Industry	Company SIC	Company NAICS
Company 1	101-101-0001	Corporation	Active	101-101-0001	101-101-0001	FL	33101	331-331-3311	331-331-3312	info@company1.com	www.company1.com	Software Development	Software	7372	737210
Company 2	101-101-0002	Corporation	Active	101-101-0002	101-101-0002	FL	33101	331-331-3313	331-331-3314	info@company2.com	www.company2.com	Software Development	Software	7372	737210
Company 3	101-101-0003	Corporation	Active	101-101-0003	101-101-0003	FL	33101	331-331-3315	331-331-3316	info@company3.com	www.company3.com	Software Development	Software	7372	737210
Company 4	101-101-0004	Corporation	Active	101-101-0004	101-101-0004	FL	33101	331-331-3317	331-331-3318	info@company4.com	www.company4.com	Software Development	Software	7372	737210
Company 5	101-101-0005	Corporation	Active	101-101-0005	101-101-0005	FL	33101	331-331-3319	331-331-3320	info@company5.com	www.company5.com	Software Development	Software	7372	737210
Company 6	101-101-0006	Corporation	Active	101-101-0006	101-101-0006	FL	33101	331-331-3321	331-331-3322	info@company6.com	www.company6.com	Software Development	Software	7372	737210
Company 7	101-101-0007	Corporation	Active	101-101-0007	101-101-0007	FL	33101	331-331-3323	331-331-3324	info@company7.com	www.company7.com	Software Development	Software	7372	737210
Company 8	101-101-0008	Corporation	Active	101-101-0008	101-101-0008	FL	33101	331-331-3325	331-331-3326	info@company8.com	www.company8.com	Software Development	Software	7372	737210
Company 9	101-101-0009	Corporation	Active	101-101-0009	101-101-0009	FL	33101	331-331-3327	331-331-3328	info@company9.com	www.company9.com	Software Development	Software	7372	737210
Company 10	101-101-0010	Corporation	Active	101-101-0010	101-101-0010	FL	33101	331-331-3329	331-331-3330	info@company10.com	www.company10.com	Software Development	Software	7372	737210
Company 11	101-101-0011	Corporation	Active	101-101-0011	101-101-0011	FL	33101	331-331-3331	331-331-3332	info@company11.com	www.company11.com	Software Development	Software	7372	737210
Company 12	101-101-0012	Corporation	Active	101-101-0012	101-101-0012	FL	33101	331-331-3333	331-331-3334	info@company12.com	www.company12.com	Software Development	Software	7372	737210
Company 13	101-101-0013	Corporation	Active	101-101-0013	101-101-0013	FL	33101	331-331-3335	331-331-3336	info@company13.com	www.company13.com	Software Development	Software	7372	737210
Company 14	101-101-0014	Corporation	Active	101-101-0014	101-101-0014	FL	33101	331-331-3337	331-331-3338	info@company14.com	www.company14.com	Software Development	Software	7372	737210
Company 15	101-101-0015	Corporation	Active	101-101-0015	101-101-0015	FL	33101	331-331-3339	331-331-3340	info@company15.com	www.company15.com	Software Development	Software	7372	737210
Company 16	101-101-0016	Corporation	Active	101-101-0016	101-101-0016	FL	33101	331-331-3341	331-331-3342	info@company16.com	www.company16.com	Software Development	Software	7372	737210
Company 17	101-101-0017	Corporation	Active	101-101-0017	101-101-0017	FL	33101	331-331-3343	331-331-3344	info@company17.com	www.company17.com	Software Development	Software	7372	737210
Company 18	101-101-0018	Corporation	Active	101-101-0018	101-101-0018	FL	33101	331-331-3345	331-331-3346	info@company18.com	www.company18.com	Software Development	Software	7372	737210
Company 19	101-101-0019	Corporation	Active	101-101-0019	101-101-0019	FL	33101	331-331-3347	331-331-3348	info@company19.com	www.company19.com	Software Development	Software	7372	737210
Company 20	101-101-0020	Corporation	Active	101-101-0020	101-101-0020	FL	33101	331-331-3349	331-331-3350	info@company20.com	www.company20.com	Software Development	Software	7372	737210